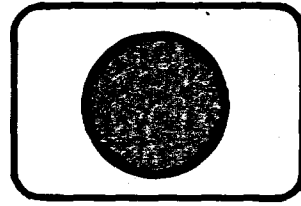
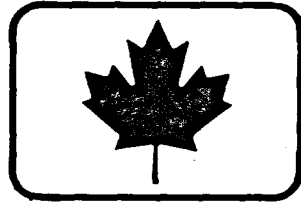


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# **THE DO-IT-YOURSELF (DIY) MARKET IN JAPAN**

## **REPORT ON**

### **EXPORT DEVELOPMENT INITIATIVES**

**MAY 1985 — MARCH 1987**

THE DO-IT-YOURSELF (DIY) MARKET IN JAPAN  
INDUSTRY/GOVERNMENT REPORT ON THE FIRST (SEPTEMBER 1985)  
AND SECOND (SEPTEMBER 1986) DIY MISSIONS TO JAPAN  
AND THE MITI STEP CANADIAN DIY COMMITTEE

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## INTRODUCTION

The maturity of the Canadian DIY manufacturing industry and the potential to market DIY products in one of the largest consumer markets in the world led the Departments of External Affairs (DEA) and Regional Industrial Expansion (DRIE) to begin recruitment in May 1985 for the first DIY mission to Japan. The results of this mission, combined with the findings of a special Canada-Japan DIY Products Committee aimed at assisting Canadian manufacturers in understanding and penetrating the Japanese market would lead one year later to the second DIY mission to Japan.

This joint industry/government report spans two Canadian DIY missions to Japan, the activities associated with the joint Canada-Japan industry/government DIY committee, the Hinode Corporation's February 1987 mission to Canada and the last formal meeting of the MITI STEP Canadian DIY Products Committee in Tokyo. Beginning with the recruitment for the first mission, the report concludes with the last MITI STEP Canadian DIY Products Committee meeting on 26 March 1987.

### Canada's DIY Industry in Brief

Canada has a well established and developed Do-It-Yourself industry, which underwent a major expansion in the late 1960s. In Canada DIY relates primarily to activities in and around the home that are designed to improve the home's function, efficiency, and/or appearance.

Home renovation expenditures in Canada reached approximately \$11.4 billion in 1985, and were expected to exceed those of new home construction. About 75 percent of all homeowners in Canada carry out maintenance, repair, or replacement work each year, at an average cost of just under \$700. Some 50 percent make additions, alterations, or improvements at an average cost of \$200. Over 40 percent of all homeowner renovations are DIY. Most of these DIY projects are indoor, not outdoor. Exterior DIY projects tend to be in lawn and garden care, with some eavestroughing work.

The importance of the DIY market to Canadian manufacturers is reflected by the following statistics: 50 percent of kitchen cabinet production was used in renovation (\$145 million) and 50 percent of wood mouldings and 43 percent of windows were used in home renovation (\$240 million).

Extensive Canadian manufacturing capability supplies the needs of Do-It-Yourselfers. At the same time, many Canadian manufacturers export DIY products. The United States is Canada's primary export market. Precise DIY production statistics in Canada are difficult to obtain. Most manufacturers produce a range of products that may also be supplied to the non-DIY trade (construction & home builders). As such, the breakdown of these sales figures is seldom released.

#### The Canadian Export Strategy Implemented

The first Canadian DIY mission to Japan was conducted 20-29 September 1985 (see Appendix A for membership). It was the first joint industry/government project aimed at assessing the export potential for Canadian DIY products and services in the Japanese market. The mission agenda also presented members with an opportunity to acquire an overview of the Japanese perspective on DIY and to identify possible market niches.

Coincident to, but quite separate from this first mission, the Japanese Government announced market liberalization measures in August 1985 aimed at increasing Japanese imports of foreign manufactured goods. As part of these measures, Japan's Ministry of International Trade and Industry (MITI) implemented a Specific Products Trade Expansion Programme (STEP) to promote the import of manufactured goods.

STEP provided a vehicle through which opportunities for Canadian DIY products could be further explored and more clearly defined. Following discussions with the Canadian and Japanese players, DEA, DRIE, the Canadian Embassy in Tokyo, and the MITI STEP Committee agreed to form the STEP Canadian DIY Products Committee (see Appendix B for membership). This committee undertook to apply the STEP mandate to the Canadian Government's initial thrust to assist Canadian manufacturers in defining and assessing the Japanese DIY market.

The data collected in the first mission and its later analysis was combined and applied to exploratory discussions and "second stage" negotiations defining the STEP Canadian DIY Products Committee mandate. This led to the Committee's decision to have the Research Institute for Distribution Policy in Tokyo conduct a Survey of the DIY Market in Japan.

The survey's description of the Japanese market for DIY products and services and its assessment of export opportunities, led to the second DIY Mission to Japan recruited by the Government of Canada (see Appendix C for membership). The programme in Japan, from 11 - 19 September 1986, was arranged by the STEP Canadian DIY Products Committee. As a complementary initiative, DEA sponsored a Canadian Information Booth at the second International Japan DIY Show in Tokyo.

During this second mission, at a briefing held by the Hinode Corporation (see Appendix D for company profile) at its East Omiya DOITTO Store, Hinode announced its plan to sponsor a twenty member Hinode buyers mission to Canada 7-11 February 1987. Although initially the Canadian Hardware Show in Toronto was their primary focus, DRIE and DEA, in planning their itinerary, arranged for mission members to meet with several Canadian DIY manufacturers of wood and wood-related products and to tour Canadian types of DIY stores in Ontario and British Columbia.

The Hinode mission's comments and observations on their visit to Canada were presented in Tokyo on 13 March 1987 at a meeting hosted by the Canadian Embassy (see Appendix E for attendees). At this meeting DEA took the opportunity to present an overview of Canada's two DIY missions to Japan and of the Canadian response to the MITI STEP initiative as it pertained to Canadian DIY products. Discussion of follow-up activities planned for both sides of the Pacific concluded this meeting.

The last formal meeting of the STEP Canadian DIY Products Committee was held in Tokyo 26 March 1987. It presented all members with the opportunity to review activities and results.

The preceding activities were designed and undertaken with the express intention of presenting the Canadian DIY industry with a better awareness of possible market niches in Japan. Detailed reports on these activities follow.

THE FIRST DIY MISSION TO JAPAN (20-29 September 1985)

The objectives of the first DIY mission were to undertake an initial overview of the Japanese market and to identify possible market niches for Canadian DIY products. The six Canadian mission members were marketers of the following DIY products: wallcoverings, parquet flooring, tongue and groove plank natural wood paneling, a consumer line of silicone products, garden hand tools convertible to upright, parts and fittings for built-in central vacuum systems, and cutting tools.

The Canadian Embassy in Japan arranged the mission's programme. It began with an introduction to Japan's DIY market and industry presented by the Japan DIY Association. This briefing took place at the 8th Japan DIY Show in Tokyo. Coincidentally, this was also the first year this show would go international. The Japan DIY Association identified their main objective as building Japanese consumer awareness of the Japanese consumer's ability to repair or remodel home interiors by their own efforts. To this end the Association gears the first day of the Japan DIY Show to trade. The next two days were devoted to consumer end-users: educational tools are used to achieve the Association's main objective of informing and instructing the consumer.

The Association continued its briefing by pointing out that because of increasing labour costs, the Japanese attitude towards "do-it-yourself" activities was changing. A growing push towards the Beaver Lumber/Home Hardware type store in Japan was also evident (see Appendix F which was the Association's handout on the DIY industry in Japan).

This briefing was followed by a tour of the Japan DIY Show and then of the nearby Harumi Exhibition Home Centre. This Centre exhibits and displays a variety of housing-related products ranging from building materials and components to housing fixtures and interior goods. It includes thirteen model homes, each designed and furnished by leading pre-fab house manufacturers. Information services such as consultation on housing and financing, and catalogue delivery, are also provided. Coupled with seminars and meetings, the Japanese consumer is thus provided with the latest housing information.

Mission members then visited a Tokyu Hands Store (see Appendix G: Article from March 1987 Trade Scope).



During this visit one of the chain's managers took the occasion to stress that foreign manufactured products must conform to Japanese size requirements. The manager also discussed Japanese building safety and electrical codes, and the importance of product instructions for DIY use being translated into Japanese.

Mission members then travelled to East Ohmiya to tour a DOITO Store (part of the Hinode Corporation), and then to the Shibata Garden Tool Company.

#### Observations of the First DIY Mission Members

The debriefing of mission members took place at the Canadian Embassy in Tokyo. Their observations and comments included:

- Although Japan's DIY market is in its infancy, the market is growing. The time to break into it is now.
- While there exist good opportunities in Japan, Canadian exporters would need a clarification of the Japanese distribution system and how it applies to the import of foreign manufactured DIY products. The typical mark-up appeared to be 30 to 50 percent from the importer through the wholesaler to the retailer, although final store mark-up was based on how much the consumer would be willing to pay. The cost of advertising, which is mostly through newspaper and in-store flyers, is added to the store-shelf price of the product.
- Given how expensive housing is in Japan, the Japanese would prefer products of quality and prestige.
- In general, the Japan DIY Show was assessed as being less sophisticated than the Canadian Hardware Show in Toronto, in terms of a Canadian understanding of trade shows. Perhaps the main difference between the two shows was in the number of recreational products on display at the Japan DIY Show, and the fact that that show is specifically designed to meet the needs of consumer traffic and education.

- Japanese packaging of DIY products displayed at the DIY Show were, to the surprise of mission members, also considered less sophisticated than in Canada. By Canadian standards, packaging in general lacked colour and design creativity. There were few graphics and the quality of materials was considerably lower than expected.
  
- Some Canadian items packaged as a DIY product in Canada could be re-packaged on a larger scale for the construction, designer, and home builders markets in Japan.

JAPAN'S AUGUST 1985 MARKET LIBERALIZATION MEASURES  
AND THE STEP INITIATIVE

The Japanese government determined from the outset that STEP would not apply to agriculture, forestry, fisheries and livestock products, to energy and mineral resources, or to other primary commodities. Only one exception was made, that of Australian wine products.

The STEP programme stipulated that products selected had to meet the needs of and be beneficial to both countries. After careful consideration, and in full consultation on both sides of the Pacific, Canada chose the DIY products category. This permitted a wide selection of Canadian value-added hardware and manufactured wood products to fall within STEP's mandate. Shortly after that decision was taken, the STEP Canadian DIY Products Committee in Japan was established (see APPENDIX B for membership). In Canada, representatives from DEA's Japan Trade Development Division and DRIE's Secondary and Service Industries Machinery and Converted Wood and Paper Products Divisions worked with the Canadian Hardware and Houseware Manufacturers Association (CHHMA) to establish the Canada-based connection.

It then became a question of where best to begin. In Canada, DIY is generally understood to mean the 4 Rs: Redecorating, Remodelling, Repairing, and Renovating; the greatest interest is in redecorating. The first DIY mission's assessment to the Japanese DIY market was that DIY was strongly identified as a recreational activity. However, as their assessment also indicated a maturing orientation towards the North American idea of DIY, it was determined that there would be significant value in a DIY Survey being undertaken to highlight the following:

- 1) Trends in the Japanese DIY market;
- 2) Trends in the demand for DIY products in Japan;
- 3) Distribution of DIY products in Japan; and
- 4) Position and prospects of Canadian products in the Japanese market.

At the same time, the study would attempt to answer such questions as:

- What do Japanese consumers and retailers consider to be DIY?
- As the Canadian and Japanese concepts of DIY appear to be different, what exactly are the differences and to what degree do they differ?
- How do the differences affect the ability of Canadian companies to meet Japanese market demands?
- What DIY products do Japanese retailers and consumers look to buy?
- What do they currently buy?
- From whom do Japanese retailers generally source foreign manufactured products?
- What type of DIY products are currently being imported into Japan?

The DIY Survey presented an analysis of the demands of product selection and identified the trends of the Japanese DIY market. For the purposes of this report the survey's main findings are interspersed with the second DIY Mission members' observations.

Upon review of the survey's findings, the STEP Canadian DIY Products Committee agreed to arrange a programme in Japan for Canadian companies who might best benefit from participation in a second DIY mission. Recruitment would be undertaken by DEA and DRIE.

THE SECOND DIY MISSION TO JAPAN (11-19 SEPTEMBER 1986)

The second DIY mission resulted from the recognition of the wide range of Canadian products suitable for the Japanese market, the growing and maturing market for DIY products in Japan, and the findings of the DIY Survey on Japan's market potential. The goal of this second mission was to introduce to Japan a selection of Canadian DIY products, and introduce Japan to some of Canada's most successful manufacturers. As well, the First Vice-President of CHMA, William Kushlick, was able to participate in this mission.

The second DIY Mission's main objectives were:

- 1) To assess the state and growth of the Japanese DIY market, and the potential for the export of Canadian DIY products to that market; and
- 2) To establish the export potential of the seven manufacturing companies whose representatives accompanied the mission.

The mission's itinerary prepared by the STEP Canadian DIY Products Committee, gave a thorough overview of, as well as practical insights into, the Japanese DIY market. During the first mission, Canadian members had visited only the Japan DIY Show. On the second mission, the Canadian government participated in this show (being the Second International Japan DIY Show), with an enhanced information booth (see Appendix H for list of 1986 show exhibitors). The Canadian stand presented the companies of mission members and other Canadian manufacturers unable to participate in the mission, with an opportunity to exhibit product samples and literature. Over fifteen Canadian products were displayed, including wire racks and polyethylene film, wood spindlets for corner stands, flower stands, wood spindles for bookshelves and furniture, door systems (closet and shelving hardware), pre-pasted solid vinyl wall coverings, smoke detectors, pine components and panels, pine knock-down furniture (chairs and end tables), snow shovels, and hardwood and parquet flooring.

Individual appointments were scheduled for mission members with potential Japanese purchasing agents on two occasions: the first was on-site during the Japan DIY Show at the Canadian information booth, and the second at the Japan Export Trade Relations Organization (JETRO) headquarters.

Mission members then visited the DOITO Home Centre in East Omiya where they were given an overview of the Hinode Corporation's extensive operations. Mission members noted the existence of a wide variety of "How To" brochures available free of charge, located near the check-out for easy access. A selection has been included in this report (see Appendix I).

Mission members also visited the Tokyu Hands Store in Tokyo and other DIY outlets in the Tokyo area, the Japan Home Products Show, and the Harumi Exhibition Home Centre. At Tokyo Hands the following foreign manufactured hardware items were among the type of brand names being sold: Bosch, Knipex (German); in plyers: Bachro-(Swedish), Proto (U.S.), Beta (Italian); Snap-on-Tools and wrenches (U.S.); Heyco (German); Facon (French); Belzor and Stahlwill (German); Stanley Saws (U.S., identified by a store employee for use only by home builders/construction), Agdor axe (Swedish); Wolfcraft dovetailor and combination jig (German); Cooper Tools (Canadian); and Sandvik sanders (Swedish - labelled under licence).

Mission members had the unique opportunity of viewing two private residences in a Tokyo suburb: those of a banker and a JETRO deputy director. Members also had the opportunity to discuss constraints on Canadian product imports with the STEP Canadian DIY Products Committee. A reception at the Minister Commercial's residence, to which potential Japanese buyers were invited, presented mission members with an informal opportunity to further pursue new clients.

Notes from the September 12, 1986 Briefings by the Hinode Corporation and the STEP Canadian DIY Products Committee

The following presents a synopsis of the September 12 briefings by the Hinode Corporation at their East Omiya DOITO Store, and by the Japan DIY Association and JETRO at the STEP Canadian DIY Products Committee meeting.

#### The Hinode Corporation Briefing

The Hinode Corporation has 190 member stores, called DOITO DIY Centres. Of their product lines, sales are highest in automotive products. Sales in housewares, such as cleaning products, are second. Laminated wood

products, excluding wood furniture, were third highest in sales. Items such as toasters, fry pans, and other small appliances are usually sold in department stores and supermarkets, and are not sold in the DOITO DIY centres. Knock-down kitchen cabinets tend not to be popular because ready-made products are reasonably priced. Drywall is usually contracted to professionals.

Energy-saving devices are very popular. Among the items for sale are window-film, insulation materials, and solar panels. Weather-stripping is available in Japan, but product is generally sourced from domestic manufacturers in Hokkaido.

As an importer, the Hinode Corporation sells to 45 distributors. Because of the Japanese business ethic, that of not by-passing the wholesaler, 95 percent of purchasing is from distributors and not directly from the manufacturer. Decisions to purchase a new product for Hinode owned stores are made at Hinode's headquarters. New products are occasionally tested for consumer reaction; the DOITO DIY Centers have areas designated for DIY-type demonstrations.

At the East Omiya DOITO DIY store visited by the mission, 3 percent of sales merchandise is imported, mainly from the United States (approximately \$US180,000). Mission members identified wood, hardware, and windows from the United States, and wood spindles from Canada and the United States for sale among the items imported to the East Omiya store.

The layout of this store locates the DIY demonstration area and hard products on the first floor. Soft products such as those sold in grocery stores are on the second floor, as are lighting and bathroom fixtures, wallpaper furniture, floor coverings, and some toys.

Visitors to the DOITO DIY Centres are 70 percent male and 30 percent female.

The Hinode representative noted that the consumer response to the Canadian label appears to be favourable, but added that Canadian brands are often equated with those from the United States.

#### The Japan DIY Association Briefing

The Japan DIY Association presentation began with a general statement that Canada, is perceived as an uncomplex healthy clean country with an abundant resource

base. The Association felt this image should be used to strengthen Canada's approach to the Japanese market, particularly with respect to wood products, the natural colour of which suits Japanese tastes.

The overall breakdown of DIY products imported into Japan is:

- 1/2 from Australia;
- 1/3 from France, Germany, and England;
- 1/4 from the United States; and
- 1/8 from Canada.

In the past, repair and improvement of the home in Japan has not been common because:

- 1) The Japanese do not have the custom of changing the appearance of their home with the seasons (for example, repainting during spring-cleaning); and
- 2) The exterior appearance of their home is not associated with the interior, and therefore the exterior appearance is not essential to the Japanese sense of pride of home.

Use of DIY products in the average Japanese household is about Yen 18,000 to 19,000 (converted at Yen .0087/\$1 Cdn = \$156.30). However, future growth of DIY activities in Japan is expected as evidenced by the Yen 1 billion growth in DIY sales since 1972. The concept of DIY is also expected to be a catalyst for the changing housing market.

#### The JETRO Briefing

Mr. T. Fujimura began by noting that Japan had experienced rapid economic growth until the 1970s when expansion gradually decelerated and competition for the Japanese consumer purchase intensified. However even now, while the Japanese market has an abundant supply of the goods it needs, there is a place for high-quality foreign manufactured products.

As the life expectancy of the average Japanese increases, more attention is being paid to the quality of life; for example, longer vacations are being enjoyed. Within this changing lifestyle, DIY products are now marketed to the Japanese consumer as being part of that enhancement.



The range of DIY products in Japan currently on sale are selected to meet the demands of both the inexperienced and the experienced handyman. To satisfy consumer demands, DIY stores stock both DIY and handicraft/hobby products. The majority of merchandise in these stores tends to be domestic with a significantly smaller selection of foreign manufactured products. However the larger chains, such as Tokyu Hands, DOITO and Uni Living, market some foreign products.

What tends to be the deciding factor on purchases of foreign products is a product's requirement for parts (after-market service availability), weight, and design. As North American products are designed in size and weight to meet North American market demands, they tend to be heavier than these with which the average Japanese consumer feels comfortable. This usually results in the Japanese consumer considering only domestic products at the time of purchase. (At this point in the discussion, William Kushlick, representing the CHHMA, noted that many domestic products available in the DIY stores appeared to be heavy, almost as if they had been designed for contractor use. In response, Mr. Fujimura stated that while this may be so, the trend by domestic manufacturers is to produce smaller lighter tools for general consumer use.)

In conclusion Mr. Fujimura offered the following recommendations to Canadian manufacturers:

- Canadian manufacturers interested in the Japanese market should undertake a market survey to identify the needs and requirements of the Japanese consumer.
- Exporters should be prepared to offer a wide range of products, but in small quantities.
- To consolidate smaller shipments, Canadian exporters should consider the use of trading companies.
- And lastly, Japanese safety codes and other product standards must be met before such products can be marketed in Japan.

JETRO has produced mini-reports on selected DIY market niches. These include:

Mini-Report No. 17      Your Market in Japan: Wooden  
Sept '85                      Fittings (Doors and Window Frames)

- |           |                                  |
|-----------|----------------------------------|
| No. 40    | Your Market in Japan: Bathroom   |
| March '85 | Equipment                        |
| No. 51    | Access to Japan's Import Market: |
| Feb. '85  | Hand Tools                       |

(These and others are available through the JETRO office in Toronto.)

### Initial Observations of the Second DIY Mission Members

By the end of these briefings and their itinerary, the major differences in lifestyle between Canada and Japan had become very evident to mission members.

- In Canada, the tendency is to use the home more as an entertainment and leisure centre. In Japan, homes are more functional in design with smaller kitchens and bathrooms (the major locations for Canadian renovation time and energy). In Japan the bedroom and family room usually occupies a single area. Entertaining of friends and business acquaintances generally occurs outside the home.
- The Japanese people have considerably less leisure time than the average Canadian. Working hours are longer and often include Saturday mornings. In addition, commuting time to work can easily average 4 hours/day. The hours remaining are usually devoted to the family. Nevertheless, the increasing amount of leisure time available to the average Japanese since the early 1960s has contributed to a greater interest in DIY projects.
- In Japan DIY is undertaken as an expression of creativity, as a hobby, and is considered within the concept of healthy, happier living. But as in Canada, there is a sense of accomplishment in "doing-it-yourself". Major renovations, such as putting in kitchen cabinets, windows and doors, or adding a room, given the time involved, are rare. Such projects are usually contracted to a specialist. As well, DIY stores generally do not handle such "basic" building materials as roofing, doors, windows, lumber etc.

- The limited availability and extremely high cost of housing in Japan's major cities has resulted in much less "moving" taking place. There is little of the home renovation (painting, re-flooring, etc.) activities associated with marketing a house or apartment in Japan. Most Japanese can only afford a home in their forties; for many, the house they will own will likely be their parents' residence. Having said this, it must also be noted that while there are more homeowners in Japan than in Canada, the style of their homes generally are not conducive to North American DIY-type activities and projects.
- Many Japanese are apartment dwellers. DIY and renovation activities are for the most part limited to cosmetic applications, and then only when there is a change of tenant. As most Japanese dwellings are rentals, there is less concern for the exterior appearances of the dwelling. In highrise apartment buildings, Japanese tenants are extremely limited in what they are allowed to change, maintain, or repair under tenant contract. It would be safe to generalize that tenants are rarely allowed to renovate.
- Most Japanese residences have limited outdoor space. This makes outdoor recreational equipment, such as bar-be-ques and lawn and garden furniture extremely difficult to market in Japan.

Differences in doing business with the Japanese and in the Japanese consumer's preferences and environment also became clearly discernible to mission members.

- Different customs, a different language, and transportation distances contribute to the complexity in understanding and trading with a country so distinct from North America. Because of this, substantial market research and identification is required to break into this very selective market.
- A business/social relationship has to be established with the Japanese business client before even initial discussions can be undertaken. Among Japanese buyers there is much

less individual risk-taking in purchases of foreign-manufactured products. Decisions are usually made following group consultation.

- Canadian companies must seriously plan the necessary field trips, and must decide if they can afford them. More importantly, they must be willing to strategically redirect their marketing efforts for selected products from the North American to the Japanese market.
- There are well-established traditional distribution channels and methods in Japan. For most export transactions, the foreign manufacturer must market through an importer/agent willing to take the risk of marketing and distributing a foreign manufactured product. This importer/agent will then sell to the distributor, who sells to the wholesaler, who sells to the store, who sells to the consumer. One must market at all levels of this network before the Japanese importer will even consider marketing the product in Japan.
- The distribution system is so complex that there is a real risk that the product can be priced out of its market. Because of this, many products are sold on consignment, and cash flow requirements may make it more difficult to get established in the Japanese market.
- The risk of merchandising foreign products often results in the Japanese client placing too small an order to warrant the foreign manufacturer shipping or re-tooling to meet specific Japanese requirements. If the shipment is large enough for the exporter, it is usually too large for the Japanese importer.
- Transportation costs also place Canadian manufacturers at a disadvantage because the distances involved are so great. Since DIY products are low technology, countries closer to Japan who have lower labour and transportation costs are already manufacturing DIY products similar to those made in Canada. An advantage the Canadian manufacturer may have over this Far East competition was offered in the DIY Survey. Whereas the Southeast Asian countries provide

goods which are low in price and quality, the Japanese, being discerning shoppers, tend not to impulsively buy "bargains". However, the quality of goods from Southeast Asia is expected to improve. This is expected to introduce greater marketing competition in the Japanese market. Manufacturers of similar products will likely only successfully compete if they have already defined and established market niches for specific products and established buyers market connections.

- In Japan large cities are built on a concentric ring pattern. In the inner rings, strict fire codes severely limit the use of wooden materials for residential construction. However, outside these locations, and especially in the new Timber Frame Construction (TFC) developments in the suburbs, wood is popular and is being used more generously.
- Japanese consumers demand high quality and appreciate innovative and distinctive products. The DIY Survey notes that the Japanese consumer tends to attach a greater amount of importance to the rare and handmade craft as opposed to the mass-produced/uniform manufactured products. The Survey continues in its description by splitting Japanese consumers into two categories. There is the consumer who does DIY out of necessity, and who is therefore more interested in product function and more discriminating about cost. The other is the consumer hobbyist who, although interested in the function, is more impressed by the colour, shape, and design of the product. This consumer tends to buy upgraded and brand name goods. As a result, price is of secondary importance.
- Foreign manufactured products must be designed for their specific needs. Many North American DIY products currently being marketed in Japan have had to be modified for Japanese use. For example, the hand-saw technology in Japan is significantly different from that of North America. Hammers and screw drivers are noticeably smaller. Electrical requirements are different. Products and product demands (because of more compact living space) are smaller. Also,

Japanese made products have innovative help-aids incorporated into the product design, such as marker in tape measures.

- The DIY Survey suggests that European products, such as lighting equipment, door parts, and furniture, are valued by the Japanese despite their higher price. The main reason could be that while European products can incorporate ideas quite different from Japanese thinking, they are designed to work within a smaller living space; this makes them highly compatible with Japanese standards and product familiarity.

#### Concluding Observations of the Second DIY Mission Members

At the debriefing held at the Canadian Embassy at the mission's end, mission members offered the following observations.

- Perseverance is needed to penetrate the Japanese market. In many cases, a demand would have to be created for Canadian DIY products.
- Market research is essential.
- Japan is a consumer society, but the Japanese consumer is very frugal in product selection and ultimate purchase.
- Canadian companies interested in penetrating this market must offer high-quality well-designed goods, but at competitive prices.
- Small Japanese retailers, while interested in sample shipments, often choose not to buy Canadian products given the complex Japanese distribution system, their lack of knowledge of how to import, and the difficulty in accomplishing direct importation of goods from the manufacturer. The larger chains seem more interested in having Canadians participate in a "World Product Week" than in buying a container of goods and dedicating on-going shelf space. Perhaps insufficient Canadian manufactured products are exported to Japan to warrant a "Canada Week".

- For the most part Japanese consumers do not generally undertake DIY activities nor do they undertake home renovation often, even when they own their own home. For example, the banker's home visited by mission members had been owned by that banker for 30 years. The first re-decoration in 27 years, and that in itself limited to some painting, wall-papering, and upgrading of the indoor stairwell, was contracted to professionals.
- The DIY Survey stressed that the DIY market in Japan is a rapidly growing one. The number of stores and the volume of DIY products is on the increase. However, the theme of DIY stores in Japan is quite different from that found in North American Canadian Tire, Beaver Lumber, and Home Hardware type stores. Most maintenance, redecoration, and repair work in Japan is contracted to professionals. There exists very limited leisure time, and what is available of that is rarely devoted to DIY projects that are not somehow "family" applicable. Primarily it is Canadian manufacturers of DIY products that can be installed in short time frames (i.e. one day) that should be encouraged to try the Japanese market. However many Canadian DIY products remain too complicated and too big for the average Japanese consumer, given the Japanese DIY market is some five to ten years behind that of North America.
- The DIY and renovation market potential for Canadian manufactures, still appears to be limited. Even so, there is market potential in new housing and contractual renovation for products such as mill work components, solid wood decorative paneling, DIY furniture components, wall coverings, wood mouldings, floorings, doors, windows, and spindles for furniture. High potential is seen for the supply of traditional Canadian style kitchen cabinetry, due to the strong Japanese consumer preference for wood.
- The best opportunity for Canadian manufacturers products therefore appears to be in wood and wood-related products, especially but not exclusively for the construction industry and the decorator market. The key market niche for

these products appear strongly aligned to the rapid growth of Timber Frame Construction (TFC) in Japan outside the major population centres. TFC is now firmly accepted, having totalled some 25,000 units in 1985. In 1986, TFC housing starts were anticipated to reach some 25,000 units. Expectations are for upward of 40,000 units in 1987, with similar strong growth continuing in the future. Such products should concentrate on "better design" features. The best Canadian wood products can compete in quality and price, but will generally have to meet stringent local specifications requiring changes in design and production.

- Product packaging is all important. It must be strong and clear so that the purchaser understands the function and potential of the product, and the method of installation.



THE DIY MISSION REPORT MEETING, 13 MARCH 1987 TOKYO

This meeting had three objectives:

- To report on the Hinode Corporation's 7-11 February 1987 visit to Canada;
- To present the findings and observations of the two Canadian DIY missions to Japan; and
- To discuss follow-up activities in support of Canadian manufacturers of DIY and home builders products in light of the growing Japan market evidenced by mission members.

The meeting was hosted by the Canadian Embassy. Members of the STEP Canadian DIY Products Committee and the Hinode Corporation's mission were invited to attend and participate.

The Hinode Corporation's Mission to Canada Report

Hinode's report was presented by the mission leader, Mr. M. Yagami, Managing Director, DMC Department, Hinode Corporation. His general comments were followed by more specific observations by his assistant, Mr. M. Ishizone. During their visit to Canada, William Kushlick, as First Vice-President of the CHHMA, Ruth Zeisler of DEA and Lorne Sweet of DRIE met with them in Toronto at the Canadian Hardware Show. Mr. Sweet was able to accompany the group for their visit to Canadian DIY-type stores and to Canadian manufacturers in the Toronto environ. John Melnyk of DRIE accompanied their visit to British Columbia. Prior to Hinode's visit, the Canadian company D.H. Howden had offered to consolidate Canadian products identified by the Hinode buyers for market assessment at their stores throughout Japan. This was accepted by Hinode to facilitate sample shipments.

Mr. Yagami's general comments on their visit were:

- Mission members did not consider the Canadian Hardware Show in Toronto as "international" in scope. The tie-in between wholesaler and manufacturers was complicated and not easy to understand in that situation. Many of the products were non-Canadian in origin. In fact, two-thirds appeared to be American, making it even more difficult to focus on these which were non-Canadian.

- Hinode's primary interest was in sourcing wood and wood-related products. A number of hardware products on display at the Canadian Hardware Show therefore did not meet their mission purpose.
- Canadian manufacturers should have greater understanding of the Japanese market, whether it be hobby or recreational. More focus should be placed on product size, requirements and other specifications that meet Japanese needs.
- The Hinode Corporation imports extensively from Japan's neighbours. It is their wish to avoid direct competition among foreign-manufactured products. Because of this, Canadian manufacturers should concentrate on that which is uniquely "Canadian".
- The increasing cost of labour in Japan is contributing to the Japanese consumer's growing interest in DIY products. Canadian manufacturers should note this growing market and its trends.
- From the visits to retail stores in Canada, the Hinode mission members considered that both product mix and inventory were good. Mission members did state that they wished to have more opportunity to visit wood manufacturers; however, as these are usually located in areas not easily accessible to major centres, this had proven difficult given the Hinode group's limited time in Canada.

At this point, Mr. Ishizone continued with more detailed observations:

- Mission members all appreciated that the 76th Hardware Show is very prestigious. It was noted that although this show was not open to the public, organizers anticipated there would be some 24,000 visitors to the exhibits of 600 companies.
- Canada does not have a comparable association to Japan's DIY Association. There are 2,500 home centres in Canada with 2,300 companies supplying to retailers. In the United States, 9,000 businesses supply 23,000 retailers/home centres. Canadian agents of U.S. manufacturers were

primarily exhibiting at the CHHMA show. In most cases, mission members did not see products which were distinctly Canadian. They also felt they could buy U.S. manufactured products in the United States.

- Mission members saw little difference between Canadian and U.S. home centres. (At this point, Mr. Ishizone provided a detailed breakdown of the stores visited in Canada). He continued with a comparison between home centres in Canada, the United States, and Japan:
  - ° In Canada and the United States, North American DIY-type stores tend to sell a great deal more building materials and tools.
  - ° In Japan, there is less variety of building materials sold, with greater emphasis placed on tools.
  - ° The difference in historical background was noted as the reason for the different orientation in products sold in North America and Japan.
  - ° Also noted was the fact that in Japan, consumers must abide by the many restrictions placed on consumer products by their government. This has a significant impact on what is, and is not sold in Japan. Similarly, it impacts on the foreign manufactured products which are, and are not, imported into Japan.

Mr. S. Urakabe, Senior Managing Director of Tokyu Hands Co., then followed with this observation on Japan's Home Centre market:

- Japan's Home Centres can be divided into two types of stores that serve two kinds of customers:
  - ° Customer I: comes with a specific purchase in mind. This customer wants to make or to repair something and knows exactly what is wanted or needed;
  - ° Customer II: comes to the store wanting to do something, but is absolutely uncertain as

to what that something is. This customer will look around and then decide.

He continued by noting that Canadian Home Centres emphasize building materials. Herein lies the future for DIY in Japan. Japan's DIY industry must increase its emphasis on building materials, with less emphasis on tools. In this regard, both Mr. Urakabe, during his visit to the 1985 Hardware Show, and the Hinode mission members were disappointed as to how tool-oriented the Canadian Hardware Show was, particularly its significant lack of emphasis on building materials (wood and wood-products).

Mr. Urakabe's observations continue:

- The purpose of any particular product may not be the same in Japan as in Canada. Canadian manufacturers should look at their product lines and be "imaginative" in their possible uses. These should be looked at from every conceivable angle, not just that of the retailer or manufacturers. For instance, Canadian plastic products have sold quite well at the Tokyu Hands stores. However in the case of smoke detectors there appears to be a different understanding of its use in Japan. Customers in the Tokyu Hands store were purchasing these as party gags to surprise smokers, rather than for their assigned use.
- There are all kinds of products in DIY stores throughout Japan. Most Japanese are not as concerned with brand names; this presents Canadians with an excellent opportunity to market Canadian products.
- There is a popular saying in Japan, "every village has one unique product." Canadian manufacturers should take note.
- Most Japanese buyers do not want large volumes of many things; the preference is for smaller shipments of a variety of items.

Mr. Yagami's concluding remarks were: the Hinode mission members represented twelve retailers throughout Japan, five wholesalers and one manufacturer; Canadian exporters should be flexible so as to meet the specific needs of the Japanese; and finally, laminated lumber will continue to be of primary interest to Hinode's operation.

DEA's Presentation on Canada's DIY Missions to Japan

The notes for this presentation, made by the Japan Trade Development Division of DEA are attached as Appendix J. These notes have been included in this report as part of the record.

Notes on Discussion Concerning Follow-up Activities

It was agreed at the meeting that discussion should continue on the feasibility of holding information dissemination seminars across Canada in June 1987. This would precede the September 1987 mission to Japan currently being planned to provide Canadian manufacturers of wood and wood-related products with an opportunity to further address the growing TFC housing industry, while building on the market niches identified for Canadian DIY product manufacturers.

FINAL MEETING OF THE STEP CANADIAN DIY PRODUCTS COMMITTEE  
(26 MARCH 1987)

The last formal meeting of this Committee was held in Tokyo. In summarizing the Committee agreed that the programme developed was both timely and useful, having been struck shortly after the first Canadian DIY Mission to Japan. Succinctly, it was agreed that the immediate results were:

- (a) A better appreciation of similarities and differences between the Canadian and Japanese DIY industries.
- (b) An opportunity for the CHHMA and the Canadian industry to get first hand information on the Japanese DIY industry through participation in The Japan DIY show, and in the September 1986 visits to Japanese DIY stores, interviews, etc.
- (c) The successful introduction of several Canadian firms into the Japanese market. Although initial sales volumes are small, steady increases are expected.
- (d) The introduction to Japanese contacts seriously interested in importing from Canada.
- (e) And most importantly, all STEP programme related activities led to the same conclusion regarding DIY exports to Japan; that is, the focus should be mainly on wood and wood-related products channelled through importers/distributors connected with home builders and renovators as well as home centres and DIY stores. Other products, whether tools or materials, would need to be unique, innovative and prove competitive to find acceptance in Japan.

BUSINESS CONDUCTED: OPPORTUNITIES EXPLORED

Although the volumes involved were small, six of the participating companies on the two DIY missions reported either immediate and/or potential sales for their products. Liaison activities aimed at facilitating and reinforcing the success achieved on these missions are ongoing.

1987/88 EXPORT MARKETING INITIATIVES

The Canadian Embassy in Japan is currently discussing with MITI, JETRO, and Japan's DIY and Home Builders Associations and industry the feasibility of conducting information dissemination seminars across-Canada in June 1987. These would be aimed at Canadian manufacturers of wood and hardware products for specifically the home builders/decorator, but including the DIY, market. Participation by the first and second DIY mission members in their region, and by the CHHMA, DEA Japan Desk, and DRIE sector branches will be co-ordinated as this project is finalized.

Following on this theme, the emphasis of the third mission to Japan (Fall 1987) will be shifted from the DIY market sector to that of the new residential construction and contractual renovation market. DEA and DRIE are currently planning a Canadian manufactured wood products mission to Japan in September 1987 to complement a Canadian information booth at the Japan Home Show (see Appendix K for list of 1986 show exhibitors). This activity will be similar in format to the one designed for the Second International Japan DIY Show and the second DIY Mission in September 1986. The Japan Home Show has been chosen for Canadian participation this year given its greater emphasis on wood products. Recruitment for this mission, and company participation in the Japan Home Show to complement the Canadian information stand, will begin in Spring, 1987.

There will be a concerted effort to involve some of Canada's larger, more competitive millwork firms to seriously look at market penetration in Japan. Opportunities in the DIY sector will continue to be explored and monitored. An incoming buyers mission from Japan is being planned to coincide with a Canadian trade show primarily exhibiting manufactured wood products and other building materials. In addition, more emphasis will be placed on plant visits to Canadian wood and wood-related manufacturers to meet the specific market interests of these buyers.

APPENDIX A: MEMBERSHIP OF FIRST DIY MISSION TO JAPAN

18-24 SEPTEMBER 1985

Bill Smiljanic  
President  
Kakabeka Timber Limited  
P.O. Box 78  
Kakabeka Falls, Ontario  
POL 1W0

S.J. Freeman  
Vice President  
CSL Silicones Inc.  
Corporate Headquarters  
144 Woodlawn Road West  
Guelph, Ontario  
N1H 1B5

Dennis Wall  
Vice-President Administration  
Berkley Inc.  
Papiers paints-Wallcoverings  
1051 Galt est  
Sherbrooke, Quebec  
J1G 1Y7

Allen Simpson  
President  
Allen Simpson Marketing and Designs Ltd.  
1 Albert Street  
Eden Mills, Ontario  
NOB 1P0

Ted Hayden  
President  
Hayden Manufacturing Co. Ltd.  
110-2931 Olafson Avenue  
Richmond, B.C.  
B6X 2R4

Pierre Dubeau  
Secrétaire-Trésorier  
Les Parquets Dubeau Ltée.  
1680 rue Principale  
Norbert, Quebec  
JOC 3C0

Ephrem Tabbakh  
International Sales Manager  
Simonds Cutting Tools  
80 Simonds Avenue South  
Granby, Quebec  
J2G 8G1



APPENDIX B: MEMBERSHIP OF THE STEP CANADIAN  
DIY PRODUCTS COMMITTEE

MITI

M. Ishiguro  
Director  
Import Division  
International Trade Administration Bureau

H. Matsumura  
Assistant Director  
Import Division  
International Trade Administration Bureau

M. Hasegawa  
Inspection  
Import Division  
International Trade Administration Bureau

K. Konno  
Manager  
General Affairs  
Import Division  
International Trade Administration Bureau

H. Takahashi  
Manager  
General Affairs  
Import Division  
International Trade Administration Bureau

I. Matsumiya  
Director  
Housing Industry Division  
Consumer Goods Industry Bureau

Y. Ikeda  
Housing Industry Division  
Consumer Goods Industry Bureau

K. Mitsui  
Inspector of Industry, Trade, & Commerce  
Consumer Goods Industry Bureau

K. Sato  
The Americas-Oceania Division  
Consumer Goods Industry Bureau

T. Harisima  
The Americas-Oceania Division  
Consumer Goods Industry Bureau

**Economic Planning Agency**

**S. Toshida**  
Director  
1st International Economic Division  
Administration Bureau

**K. Kobayashi**  
Assistant Director  
1st International Economic Division  
Administration Bureau

**A. Tsunoda**  
Assistant Director  
1st International Economic Division  
Administration Bureau

**JETRO**

**Y. Doi**  
Director  
Merchandise Division  
Economic Information Department

**H. Neno**  
Assistant Director  
Merchandise Division  
Economic Information Department

**S. Amano**  
Manager  
Information Service Division  
Information Service Department

**S. Kimura**  
Deputy Director  
Import Promotion Task Force  
Planning Department

**M. Ebata**  
Deputy Director  
Import Promotion Task Force  
Planning Department

**K. Kagami**  
Chief Leader  
Domestic Exhibition Team  
Exhibition Department

**A. Suzuki**  
Import Promotion & Cooperation Department  
Import Planning Department

**Distribution Policy Research Institute**

**T. Hirata**  
Chief Researcher

**M. Ishiguro**  
Researcher

**I. Sakagami**  
Researcher

**A. Yamamoto**  
Researcher

**Canadian Embassy**

**R.O. Merner**  
Minister/Counselor  
Commercial

**G. Milot**  
First Secretary  
Commercial

**H. Ohyama**  
Commercial Officer

**Committee Members (Industry Representatives)**

**A. Urakabe**  
Senior Managing Director  
Tokyu Hands Co. Ltd.

**H. Otsuka**  
Managing Director  
Uni Living Co. Ltd.

**T. Okamoto**  
Vice President  
Keyo Co. Ltd.

**M. Kikuchi**  
Manager/International Department  
World Import Mart Co. Ltd.

**N. Kobayashi**  
Senior Managing Director  
Yamatoto Plywoods Co. Ltd.

Committee Members (Industry Representatives) cont'd

T. Nozaki  
Secretary General  
M.I.P.R.O.

M. Yagami  
General Manager/Managing Director  
DMC Department  
Hinode Corporation

M. Yamamoto  
Secretary General  
Japan Do-It-Yourself Association

N. Fujimura  
President  
Fujimura Co. Ltd.

APPENDIX C: MEMBERSHIP OF SECOND DIY MISSION TO JAPAN

11-19 SEPTEMBER 1986

Peter C. de Vries  
President  
Canada Wood Specialty  
P.O. Box 458  
Orillia, Ontario  
L3V 6K2

Donald Park  
Vice-President, Marketing  
Dicon Systems Limited  
719 Clayson Road  
Weston, Ontario  
M9M 2H4

Oonagh McNerney  
President  
Extrufix Incorporated  
11 Heritage Road  
Markham, Ontario

Derek Ashton  
President  
North American Decorative Products Inc.  
1055 Clark Blvd  
Bramalea, Ontario  
L6T 3W4

Patrick Donahue  
Asian Trade Division Head  
Interal Marketing  
320 de Bernières  
Quebec, Quebec  
G1R 2L7

Robert Straus  
Export Sales Manager  
Acmetrack Limited  
100 Walker Drive  
Brampton, Ontario  
L6T 4H6

William Kushlick  
(First Vice-President, CHHMA)  
Vice-President, Sales and Marketing  
Stanley Canada Inc.  
65 Imperial Street  
P.O. Box 66  
Postal Station B  
Hamilton, Ontario  
L8L 7V2

**HINODE CORPORATION**

4-14-2 HONMACHI-NISHI  
YONO SAITAMA  
JAPAN 338  
PHONE 0488-53-9700  
TELEX 2923-173

Appendix D

**PROFILE OF DOIT GROUP**

Parent Company	Hinode Corporation
Registered Address	4-14-2 Honmachi-Nishi Yono Saitama, Japan Phone: 0488-53-9700
Paid-in Capital	Yen 186 million (US\$ 775,000)
Date of Founding	September 14, 1950
Representative Director and President	Masami Hasegawa
Director and Senior Executive Vice President	Kokichi Saito
Yearly Sales	Yen 20.3 billion (US\$ 84.5 million)
Home Office of Store Operations	4-14-2 Honmachi-Nishi Yono Saitama, Japan Phone: 0488-53-9700
Business Operations of DOIT Group	"DOIT" DIY Center  Doit Co., Ltd.  DMC Group Headquarters

N.B. Besides the above entitles, Hinode Corporation has another operation of Automotive Traffic.



## HINODE CORPORATION

4-14-2 HONMACHI-NISHI  
YONO SAITAMA  
JAPAN 338  
PHONE 0488-53-9700  
TELEX 2923-173

I. Store Operation of Hinode : Chains of "DOIT" DIY Centers

Yearly Sales : ¥16.6 billion (US\$69.2million)  
(For 14 stores)

Gross Margin : 32 %  
(For 14 stores)

Sales Area : 21,600 sq-ft.  
(Av. per store)

No. of employees : 700 (Incl. 240 parttime workers)

## II. Doit Company Limited

Location : 2-8-20 Sakuragoaka, Yono Saitama  
Japan  
Phone : 0488-54-1563

Yearly Sales : ¥ 2.5 billion (US\$10.4 million)

Aim of business : Wholesaling of DIY merchandise  
with an emphasis on automotive  
and garden items.

## III. DMC Group Headquarters

Location : 4-14-2 Honmachi-Nishi Yono  
Saitama, Japan  
Phone : 0488-53-9827

Scale of DMC Group :

This group has celebrated its 11th anniversary and now has under its control 45 firms and 190 DIY Home Centers and 39 approved venders who are ready to render complete supply services in the Group's cooperative spirit. And it is Hinode Corporation who acts as coordinator of the Group.

No. of member firms : 45

No. of member stores : 190

Aggregate total of employees : 4,647 (Incl. 1,196 parttime workers)



**HINODE CORPORATION**  
4-14-2 HONMACHI-NISHI  
YONO SAITAMA  
JAPAN 338  
PHONE 0488-53-9700  
TELEX 2923-173

Aggregate total of  
Sales : ¥135.4 billion (US\$ 520 million)

Aggregate total of  
interior sales area : 2,210,000 sq-ft.

Aggregate total of  
exterior sales area : 883,700sq-ft.

Aggregate total of  
parking capacity : 26,700

Yearly sales per store : ¥ 815 million (US\$3.3 million)

Yearly sales per salesperson : ¥ 29 million (US\$120,000 )

Sales area per store : 12,700 sq-ft.

Gross Margine : 28 %

Turnover : 5.6 per year

Activities of DMC Group Headquarte :

1) Merchandising

Development of its original merchandise.

Pursuance of reduced prices by cooperative  
distribution and buying.

Development and implmentation of merchandising  
plans to facilitate one stop shopping for full  
lines of DIY merchandise.

2) Marketing

Research and analysis of the situation of consumers  
and the industry.

Collection of various information on markets,  
merchandise, management., overseas situation, etc.  
and its circulation within the group.

Systematization and standardization of various  
elements and processes for better store-making.





**HINODE CORPORATION**  
4-14-2 HONMACHI-NISHI  
YONO SAITAMA  
JAPAN 338  
PHONE 0488-53-9700  
TELEX 2923-173

3) Training and guidance over new store development

Development and implementation of plans on training of salespeople.

Organization of various study meeting on merchandise and technical matters.

Guidance over sales jobs.

Guidance and assistance in new store development.  
(Location survey, layout, merchandise mix, pricing, promotional plans, etc.)

As of September 20, 1985

**APPENDIX E: ATTENDEES AT THE CANADIAN DIY MISSIONS**

**REPORT MEETING**

**13 MARCH 1987, TOKYO**

Mr. T. Hirata  
Chief Researcher  
Distribution Policy Research Institute  
Wako 13 Bldg.  
16-1, Nihonbashi Koami-cho  
Chuo-ku, Tokyo  
Tel: 03-669-8193

Mr. M. Yagami  
Managing Director  
DMC Dept.  
Hinode Corporation  
4-14-2, Nishi, Motomachi  
Yono-shi, Sa;itama 338  
Tel: 0488-53-9827

Mr. M. Ishizone  
DMC Dept.

Mr. M. Yamamoto  
Secretary General  
Japan Do-It-Yourself Association  
To-so Bldg.  
9-4-1, Shinkawa  
Chuo-ku, Tokyo  
Tel: 03-553-6397

Mr. S. Kimura  
Deputy Director  
Import Promotion Task Force  
Planning Dept.  
Japan External Trade Organization  
2-2-5, Toranomom  
Minato-ku, Tokyo  
Tel: 03-553-6397

Mr. Y. Doi  
Director  
Merchandise Div.  
Economic Information Dept.

Mr. M. Ebata  
Import Promotion Task Force  
Planning Dept.

Mr. T. Okamoto  
Vice President  
Keyo Co., Ltd.  
1-28-1, Mitsuwadai  
Chiba 260  
Tel: 0472-55-1111

Mr. K. Fujimoto  
Director  
Manufactured Import Promotion Organization  
World Import Mart Bldg. 6F  
3-1-3, Higashi Ikebukuro  
Toshima-ku, Tokyo  
Tel: 03-988-2791

Mr. H. Matsumura  
Deputy Director  
Import Div.  
Int'l Trade Administration Bureau  
Ministry of International Trade & Industry  
1-3-1, Kasumigaseki  
Chiyoda-ku, Tokyo  
Tel: 03-501-1659

Mr. H. Takahashi  
Sokatsuhan  
Import Div.

Mr. K. Sato  
The Americas-Oceania Div.  
Import Div.

Mr. S. Urakabe  
Senior Managing Director  
Tokyu Hands Co., Ltd.  
2-29-20, Dogenzaka  
Shibuya-ku, Tokyo  
Tel: 03-476-5741

CANADIAN EMBASSY:

Mr. G. Milot,  
Mr. H. Ohyama

EXTERNAL AFFAIRS OTTAWA

Ms. R. Zeisler  
Japan Trade  
Development  
Division

Mrs. S. Jorgenson



## The Home Center Business in Japan

The typical home center in Japan is a one-story building located next to a principal road in a suburban area. It may carry from 20,000 to 30,000 different items, and have an indoor sales area of over 330 square meters with outdoor sales area. Most home centers provide customers with a spacious parking lot, a customer service counter and a workshop. Some of them hold DIY classes and print up instructional materials for give away. Almost all of them have a sales area specifically set aside for auto-related products. And most are so successful that they are branching out to nearby areas, but they are not like food chains as the home center business should have much skilful persons who can consult with consumers. It takes time to train these persons.

The range of products handled by home centers in Japan includes:

- 1) Hand tools, power tools
- 2) Construction-related hardware
- 3) Racks and shelves
- 4) Repair materials including adhesives, fillers, tapes, and so on
- 5) Materials used for interior decoration
- 6) Building materials
- 7) Semifinished products such as furniture kit
- 8) Paint and sundries
- 9) Plumbing supplies
- 10) Exterior decorations
- 11) Small electrical appliances and equipment
- 12) Auto-related products

### Japan's Do-It-Yourselfers

First of all, various studies show that the Japanese as a whole, are not as familiar with the idea of DIY as are Americans and Europeans. We expect that this situation will change very rapidly, however, as a result of the many educational and marketing programs now underway to increase consumer awareness and knowledge about do-it-yourselfing.

For example, TV broadcasting corporations, have DIY consumer education program sometimes.

In addition, many books and magazines on DIY are being published, and homecenters, wholesale centers, and manufacturers themselves, are printing up instructional materials to distribute free of charge to their customers

The point-of-purchase (POP) customer service counters set up in most of the home centers are also making DIY more accessible to people by giving them a place where they can easily go to their questions answered.

Last but not least, advertising is spreading the word. Whithin their market area, many home centers are using newspaper inserts as an advertising vehicle. Not only do these inserts show home center products, but they also provide basic information about DIY.

In response to this rapid development, not only was the Japan DIY Industry Association established in July of 1977, but the Ministry of International Trade and Industry of the Japanese government also formed a committee within its Consumer Goods Industries Bureau to assist our industry to develop further and approved our association as a corporate judicial person in May 1980.

With the support from the government and cohesiveness within the industry as a whole, we expect the DIY business to have one of the highest potentials for growth of any sector in our economy.

Our past trends and current projection show that Japan's home center market have doubled its current scale in five years from 1980 to 1985; to boast some 1400 home centers with around U.S.\$ 4 billion in sales.

## The Role of the Japan DIY Industry Association

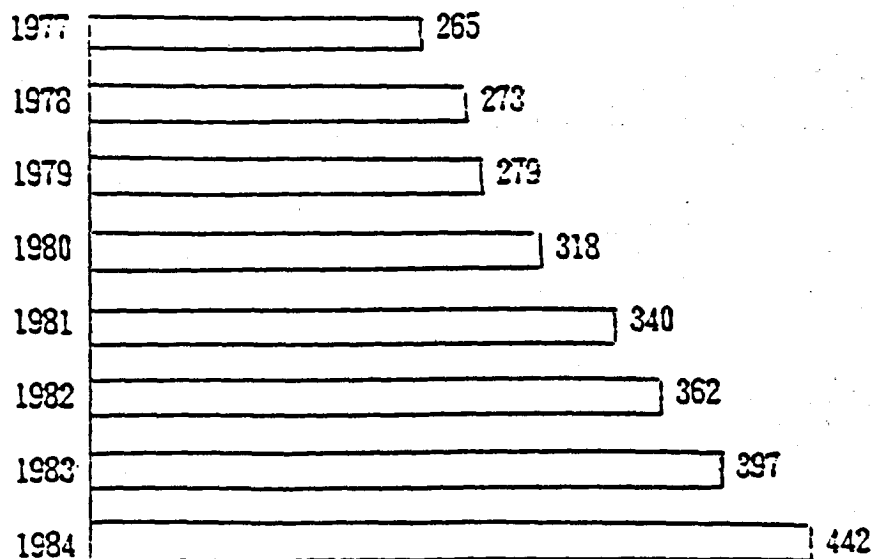
The Japan DIY Industry Association was established with the purpose of disseminating DIY concepts and know-how among the consumers and offering assistance in the overall development of the DIY industry. Our effort to accomplish these objectives are reflected in the following activities of the association:

- 1) Holding an annual Japan Do-It-Yourself Show
- 2) Running DIY seminars to train DIY-store employees and DIY school to instruct housewives
- 3) Conducting various studies on DIY
- 4) Sending study missions overseas
- 5) Preparing DIY instructional booklets
- 6) Publishing an association newsletter
- 7) Keeping an up-to-date membership roster

Our membership, which totals 442 as of January 1985, is broken down as follow:

Retailers	:	105 companies operating a total of five hundred fifty home centers
Wholesalers	:	123 companies
Manufacturers	:	193 companies
Others	:	21 companies

## Membership of Japan DIY Industry Association



As for the do-it-yourselfers, the following are some of the main activities:

- 1) Painting ceilings, walls and furniture
- 2) Wallpapering
- 3) Laying carpets, tiles and other floor coverings
- 4) Plastering
- 5) Repapering screens and sliding doors
- 6) Putting up racks and shelves
- 7) Changing casters on sliding doors
- 8) Packing and replacing faucets
- 9) Repairing flush toilets
- 10) Repairing tiles

As these activities show, most do-it-yourselfers are concerned with the maintenance and repair of their homes. They are still a long way from seeing DIY as a means for home improvement.

But given the level of enthusiasm among Japan's DIYers and the seriousness with which educational efforts are being carried out, we expect that our DIY movement will continue to mushroom and the DIY industry will become one of the fastest growing sectors of our economy.

### Come and See Us This Fall

For now I'd like to invite you all to join us this fall in Tokyo, we are planning to have the 8th Do-It-Yourself Show which will be held for three days on September 20-22.

By coming to participate in this programs, I'm sure you will have an excellent opportunity to see the state of our industry. And, of course, our association will do its best to make your visit to Japan as informative, enjoyable and worthwhile as possible.

Besides, you couldn't pick a lovelier season to visit Japan. The sky should be clear so I can almost promise you'll be able to see Mt. Fuji. So why not treat yourself to an experience I'm sure you'll never forget.

**Officers:**

- President .....Toshiaki Tanzawa
- Vice Presidents.....Toshiharu Endo, Hirotooshi Kan, Tomoo Shimura  
Naokazu Fujimura, Hiroshi Waki
- Executive Director...Kimio Kodama



# JAPAN DIY INDUSTRY ASSOCIATION

TO-SO BUILDING, 1-4-9 SHINKAWA CHUO-KU, TOKYO, JAPAN. 104  
TELEPHONE TOKYO 03-553-6397

## Tokyu Hands

### A New Approach to Department Store Purchasing

Imagine a department store dedicated to the idea of making things with your hands and staffed with people knowledgeable in almost every conceivable field of craftsmanship from woodworking to bicycle maintenance. Tokyo has such a store, it is called Tokyu Hands and it will either spark your desire to make something or leave you overwhelmed by the variety of tools and materials at your disposal. What makes the store so uniquely appealing are completely novel approaches to hiring personnel and purchasing stock.

A quick trip to Hands to pick up some mounting board for photographs can easily turn into a two hour browse after you get sidetracked in the kitchenware section on your way to pick up the extra spokes for your bicycle you suddenly remembered you needed. Why the peculiar fascination? Hands really does have almost everything you might want for things you do with your hands. It has it all under one roof and the store's staff can give intelligent answers to questions about the products they are selling and solutions to problems. This rare combination is a result of the original Hands concept.

The guiding philosophy of Hands holds that with the advance of civilization, people have gradually lost the pleasures of working with their hands. They must be given back the tools and materials they need to make things on their own and 'regaining the hands' is the lofty guiding principle of the Tokyu Land Corporation, the owners of Hands.

#### Regaining the Hands

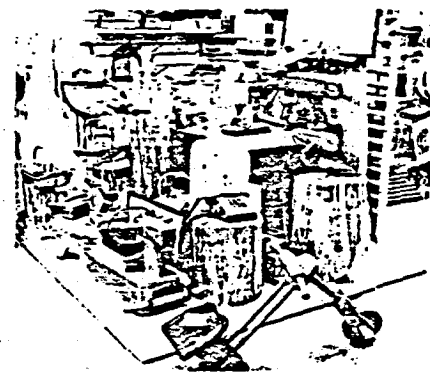
They came up with the idea for a craft department store in 1972 when the company was looking for something new to do with some land they possessed in the Shibuya area of Tokyo. After discarding thoughts of building a conventional shopping center or hotel, they began to toy around with the idea of a completely new kind of 'do-it-yourself' (DIY) shop. Before plunging ahead, they opened stores for DIY and a variety of other products in the Tokyo suburbs of Fujisawa in 1976 and Futagotamagawa in 1977. Confident of success, they opened the Shibuya store in 1978 with five product lines: DIY, home improvement, craft, hobby and 'variety' — a kind of a catch-all section for interesting products of notable design. The company believed that there was a society-wide trend away from simple home improvement towards a desire for the rediscovery of the pleasure and goodness of making things with your hands.

What makes Hands different is their staff. By hiring people with an interest in the area that they are working, Hands creates sales staff that are keenly interested in providing answers to customer questions or as they say at the store, 'spending 30 minutes explaining a 50 yen item'. Customers appreciate the attention but the Hands difference doesn't stop there.

#### Hands Will Have It

Hands is so well-stocked that most of its loyal customers feel that if they need something for a particular job, even if it's an unusual item and not very profitable for a store to carry, Hands will have it. A thorough and efficient purchasing department? Just the opposite - Hands doesn't even have a purchasing department.

The store's sales staff are responsible for selecting stock, ordering, keeping track of inventory and setting up displays. As a result, the abilities and



Unique products provide key to success





Symbol of Tokyu Hands' handicraft tradition

enthusiasm of each individual staff person plays a vital role in the success of a Tokyo Hands Store, and also ensures that no two outlets will be the same. This purchasing system is very unique to Tokyu Hands; in conventional stores purchasing and selling are carried out by different people. But the Hands system is not the result of a system well thought out by distribution experts, it is the result of amateurism. Since Tokyu Hands was originally set up by a real estate company, distribution know-how was lacking when they started the store. With no assistance from existing department stores, they came up with this system and it turned out to be a great success. In this way, sales staff feel responsible for their products and it is also easier to fulfill the wants of customers and provide feedback on changing consumer trends to makers. Also, those staff already holding abundant knowledge of products will become more professional in the field and their pride in their work is an essential ingredient in the very successful Hands formula. It is a more expensive way to run a business but Hands does not try to undersell other stores. They attract customers by selection and service and the sometimes higher prices that result from this very labor-intensive way of operating are compensated for with loads of happy customers.

Despite the burdens of small orders and frequent deliveries required by Hands, suppliers are usually happy for the market information they receive and the exposure for their products in a store favored by the trendsetters of Tokyo. Exceptions to the Hands purchasing system are the 10 to 20 percent of the store's stock that is purchased overseas by a small group of personnel within the store. Imports are difficult within their purchasing system so Hands set up a direct importing team to increase imports in 1986.

As a kind of a DIY shop, the Hands management originally thought that their largest clientele would be middle-aged people, but they have not found this to be the case. Young people in their teens and 20's turned out to be the largest group after the opening of the Shibuya store. Less surprising is the popularity of the shop amongst graphic designers, photographers and those in the film and television industries such as set designers. In the initial plan, Hands was to be directed more at men than women on the basis that the large number of conventional department stores and boutiques found in the area would probably already have the attention of the female population and that males would be therefore more available as a market. This turned out to be only partially true with not so much difference in the attraction the store has on men and women as originally expected.

Hands has become well-known throughout Tokyo and all of Japan with limited advertising, largely on the basis of its uniqueness and word-of-mouth promotion by satisfied customers. Their sole means of advertising is through twice weekly newspaper inserts featuring products available in the store. A new idea for Hands is an open competition they are running for handmade things with six winners from among the 1,800 entries to be featured in an exhibition in the Spiral Hall in Tokyo.

### Careful Expansion

Success at the Shibuya branch has also led to the opening of new branches in different parts of Tokyo and other cities. Shops were opened in the Tokyo suburb of Machida and Osaka in 1983 and in Ikebukuro, Tokyo in 1984. These were directly owned but in 1988 the decision was made to permit the opening of an outlet in Nagoya as a franchise owned by Sanko Creative Life, part of another real estate firm. The companies went through an extensive process of transferring the management know-how needed to run a Tokyu Hands store. For the future there are plans to open directly-owned shops in Kobe and Yokohama.

Though expansion has proceeded steadily on the enormous success of Hands - January to September sales in 1986 were 37.8 billion yen - Tokyu Hands is being very careful to proceed slowly enough to ensure the preservation of the basic concepts of the store. Since the staff are vital to the success of any Hands outlet, finding qualified people is essential. Each store is different, simply because the staff purchasing and section management system determines that no two could be alike. And that the Tokyu Hands stores are like no other anywhere else. ■



# '86 JAPAN DO-IT-YOURSELF SHOW

SEPT. 13(sat). 14(sun). 15(mon). 1986

East. South & C Hall of Tokyo Harumi International Trade Fair Grounds

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GUIDE FOR OVERSEAS VISITORS  
LIST OF EXHIBITORS



JAPAN DIY INDUSTRY ASSOCIATION

## '86 JAPAN DO-IT-YOURSELF SHOW

*Show Theme: My Life, My Creation*

*Events Theme: Hello, Good Living.*

*Let's Try DIY!*

At the '86 Show, we have expanded the creative space of DIY from the realm of residence to that of living itself based on the above themes, and in order to have as many visitors as possible experience the essence of DIY, we have planned a variety of events.

Let us introduce each of these events.

### 1. DIY Kids' Kingdom (Sept. 14 and 15)

As one of the main events and PR shows for the general public, we have created a DIY kingdom (an outdoor DIY square) which encompasses our traditional "Parents and Children Handicraft Workshop," so that both children and adults can enjoy DIY.

- Let's build a totem pole DIY style.
- Log cutting
- Parent and child handicraft workshop
- Hand-made mikoshi (portable shrine) created by kids
- And more.

Now, in carrying out this event, we have had the cooperation of Japan Nichiyo-Daiku Club and other exhibitors.

### 2. Let's Try DIY! (Sept. 14 and 15)

On the previous two occasions, this event was held in a close tie up with Harumi DIY School, and we were able to efficiently use the school grounds as the event space for "Let's Try DIY." This year, under the Show theme of "My Life, My Creation," we want to carry out "a dramatic remaking of living space" which incorporates the spirit of the main theme. Harumi DIY School is planning to take in new items, so this event, too, is planning to take the first steps in the new direction.

### 3. The 5th Contest for New DIY Products and Idea Products (Sept. 13, 14, and 15)

This is the fifth time that we have held this event, and each year, the number of products exhibited has increased. They have improved in quality and the event itself has become one of the highlights of the DIY Show.

Like last year, we will ask seasoned experts in the industry to serve as judges, and they will carry out an impartial and fair examination and selection.

This year, we have classified exhibited products broadly into different types of industry (15 classifications), and will exhibit them along with the standard retail price. Also, the sales pitch (in which the exhibiting company explains the characteristics and strengths of their company's products within the scheduled time period of 1 minute) will be taken into account in the overall evaluation.

With regard to prizes (the prize presented by Director General of the Consumer Goods Industries Bureau of the Ministry of International Trade and Industry, the prize presented by the president of Japan DIY Industry Association, the Gold Prize, and the Silver Prize), the results will be announced on September 13, and there will be an award-giving ceremony on the final day of the Show. On September 14 and 15 (the General Public Show), there will be a division of general popularity which will be based on votes cast by visitors at large, and the top five entries will be given an award in the ceremony on the final day, also. (Those participants who cast a vote will receive a present as well.)

### 4. Distribution of the New Products Catalogue File (Sept. 13, 14 and 15)

We have made a catalogue file of the new products which we solicited from the companies exhibiting at this year's Show. We have made 1000 sets, which we are planning to distribute to our retailers, and to them only.

This is one way of the ways in which we planned to create DIY business opportunities, with this Show providing the occasion and arena.

**5. Harumi DIY School (Sept. 13)**

This year, it will concentrate its efforts on the first day (i.e., the trade show), and it will be carried out on a full-day basis, with a full program both in the morning and afternoon.

The lectures and practical sessions will be focused on the key theme of the show, "My Life, My Creation." Based on that theme, efforts will be made to create "dramatic change in living space." As such, the program will incorporate new items as well.

Afterwards, the DIY school will be held in more than a dozen locations throughout the country other than the Harumi trade fair grounds. Also, in this event, the staff of cooperating exhibitor-companies will be taking part as instructors for the practical sessions, with DIY advisers playing a central role.

**6. The Inter-Collegiate DIY Competition (Sept. 13)**

When we think broadly about the future of DIY, our ability to draw and attract the younger generation in their teens and 20's is an extremely important matter. This event focuses on the strata of college students who serve as a "volume zone," that is, the most numerous group among the young, and who tend to be more knowledgeable about DIY, so that they can become even more familiar with DIY.

Competition Games: "Fusuma (sliding door) refurbishing" → "Wallpaper recovering" → "Log-cutting," etc.

\* Contestants will be judged on the basis of the amount of time used and the overall quality of work.

**7. Panel Discussion by Representatives of the DIY Industry (Sept. 13)**

**The DIY Industry Aims at the Future, and Confronts Some Problems**

Instead of the commemorative seminar that we have had in previous years, this year we will have various representatives of the DIY industry gathered in one sitting to discuss a wide variety of problems that the industry faces today in a free discussion format. It will be a panel discussion through which we will explore business opportunities of future.

\* Tutor: (MC and a moderator of various viewpoints)  
Professor Kozaburo Sakai of Business Administration Department  
of Aoyama Gakuin University

\* Panelists:  
Satoru Urakabe (Representative Director, Executive Managing  
Director of Tokyu Hands, Ltd.)  
Hiroyoshi Takii (Managing Director, Nitomuzu, Ltd.)  
Toshimitsu Kawaguchi (President, Joint-Ten Co., Ltd.)

\* Overall MC: Naokazu Fujimura  
Date and time: September 13 (Saturday) 1:00PM – 3:00PM  
Admission: ¥5,000 per person  
Place: Nitto Kocha Tea Lounge in the Harumi Trade Fair  
Grounds.

**8. 2nd General Assembly of DIY Advisers (Sept. 13)**

The General Assembly of DIY Advisers, which was started at last year's Show, will be convened at this year's Show as well.

Time: 3:00PM – 5:00PM  
Place: Nitto Kocha Tea Lounge in the Harumi Trade Fair  
Grounds

**9. Get Together Party for the DIY Industry**

After the end of the trade show on the first day, we will hold a friendly get-together party for the industry, which by now has become a regular part of the DIY Show. We would like to see active participation on the part of all of you.

Admission: ¥3,000 per person  
Place: New Tokyo (Within the Harumi Trade Fair Grounds)  
Time: 5:30PM – 7:00PM

**10. DIY-Day Photo Contest (Sept. 13, 14, and 15)**

The Association has designated the first Sunday of each month after October 1984, as an integral part of the public education and dissemination activities for DIY. Following the Solicitation of "Catch Phrases for DIY Goals" which was held on the first time, we are soliciting DIY photographs (photographs of DIY works and scenes in actual work, etc.) from the public at large. On the day of the show itself, we will show only the prize-winning entries in the quarter size, so that visitors can deepen their familiarity and understanding about DIY from a more familiar angle.

**11. Consultation Corner for the Qualifying Exam as DIY Advisers**

During FY 1983, 1984, and 1985, a total of 1,055 DIY advisers were born.

This "DIY Adviser Qualifying Examination" has been gathering much attention from the mass media in recent years, and we have had a large number of inquiries about it in recent years as well. Therefore, we have prepared a consultation service window for those who are interested in the role of DIY advisers; and those who aspire to serve as DIY advisers in the future. And we plan to carry out aggressive PR activities.

**12. DIY Girls to Take Part Again (Sept. 13, 14, 15)**

"DIY Girls," who made their appearance for the first time last year to help to create an attractive atmosphere and facilitate the process of various events, will be at work this year as well. Because we will use three halls for the first time, the number of "DIY Girls" will be increased to 20. With their efforts, the entire show will be more colorful and exciting.

**13. DIY Consultation Corner Staffed by 100 DIY Advisers (Sept. 14, 15)**

Each year, we have a large number of inquiries and requests for consultation from visitors to the Show. There are so much demand in this area that the methods we have used in previous show were not quite sufficient to adequate to fully respond to these needs.

So this year, we have called upon 1,055 DIY Advisers who work all over Japan to gather at the Show. These Advisers will be assigned to the halls for the General PR Show in order to respond to the consultation needs of visitors at large.

**14. Sunday Carpenters Build Homes (Sept 13, 14, 15)**

This highly popular event from last year will be held at the outdoor event space this year. At present, "Association of Sunday Carpenters to Build Homes" is in the process of finalizing the items to be implemented.

**15. Flower Festival (Sept. 13, 14, 15)**

At the outdoor event space, there will be a display of gardening exhibits, a suggestion corner on greenery, a consultation corner on gardening, and on-the-spot selling of gardening items. As such, it will be a lively event.

**16. Car-Life-Corner (Sept. 14, 15)**

The "Car Care Corner" of previous Shows has been upgraded to become the "Car Life Corner" this year. This event, also held at the outdoor event space, will explore and propose a DIY automotive life which will give us more dreams.

**17. On-the-Spot Sales of DIY Products (Sept. 14, 15)**

At this event, the products that were used at "Harumi DIY School" (such as tools, materials, etc.) will be put on display at a space adjacent to the "Let's Try DIY" Corner, and they will be offered for sale on the spot. By showing a large volume of products in a dramatic display, it will be possible to produce an atmosphere with a rich variety, which will be fitting for this Show.

**18. T-Shirt Present (Sept. 14, 15)**

As the traditional "Visitor Present," an original DIY Show T-shirt will be given to the first 1,000 visitors on September 14 and 15 (General PR Show), for a total of 2,000 persons.

**19. DIY Book Corner**

Here, books (including those in foreign languages) related to DIY will be on display, and will be offered for on-the-spot sale.

**20. Show Stamp Rally (Sept. 14, 15)**

This year's show is larger in scope and it is held in three different halls. Therefore, we need to exercise some ingenuity to encourage the visitors to visit all the different exhibits without skipping any. In this event, a stamp counter is set up at five location, and those visitors who get all the stamps will receive a present.

**21. Home Center for the New Era**

**DIY Laser Disk Information System (Sept. 13, 14, 15)**

In line with the new media the so-called Data Base for dealing with products and the Coordinator System are leaders which are sure to draw many customers to the Home Center on the near future.

The key point is the speed and accuracy with which the needs of the customer can be met. Of course we would never settle for less than the best when it comes to quality.

In this corner we make the fullest use of both the hard and soft Pioneer "Laser Disk" and demonstrate how to classify several tens of thousands of items in the DIY Home Center. We also, using an actual model, show how it is possible to search for information on products, combine it and then how to use it to improve customer service. Expect nothing but the best.

**Appearance**

The following persons will be making an appearance at various events of this Show and providing assistance.

**Matsutaro Ishikawa (DIY Consultant)**

**Tetsuo Kimura (Director, Japan Nichiyo-Daiku Club)**

**Masato Nishizawa (Director, Japan Nichiyo-Daiku Club)**

**Kazuko Yuda (Home Adviser)**

## ■ MESSAGE TO VISITORS FROM OVERSEAS:

Welcome to the '86 JAPAN DO-IT-YOURSELF SHOW! This is the ninth in a series of shows which started in the Fall of 1978. This annual show has developed year after year and now has become Japan's largest of its kind both in name and in reality with its enriched variety of contents together with an increasing number of visitors. The total number of visitors last year exceeded 100,000 over the three day period, which set an all-time record. This year's show is at an even higher level, which includes an expansion in the size of the display booth areas. This year the total period of the show has been divided into two parts: on the first day [September 13th (Sat.)], the show will devote itself entirely to business purposes as a trade show, and on the subsequent dates [September 14th (Sun.) & 15th (mon.)] it will open to the general public hoping that they will acquire a better knowledge of "Do-It-Yourself."

This English edition of a list of exhibiting enterprises of the '86 JAPAN DO-IT-YOURSELF SHOW has been prepared for visitors from overseas. In the Japan DIY Industry Association section located in front of the Event Corner inside the South Hall, there will be exhibition staff. Please feel free to ask them to provide you with any assistance.

In 1987, "Japan Do-It-Yourself Show" will be held on the three days of August 28th (Fri.), 29th (Sat.) and 30th (Sun.) in Tokyo International Trade Fair Ground. We look forward to seeing many exhibits from overseas corporations.

September 1986

Toshiaki Tanzawa  
President  
Japan DIY Industry Association

## ■ PURPOSE, SCALE AND PRODUCT CATEGORY OF THE SHOW

- Purpose:** 1. Wider diffusion and education of concept of DIY-HI activities among consumers.  
2. Comprehensive trade fair of DIY industry
- Scale:** Number of exhibitors: 356 companies  
Number of booths: 842 booths
- Product Category:** Hand tools, paints and paint sundries, hardware, repairing materials, building materials and timber, garden tools, automotive tools and accessories, interior and exterior decoration products and materials, electric parts, water supplies and appliances, pet goods, research and publication organizations, exhibits from overseas, and hobby products.

## ● SUPPORTING ORGANIZATIONS

### ☆ JAPANESE GOVERNMENT

Ministry of International Trade and Industry  
Ministry of Agriculture, Forestry and Fishery (Forestry Agency)

☆ Japan Broadcasting Corporation (NHK)

## ■ MAIN THEME OF THE SHOW

Create and improve your living space with your own hands.  
"My Life, My Creation", "Let's Try DIY"

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**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**1. Hand tools**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
CAMPING GAZ CO., LTD.	(T.M.M. Bldg.) 10-5, Iwamoto-cho 1-chome, Chiyoda-ku, Tokyo, Japan	Masaru Ishida	Tsukasa Kobori	Soudogaz 206, Gas Cartridge, etc.		C-50
HATAYA TOOL CO., LTD.	10-90, Ohsu 4-chome, Naka-ku, Nagoya, Japan Phone: (052) 261-3821	Torao Adachi	Junjiro Minato (Tokyo Branch Phone: (03) 661-7881	Cord Reels, Hose Reels, Hand- lamps, Extension Cord and Oilers	Export	C-47
INOCON JAPAN CO., LTD.	4F Conny Bldg., 6-3, Higashi-machi 1-chome, Toyama 930, Japan Phone: (0764) 21-7700	Seiji Kuroda	Kunimitsu Yoshida	Pittashi Sensor (Finding Stud) Inogon Angle Indicator	Export	C-40
KAI JIRUSHI HAMONO CO., LTD.	9-3, Iwamoto-cho 3-chome, Chiyoda-ku, Tokyo, Japan Phone: (03) 862-6411	Saijiro Endo, President	Morimasa Koyama (Merchandising & Marketing Director)	Hobby Tools, Scissors, Hardware & Sprayers, etc.		C-49
KARAKANE KOGYO CO., LTD.	18-8, Higashinakahama 3-chome, Joto-ku, Tokyo, Japan	Shojiro Karakane	Sigetsugu Karakane	Ring Star Tool Box & Free Box	Export	C-43
KISO POWER TOOL MFG. CO., LTD.	1-8, Hannan-cho 7-chome, Abeno-ku, Osaka, Japan Phone: (06) 693-5351	Eijiro Kiso	Eijiro Kiso	Mini Tool: Drill, Jigsaw, Sander, Router & Compressor	Export	C-34
KYOTO DAIICHI INDUSTRY, INC.	45, Nagaike, Kaminara, Yawata-City, Kyoto, Japan Phone: (075) 981-3400	Goichi Morino	Iiroyuki Nishimura	Volga 25, Mini Multiple Machine		C-56
KYOTO MEASURING INSTRUMENTS CORP.	24, Matsuda-cho, Higashi-kujo, Minami-ku, Kyoto 601, Japan Phone: (075) 681-2761	Yoshizo Murata, President	Hideo Ishida, Foreign Trade Division Manager	Steel & Glass Fibre Measuring Tapes, Cutter-Knives and Blades, Digital Length Measuring Instruments and Other Hand Tools	Export      Import	C-59
LUXO CO., LTD.	1-9, Yatomi-dori, Mizuho-ku, Nagoya 467, Japan Phone: (052) 831-1401 Fax: (052) 834-2743	Seltaro Okumura	Akira Toyoda	Universal Band Sawing Machine LUXO-U-16 Type	Export	C-42

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**1. Hand tools**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
NABEYA IRON & TOOL WORKS, LTD.	25, Wakasugicho, Gifu, Japan Phone: (0582) 71-6301	Taemon Okamoto	Tamio Miyawaki, Director	Vises & Clamps	Export	C-53
NAKAYAMA KIKO CO., LTD.	96B, Honjyokiko-cho, Higashi-Osaka City, Osaka 578, Japan Phone: (06) 747-5470	Chuji Nakayama, President	Masamichi Mikami	GOLD JAGUAR Brand Hand Tool, VANLACK Brand Tool Case, UNION Brand Maintenance Equipments, TOYO Brand Tool Box	Export	C-61
O.H. INDUSTRIAL CO., LTD.	481, Mizuhai, Higashi-Osaka, Osaka, Japan Phone: (0729) 63-2221	Yoshihisa Shimizu	Yoshihisa Shimizu	All Kinds Hammer & Caster	Export	C-51
OLFA CORPORATION	11-8, Higashi-Nakamoto 2-chome, Higashinari-ku, Osaka, Japan Phone: (06) 972-8104	Yoshi Okada	M. Ariki	"OLFA" Brand Cutters, Blades, Mats	Export	C-39
OMARK JAPAN LTD.	Toranomon Kotohirakaikan, 2-8, Toranomom 1-chome, Minato-ku, Tokyo 105, Japan Phone: (03) 503-6716	Toshio Suzuki	Hideyo Yamamoto	Saw Chain & Chain Saw Accessories		C-63
PRINCE INDUSTRIAL DEVELOPMENT CO., LTD.	1-11, Asakusabashi 1-chome, Taito-ku, Tokyo 111, Japan	Sadao Yoshinaga, Director	S. Kagami	GB-2001, GT-3000, GT-5000		C-52
SHIBAURA ENGINEERING WORKS CO., LTD.	1-12, Akasaka 1-chome, Minato-ku, Tokyo 107, Japan	Akira Watanabe, President	Hiroshi Nakajima, Manager, Overseas Dept.	Toshiba Brand Power Tools and Relative Appliances	Export	C-64
TECHNO GESCO LIMITED	825-1, Karima, Yatabe-machi, Tsukuba-gun, Ibaragi, Japan Phone: (02975) 6-1388 Fax: (02975) 6-1389	Yasuhiko Kawamura	Yasuhiko Kawamura	Flexo-Plan Grinder Set (Flexible Shaft Grinder for Hand Drill) Drill Grinder for Homemaker, etc.	Import	C-60
TOOL SUPPLY INTERNATIONAL, LTD.	14-10, Katsuta-dai 3-chome, Yachiyoshi, Chiba 276, Japan	Shinzo Horie	Shinzo Horie	Imported Tools, Wet & Dry Grinders, Building Hardware, etc.		C-54

## Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW

### 1. Hand tools

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
UNIVERSAL TRADING CO., LTD.	5-5, Yushima 4-chome, Bunkyo-ku, Tokyo, Japan Phone: (03) 816-4505	Yuzo Amagasa	Yosuke Hiyoshi	Taymar Brazing Torch, EPI Gas Appliances		C-57
VESSEL CO., INC.	17-25, Fukaekita 2-chome, Higashinari-ku, Osaka 537, Japan Phone: (06) 976-7778	Teruo Taguchi, President	T. Hiyori, Manager of International operations	Hand Screwdrivers, Wire Stripper, Hand Ratchet Rivet Gun, Plastic Hammers, Bits, Pliers and Other Related	Export      Import	C-37

### 2. Paints and paint sundries

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
ASAHI OKUMA INDUSTRIAL CO., LTD.	5050, Asahimae-cho, Owariasahi, Aichi, Japan Phone: (05615) 3-1213	Yuzo Amari	Inosuke Suzuki Tokyo Office: 16613, Uchikanda 2-chome, Chiyoda-ku, Tokyo, Japan Phone: (03) 254-0911	High Volume-Hot Air Spray Equipment, "Volumair"		E-145
KAMPE HOME PAINT CO., LTD.	37-20, Kashima-cho 1-chome, Yodogawa-ku, Osaka, Japan Phone: (06) 302-4551	Yoichi Mori President	Shiro Yamauchi	Home Paint	Export	E-141
NIHON TOKUSHU TORYO CO., LTD.	16-7, Oji 5-chome, Kita-ku, Tokyo, Japan Phone: (03) 913-6131	Taroh Nakanishi	Shoichiro Kuga	Household Paints "ICHIBAN-SERIES", BONNET-Q, OTONA-SHEET	Import	E-142
SUNDAY PAINT CO., LTD.	9-16, Ohyodominami 1-chome, Ohyodo-ku, Osaka 531, Japan	Shoichiro Yamao	Hajime Moriguchi	House Use Paint		E-150

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**3. Hardware**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
ASAHI INDUSTRIES CO., LTD.	Sunshine 60 Bldg., 1-1, Higashi-Ikebukuro 3-chome, Toshima-ku, Tokyo 170, Japan	Akira Kato	Kazumi Ishikawa	BOB PETERS (Fertilizers)		C-25
HIKARI CO., LTD.	17-9, Uemachi 1-chome, Higashi-ku, Osaka, Japan	Saburo Kimura	Shoji Sano	Sign System	Export	C-31
MATSUI WIRE NETTING INDUSTRY CO., LTD.	Head Office: 32, Minami-Honmachi 2-chome, Higashi-ku, Osaka 541, Japan Phone: (06) 261-2322 Tokyo Office: 16-7, Nihonbashi-Kayabacho 2-chome, Chuo-ku, Tokyo 103, Japan Phone: (03) 669-8426	Hiroshi Matsui	Shoki Asakawa	Welded Wire Mesh in Small Wire, Plain Weave Wire Cloth, Chain Link Wire Netting	Export	C-13
MIYADOU CO., LTD.	13, Mithisitacho 3-chome, Nakamura-ku, Nagoya, Japan Phone: (052) 481-2188	Masami Miyadou	Shirou Miyadou	Rope, Tape, Taito		C-12
NIHON LOCK SERVICE CO., LTD.	17-3, Kandajinbocho 3-chome, Chiyoda-ku, Tokyo 101, Japan	Toshio Futagami	Kiyohiro Otsuka	Electric Lock System, etc.	Import	C-18
RYOBI LIMITED	15-1, Sotokanda 3-chome, Chiyoda-ku, Tokyo 101, Japan Phone: (03) 257-1335	Hiroshi Urakami President	Yoshio Kanesada Vice President Builder's Hardware Division	Power Tool & Hardware	Export	C-8
SAKAGUCHI PLASTIC INDUSTRIAL CO., LTD.	16-6, Nishishinjuku 5-chome, Shinjuku-ku, Tokyo, Japan Phone: (03) 372-5284	Keizaburo Sakaguchi, President	Junichi Sakaguchi	Lock Catch, Fishing Rod Holder, Racket Holder	Export	C-21
SANKO SHOTEN	201, 8-1, Saiwaicho 2-chome, Chiba-City, Chiba 260, Japan	Mamoru Shimotake		Topper Can Opener		C-32

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**3. Hardware**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
SHIMIZU CO., LTD.	5-9, Kanamono-cho, Higashi Osaka City, Osaka 577, Japan Phone: (06) 723-1971	S. Shimizu President	O. Shimizu Director	Builder's, Cabinet and Furniture Hardware, Decor and Utilities	Export      Import	C-24
WAKI SANGYO CO., LTD.	10-32, Minami-Kamikosaka, Higashi-Osaka-City, Osaka, Japan Phone: (06) 723-5551	Hiroshi Waki	Harumi Iwago	Materials, Hardware, Lumber, etc.		C-1
YAHATA CO., LTD.	Tenjinhighashi 18, Nishiharu-cho, Yamanokoshi, Nishikasugai-gun, Aichi, Japan	Toshinori Suzuki	Yuji Murai	Fasteners and Builders Hardware	Export      Import	C-9

**4. Building materials and timber**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
FANCY TSUDA CO., LTD.	2-33, Matsubara 2-chome, Naka-ku, Nagoya, Japan Phone: (052) 322-3101	Sotaro Tsuda President	Ryutaro Tsuda Managing Director	"FANCY ROLL" Rolled Veneers	Export	E-64
HOSHINO KOGYO CO., LTD.	692-8, Tamada-machi, Kanuma-City, Tochigi, Japan Phone: (0289) 65-5131	Daichu Hoshino	Akio Hoshino	Chopping Board, Sunoko		E-62
IWAKI-SHOTEN, LTD.	1728, Shimoookubo, Urawa-City, Saitama 338, Japan Phone: (0488) 52-7511	Todayoshi Nishimagi	Yasuharu Sugama	Rain Gutters, Incinerator, Grating, Underdrain Pipe		E-60 O-4
JUMBO CO., LTD.	12-12, Chuo-cho 2-chome, Fujishi, Sizuoka, Japan Phone: (0545) 53-6126	Toshiharu Endou	Takemi Yamamoto	Wood, Lumber	Import	E-55

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**4. Building materials and timber**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
TAKIRON CO., LTD.	Yaesu Osaka Bldg., 1, Kyobashi 1-chome, Chuo-ku, Tokyo, Japan Phone: (03) 274-6541	Hitoshi Yamaguchi President	Michio Taniguchi	Agriculture and Hobby Gardening, Building Products	Export	E-56

**5. Repairing materials**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
CEMEDINE CO., LTD.	5-9, Higashi-gotanda 4-chome, Shinagawa-ku, Tokyo, Japan Phone: (03) 442-1331	Masanao Hara	Hiroshi Ema	Adhesives & Sealants, Home Melter, Hi-span Form, Jagar Series	Export	E-43
HENKEL HAKUSUI CORPORATION	Nissho Iwai Bldg., 3-30, Imabashi, Higashi-ku, Osaka 541, Japan	K.-H. Jastram	K. Morii	Renovating Products, House- hold Adhesives and Homecare Products		E-50
KONISHI CO., LTD.	2-6, Dosyou-machi, Higashi-ku, Osaka City, Japan Phone: (06) 228-2811	Shinichiro Konishi	Yukio Oshima	Wood-craft, Bond G17, Bond G Clear	Export	E-42
SCHLEGEL ENGINEERING CO., LTD.	4th Fl., Iwanami Shoten Annex, 3-1, Kanda Jinbo-cho, 2-chome, Chiyoda-ku, Tokyo 101, Japan	John E. Ragan Representative Director	Takayuki Yoshimura Sales Engineer	Weather Seals (Polypile tape, Door Bottom Seal, etc.)		E-36
SHOWA KAKO CO., LTD.	565, Tohori, Himeji-City, Hyogo, Japan Phone: (0792) 64-1234	Akeo Tanaka	Yoshiaki Tanaka	Vinyl Gloves for Household and for Workers	Export	E-51
SONY CHEMICALS CORPORATION	1-6, Nihonbashi Muromachi, Chuo-ku, Tokyo, Japan	Michio Yamaguchi	Hirofumi Hyakutake	Shoe Repair Goods	Export	E-41
THREE BOND CO., LTD.	1456, Hazama-cho, Hachioji-City, Tokyo, Japan	Tadasu Nonaka President	Hirofumi Masuyama Asst. Manager Overseas Dept.	Household Chemical Goods	Export      Import	E-40

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**5. Repairing materials**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
YATSUYA KOGYO CO., LTD.	5-16, Meiekinami 2-chome, Nakamura-ku, Nagoya, Japan	Masao Shimizu	Sankichi Shimizu	Household Goods – Brush, Bloom, Duster, Lake, Mop, Squeegee	Export	E-44

**6. For-hobby products**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
GUNZE SANGYO, INC.	17, Kanda Nishiki-cho 3-chome, Chiyoda-ku, Tokyo, Japan Phone: (03) 294-4155 Telex: GUNZE TRA J22275 Fax: (03) 233-0329	Hiroshi Matsushima Director, General Manager of Hobbycraft Dept.	Seiji Ueno	Aqueous Color, Handcraft Materials, Painting Tool for Craft & Hobby	Export      Import	E-79
SANYO TRADING COMPANY	2F Hashimotokaikan, 1-5, Higashikanda 1-chome, Chiyoda-ku, Tokyo 101, Japan Phone: (03) 861-7321~2	Takao Nakayama	Shigeru Yoshida	Wooden Toys & Hand Weaving Looms	—      Import	E-80

**7. Electric appliances**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
DX ANTENNA CO., LTD.	2-15, Hamazaki-dori, Hyogo-ku, Kobe 652, Japan Phone: (078) 681-1361	Fujino Yoshio President Hiroshi Maeyama Masayoshi Mori	Hajime Ishizaki	TV Reception Products, Burglar Alarm Products		E-28
IPPONDO SHOJI CO., LTD.	21-7, Negishi 3-chome, Taito-ku, Tokyo, Japan	Motonori Hamano	Kat Ishizuka	Battery Tester, Light Meter, Green Meter	Import	E-37
OHM ELECTRIC INC.	Janome Bldg., 28-7, Higashi-Ikebukuro 1-chome, Toshima-ku, Tokyo 170, Japan Phone: (03) 981-4116	Kazuhide Niisato	N. Miyagawa	Home Electrical Products	Import	E-27

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**8. Interior decoration products and materials**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
ARAKAWA & CO., LTD.	17-1, Nishiwaseda 1-chome, Shinjuku-ku, Tokyo 160, Japan Phone: (03) 202-9177 Fax: (03) 202-9288 Overseas Agent: United Arrows Inc. Suite 408, 21-12, Otowa 1-chome, Bunkyo-ku, Tokyo 112, Japan Phone: (03) 944-7325 Fax: (03) 944-7209 Telex: 0265-5594 UCHIYA J Cable: UCHIYA TOKYO	Hideo Arakawa	Yukio Shiozaki Sales Manager	Art Clair Part-1 & 2 (Interior Rail)	Export	E-11
FUJI BOEKI CO., LTD.	9-17, Hamamachi 3-chome, Wakamatsu-ku, Kitakyushu-City, Fukuoka, Japan Phone: (093) 771-5668	Yoshiaki Tasaka President	Shichiro Kataoka Manager Sales Promotion	Interior Goods	Import	E-9
FUJI HOME CO., LTD.	8th Floor Dai-ichi Azuma Bldg., 4-5, Iwamoto-cho 3-chome, Chiyoda-ku, Tokyo, Japan	Shigeru Fujimura	Toshio Tsuzura	Plastic Chain, Fixings (Anchor's), Interior Goods	Import	E-18
HINAKA MANUFACTURING CO., LTD.	1-18, Ogata 4-chome, Kashiwara, Osaka, Japan Phone: (0729) 72-1681	Kazuo Nakamura	Akifumi Tsuyama	Curtain Rail, Venetian Blind	Export	E-33
INOWELL CO., LTD.	17-7, Hatano-cho, Atsuta-ku, Nagoya 460, Japan	Hiroshi Tanaka	Hiroyuki Murase & Makoto Itoh	Decro Tile, Wallpaper, Electric Heater Vest	Export	E-24
JAPAN ART KIKAKU CO., LTD.	243, Sakuragi, Sayamagahara, Iruma, Saitama 358, Japan	Hiroshi Yoshida	Kouzo Yokonori	Irepane, Noritsuki Panel, Sho Sho Gaku, Etoru	Export	E-23
LETRASET JAPAN LTD.	20-21, Mita 2-chome, Minato-ku, Tokyo 108, Japan Phone: (03) 454-0921	Taisuke Okawara	Shigeko Yoshida	Graphix 4		E-8



**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**8. Interior decoration products and materials**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
MANTEN CO., LTD.	14-1, Nipponbashi-Higashi 3-chome, Naniwa-ku, Osaka, Japan	Takashi Nakanishi	Kiichi Arai	Jumbo Fangle & Color Fangle	Export	E-6
NICHIBEI CO., LTD.	Nihonbashi Nichibel Bldg., 15-4, Nihonbashi 3-chome, Chuo-ku, Tokyo 103, Japan Phone: (03) 272-2011	Yunosuke Fukuoka	Hiroyuki Sugihara	Horizontal Blind, Vertical Blind, Roll Shade, Accordion Door, etc.	Export	E-26
NOAH CO., LTD.	15-9, Kandasuda-cho 2-chome, Chiyoda-ku, Tokyo 101, Japan Phone: (03) 251-0641	Mineo Takeuchi	Osamu Harada	Shelf System (Knock Down)	Export	E-34
SANKO CO., LTD.	13-15, Minamisemba, 1-chome, Minami-ku, Osaka 542, Japan	Yoichi Masuda		Carpet Roller, Accordion Bag	Export	E-10
YAMAICHIYA CO., LTD.	522, Bethuin Kainan-City, Wakayama, Japan Phone: (07348) 8-0331	Masanori Katayama	Nozomu Nakanishi	Shuronawa	Export	E-5

**9. Exterior decoration products and materials**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
ALNA LIVING CO., LTD.	3-577, Togasaki, Misato-shi, Saitama 341, Japan Phone: (0489) 55-5161	Hisao Yamakoshi	Shohei Miyamoto	Unit Frame for Drying Clothes		O-8
HASEGAWA KOGYO CO., LTD.	23-4, Eble 7-chome, Fukushima, Osaka, Japan	Yoshiyuki Hasegawa President	Koji Otani Asst. Manager Overseas Div.	Aluminium Alloy Ladders, Scaffoldings for Building Construction	Export	E-89
KANSAKA CO., LTD.	19-5, Shinmachi 4-chome, Nishi-ku, Osaka 550, Japan Phone: (06) 538-3241	Yoshio Sakaguchi President	Morimasa Sakaguchi Senior Vice President	Aluminum Step Ladder, Aluminum Flower House, Flower Stand	Export	E-84

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**9. Exterior decoration products and materials**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
TATEYAMA ALUMINUM INDUSTRY, CO., LTD.	550, Hayakawa, Takaoka-City, Toyama 933, Japan Phone: (0766) 22-3331	Eiji Takahira	Yasuhiro Mishima	Store Element		E-82

**10. Water supplies and appliances**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
CASLE INDUSTRIAL CO., LTD.	9-6, Shin-Moji 1-chome, Moji-ku, Kitakyushu-City, Fukuoka, Japan	Kenji Watanabe	Masanori Iwama	Ventilation Fan Filter, Water-filter, Water Saving Hose Joint to Faucet	Export	E-137
KAKUDAI MFG. CO., LTD.	4-4, Itachibori 1-chome, Nishi-ku, Osaka 550, Japan Phone: (06) 538-1122 Fax: (06) 538-3367 Telex: 05253021	Junji Tada President	Michihiro Okamoto Manager	Plumbing Fittings, Mixer, Hand Shower Fixture, Bathroom Accessory, Garden Sprinkler, Nozzle and Fountain	Export      Import	E-131
SAN-EI FAUCET MFG. CO., LTD.	12-29, Tamatsu 1-chome, Higashinari-ku, Osaka, Japan Mailing Address: C.P.O. Box 830, Osaka Phone: (06) 972-5921	Akira Nishioaka	Toyoji Miyagawa	Bathroom, Kitchen & Garden Products	Export	E-134
SANYO KASEI CO., LTD.	15, Hanatsune, Oharu-cho, Ama-gun, Aichi 490-11, Japan Phone: (052) 442-1131	Kesami Goto	Tsugito Yanagisawa	PVC Flexible Hose, Plastic Chopping Board, Plastic Hose Reel, etc.	Export      Import	E-133
STIHL JAPAN SALES CO., LTD.	8-14, Nakahara 1-chome, Mitaka-City, Tokyo, Japan Phone: (03) 307-6161 Telex: (03) 232-4776	Akiyoshi Kataoka	Miyuki Yoshino	High Pressure Cleaner: Model HD555, HD580 Rinse Cleaner: Model Ex-1000 Wet and Dry Vacuum Cleaner: Model NT200SE Produced by Messrs. Alfred Kärcher Gmbh + Co. (F. R. Germany)		O-6

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**10. Water supplies and appliances**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
TAIYO PRESS INDUSTRIES CO., LTD.	5-8, Fukae Minami 1-chome, Higashinari-ku, Osaka, Japan	Shinya Fujimoto	Yukio Nagira	Drain and Pipe, Clean Up Tools	Export      Import	E-132

**11. Automotive tools and accessories**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
AIM JAPAN CO., LTD.	21-23, Nishibenzai 1-chome, Asaka-City, Saitama, Japan	Hiroaki Kimura	Hiroaki Kimura	Polyethylene Tarpaulin	Export	E-77
FUJI INDUSTRY CO., LTD.	25-9, Nishimagawa 1-chome, Higashisumiyoshi-ku, Osaka, Japan	Junichi Katayama	Masaaki Yoshimoto	Car Body Cover & Bike Cover	Export	E-171
ISHIBASHI BRUSH MFG. CO., LTD.	58-15, Komazawa 2-chome, Setagaya-ku, Tokyo 154, Japan	Isamu Ishibashi	Norio Imai	Car Washing Brushes & Auto Cleanup Supplies	Export	E-76
MUSASHI HOLT CO., LTD.	TBR Bldg., 5-7, Koi-cho, Koji-machi, Chiyoda-ku, Tokyo, Japan	Hiroshi Maniwa	Toshiyuki Inaba	Radiator Leak Sealer, Body Repair Putty, Muffler Repair Putty, etc.		E-65
OKADA CORPORATION	3-7, Shiba Daimon 1-chome, Minato-ku, Tokyo, Japan	Motoshi Hongyo	Masao Okada	Automotive Accessories, Motorcycle Accessories & Leisure Products	Export      Import	E-72
J. OSAWA & CO., LTD.	2-3, Shibaura 4-chome, Minato-ku, Tokyo 108, Japan	Seizi Tsutsumi	Kohel Tanabe	ARMOR ALL Protectant, WD-40	Export	E-74
TERAO CO., LTD.	4-16, Mikuriya-higashi 1-chome, Higashi Osaka, Japan	Akira Terao	Isamu Terao	Cycle Parts, Cork Goods, Net Goods, Shoe Repair Kit, Idea Seat		E-73

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**12. Garden tools**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
ARS EDGE CO., LTD.	2-32, Kuken-cho Nishi 2-chome, Sakai City, Osaka, Japan	Shigetsugu Takigawa	A. Nakamura	Pruning Shears, Pruning Saw, Handicraft Scissors, Long Arm Pruner	Export	E-112
CANYON TRADING CO., LTD.	2-1, Sarugaku-cho 1-chome, Chiyoda-ku, Tokyo 101, Japan	Hiromu Tada	Akira Nedachi	CANYON Hand Sprayer		E-103
HANAGOKORO CO., LTD.	109, Namihana, Shimonoi-shiki- cho, Nakagawa-ku, Nagoya, Japan Phone: (052) 301-8279	Ritsuo Kozuka	Junichi Kozuka	Hanagokoro (Bonsai Fertilizer)	Export	E-127
HIRANO SEITO CO., LTD.	Koiehonmachi 1-chome, Tokoname-City, Aichi, Japan Phone: (05693) 5-4416	Itsuro Hirano	Itsuro Hirano	Planter, Pot, Bonsai Pot	Export	E-114
H.D. HUDSON ASIA LTD.	1 San Hop Lane 2F, Tuen Mun N.T., Hong Kong Phone: 0-821504	Andrew Fong, Marketing Manager	J.C. Romans, Managing Director	Automatic Compression + Sprayers, Cordless Electric Sprayers, Bak-Pak Sprayers	Export	E-121
HYPONEX JAPAN CORP., LTD.	New Noda Hanshin Bldg., 2-7, Ebie 5-chome, Fukushima-ku, Osaka 553, Japan Phone: (06) 458-9272	Hirotarō Murakami	Hideo Kubo	Gardening Fertilizers (Hyponex, Magamp-K, etc.)		E-136
MARUMASA CO., LTD.	7-12, Meieki-Minami 4-chome, Nakamura-ku, Nagoya 450, Japan	Kooji Kito	Yasuo Kito	Sunday Carpentry Tools, Gardening Tools	Import	E-107
MENEDAEL CHEMICAL LABORATORIES, INC.	6-32, Nakanoshima 3-chome, Kita-ku, Osaka, Japan Phone: (06) 441-2810	Akira Hata	Koichi Hata	Menedael (Activator for Plant)	Export	E-104

## Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW

## 12. Garden tools

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
NIHON TOKUSHU NOYAKU SEIZO CO., LTD.	4, Nihonbashi Honcho 2-chome, Chuo-ku, Tokyo, Japan Phone: (03) 665-8288	Kozaburo Tateno, President	Soichiro Shirote	Agrochemicals for Garden Use		E-117
NIPPON KATEI ENGEI SHISAI CO., LTD.	Hikari Bldg., 2-8, Honcho 4-chome, Kawaguchi-City, Saitama 332, Japan Phone/Fax: (0482) 25-0369	Ryozo Omae, President	Ryozo Omae, President	Lefra Block, Turn Table	Import	E-94
NISHIGAKI INDUSTRIAL CO., LTD.	346, Ohmura, Miki-City, Hyogo, Japan Phone: (07948) 2-6500	Takanobu Nishigaki	Masayuki Kuroda	Pruner	Export	E-122
THE NISSHIN OIL MILLS, LTD.	Head Office: 23-1, Shinkawa, 1-chome, Chuo-ku, Tokyo 104, Japan Phone: (03) 555-6915 Telex: 720-252-2234	Yukio Sakaguchi, Chairman Mitsuo Fukawa President	Kihachi Kawasaki, Manager, Horticulture Sect.	Garden Fertilizer "Ryo-kka, Hanano-tomo", Rapeseed Meal	Export Import	E-95
OHYAMA BLOW INDUSTRY CO., LTD.	Ohgawara-machi, Shibata-gun, Miyagi, Japan Phone: (0224) 52-3711	Kentaro Ohyama	Masayuki Kayaba	Iris Planters and Garden Ware	Export Import	E-115
RAINBOW CHEMICAL CO., LTD.	15-6, Ginza 1-chome, Chuo-ku, Tokyo 104, Japan Phone: (03) 563-1761	Kazuhiro Shioi	Yumiko Horigome	Rainbow Flower Fluid, Tsuya Tsuya, Ant Hunter, Nekosogi Powder	Export	E-97
SANKO KENSOU CO., LTD.	22-15, Mikuni-honmachi, 3-chome, Yodogawa-ku, Osaka, Japan	Masuo Iwasaki	Hirofumi Moriwaki	Rainbow Culture	Export	E-109
SELON CO., LTD.	11-7, Shinsen-cho, Shibuya-ku, Tokyo 150, Japan	Jiro Serizawa	Koichi Serizawa	Green Interior Goods	Export	E-106
SHIBATA GARDEN EQUIPMENT SUPPLY CO., LTD.	73-3, Honkomagome 5-chome, Bunkyo-ku, Tokyo, Japan	Kazuo Shibata	Mitsugu Shibata	Hydro Culture	Import	E-119

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**12. Garden tools**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
TOSHO CO., LTD.	350-1, Honnakane, Yaizu-City, Shizuoka, Japan Phone: (05462) 4-0817	Toshihiko Oishi	Takeshi Ozawa	Fermented Fertilizer Series and Soil for Orchid, Green Plants and Other Plants	Export	E-108

**13. Pet goods**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
OOMIYA KANSHYOGYO ICHIBA CO., LTD.	859, Futatsunomiya, Omiya-City, Saitama, Japan Phone: (0480) 93-1641	Kojiro Ishikawa	Hideo Ishikawa	Aquarium, Fish, Bird, Small Pet and These Accessory	Export      Import	E-59

**14. Research and publication organizations**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
KATEI-NICHIYOHIN SHINBUN-SHA	4-19, Kitahorie 3-chome, Nishi-ku, Osaka 550, Japan Phone: (06) 541-1281	Kazumi Kitamura	Sachio Minami	Newspaper, Magazine, Booklets, etc.		C-3
NIKKO TSUSHINSHA CO., LTD.	New Kojimachi Bldg., 8F, 5-3, Kojimachi, Chiyoda-ku, Tokyo, Japan	Tomoo Kubo	Akinori Wakano	Advertising Agency having a Intelligence about Japan's DIY Industry		C-2
NIPPON T.M.I. CO., LTD.	488-5, Kotobuki-Shirasebuchi, Matsumoto-City, Nagano, Japan Phone: (0263) 86-0191	Chiyuki Kanoh	Masao Aruga	Video Dubbing Machines	Export	C-26

**15. Miki producers group**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
GYOKUCHO INDUSTRY CO., LTD.	58-14, Omura, Miki-City, Hyogo 673-04, Japan	Masaaki Tomosada	Takayoshi Takada	Interchangeable Blade Saw	Export	C-86

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**15. Miki producers group**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
KANZAWA TEKKO CO., LTD.	Miki City, Hyogo 673-04, Japan	Tamio Kanazawa	Hiroshi Sakumoto	Quality Tools & Hardware (Expansive Bit)	Export      Import	C-81
KOBAYASHI GIMLET MFG. CO., LTD.	570-1, Higashi Hoda, Bessho Machi, Miki-City, Hyogo, Japan Phone: (07948) 2-3232	Tsunemi Kobayashi, President	Katsuyoshi Okumura	Auger Bits (Hand Tools)	Export	C-89

**16. Sanjo producers group**

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form and Trade	Booth No.
AIGO KOGYO CO., LTD.	2153-5, Oaza-Tsukanome, Sanjo-City, Niigata, Japan	Akio Aida	Shintaro Aida	Hand Tools	Import	C-74
FUCHIOKA TOISHI CO., LTD.	16-34, Nishiyokkamachi 4-chome, Sanjo-City, Niigata, Japan Phone: (0256) 35-5111	Shigeru Fuchioka	Yukihiro Shimada	Diamond Tool, Grindstone, Grinding Materials, Machine Tool	Export	C-69
KAKURI CORPORATION	25-5, Sakuragi-cho, Sanjo-City, Niigata, Japan Phone: (0256) 34-6111	Toshiatsu Kato	Hiroshi Kato	Carpenter's Tools, Hand Tools, Garden Tools	Export	C-66
KIYOMITSU & CO., LTD.	6-43, Yothukamachi 4-chome, Sanjo-City, Niigata, Japan	Isao Kamata	Tetsumi Murata	All Horticulture Materials Manufacture	Export      Import	C-80
KOYAMA TEKKOSHO CO., LTD.	2171, Tsukanome, Sanjo-City, Niigata 955, Japan	Tetsuro Koyama	Kiichiro Koyama Director	Side Cutting Plier, Long Nose Plier, Cutting Nipper and so on	Export      Import	C-76
MEGURO WOODCARVING KNIFE MFG. CO., LTD.	5-19, Nishi-Uradate 1-chome, Sanjo-City, Niigata 955, Japan	Kiichi Meguro	Hideaki Meguro	Woodcarving Knives for DIY & Stationary Use	Export	C-77
TAKAGI CO., LTD.	13-16, Higashi Uradate 1-chome, Sanjo-City, Niigata, Japan Phone: (0256) 34-3131	Kazuo Takahashi	Mitsuru Watanabe	Hand Tool	Export	C-78

## Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW

### 16. Sanjo producers group

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
TOP KOGYO CO., LTD.	2190-5, Tsukanome, Sanjo-City, Niigata, Japan Phone: (0256) 33-1681	Yasusuke Murayama	Hideichi Kojima	Long Nose Pliers, Diagonal Cutting Pliers, Adjustable Wrenches	Export	C-67

### 17. Overseas exhibitor corporations

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
MULLER & PHIPPS EXPORT MANAGEMENT CORP.	One Gourmet Lane Edison, N.J. 08838 U.S.A. Phone: (201) 494-7900 Telex: 642880 MUPEXCO	Michael Ollivier Export Manager		Lawn Sprinklers, Sprayers Gardening Aids & Show Shovels.		E-1
WIM MARKETING CO., LTD.	1-3, Higashi-Ikebukuro 3-chome, Toshima-ku, Tokyo 170, Japan Phone: (03) 987-3163 Fax: (03) 987-1248 Telex: 272-3348 JSCWIM	A. Taniguchi		Wire Strage System (Swedish)		E-3
CANADA EMBASSY	3-38, Akasaka 7-chome, Minato-ku, Tokyo 107, Japan Phone: (03) 408-2101	G.M. Milot	Ohyama			E-152
CANADA WOOD SPECIALTY	P.T. Box 458 Orillia, Ontario L3V 6K2 CANADA Phone: (705) 326-1301 Telex: 06-875508	Peter C. de Vries President		Wood Turnings Hardwood Dowel and Handles, Knock Down Furnlture Components		E-152
CANWOOD LIMITED	955 Timmins Street Penticton, British Columbia, V2A 5V3 CANADA Phone: (604) 493-5656 Fax: 604-493-4405	Bruce Tumbull President		DIY Furniture In Solid Woods (Tables, Chairs, Bets, Shelving Units).		E-152



**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**17. Overseas exhibitor corporations**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

<b>(Company Name</b>	<b>Address &amp; Phone Number</b>	<b>Representative</b>	<b>Responsible Personal</b>	<b>Main Products to be Exhibited</b>	<b>Form of Trade</b>	<b>Booth No.</b>
<b>DICON SYSTEMS LIMITED</b>	719 Clayson Road Weston, Ontario M9M 2H4 CANADA Phone: (416) 745-6044 Telex: 06-969667	Donald Park Vice President, Marketing		1. Residential smoke alarms, both ionization and photo- electric type, battery operat- ed. 2. Gas alarms Propane gas alarm for recrea- tional vehicles. Natural gas (methane) alarm for residential use.		<b>E-152</b>
<b>EMCO LIMITED</b>	420 Burbrook Place P.O. Box 5750 London, Ontario N6A 4L6 CANADA Phone: (519)451-1250 Telex: 064-5866	Edward McLaren Manager, Export Products		Residential and Institutional Plumbing Fixture Trim.		<b>E-152</b>
<b>EXTRUFIX INCORPORATED</b>	11 Heritage Road Markham, Ontario CANADA Phone: (416) 294-3934 Telex: 06-986771	Oonagh McNerney President		Roll and Rack Disposal System		<b>E-152</b>
<b>KAKABEKA TIMBER LIMITED</b>	P.O. Box 78 Kakabeka Falls Ontario POT IWO CANADA Telex: (807)577-7511	William Smiljanic President		Wood Paneling		<b>E-152</b>
<b>NORTH AMERICAN DECORATIVE PRODUCTS INC.</b>	1055 Clark Blvd. Bramalea, Ontario L6T 3W4 CANADA Phone: (416) 791-2700 Telex: 065 (25268)	Derek Ashton		P.V.C. Wallcoverings		<b>E-152</b>
<b>STANLEY CANADA INC.</b>	65 Imperial Street P.O. Box 66 Postal Station B Hamilton, Ontario L8L 7V2 CANADA Phone: (416) 544-2803 Telex: 061-8712	William Kushlick Vice President Sales and Market- ing		Mr. Kushlick will represent the Canada Houseware & Hardware Association (CHHA).		<b>E-152</b>

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

18. Tokyo hardware and household appliance trade fair association group

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
DAIKEN CO., LTD.	7-13, Niitaka 2-chome, Yodogawa-ku, Osaka, Japan Phone: (06) 392-5551	Hidekazu Fujioka		Gratings, Hall Mats, Tranches, Mail Post, Ceiling Hatches	Export	C-109
FUJIMURA CO., LTD.	5-2, Iwamoto-cho 2-chome, Chiyoda-ku, Tokyo 101, Japan	Naokazu Fujimura	Tomiaki Ebisu	Hardware		C-97
KIYA & CO., LTD.	1-8, Nihonbashi, Muromachi, Chuo-ku, Tokyo, Japan Phone: (03) 241-1141	Masuzo Katoh	Shunichi Yasuda	Kitchen Knives, Scissors, Kitchen Tools	Import	C-99
MACHIDA CO., LTD.	11-2, Nishi-machi 2-chome, Gamou, Koshigaya-City, Saitama 343, Japan Phone: (0489) 86-7171	Hirokazu Machida	Teruo Kato	Hardware Housewares	Import	C-103
MK SEIKO CO., LTD.	1825, Amenomiya, Kohshoku- City, Nagano, Japan Phone: (0262) 72-4112	Eiki Maruyama	Takuo Emi	House Wares & Kitchen Wares	Export	C-117
NAKANISHI INDUSTRIAL CO., LTD.	1-11, Izumi-cho, Kanda, Chiyoda-ku, Tokyo 101, Japan	Yoshitaka Nakanishi	Takashi Nakanishi	Power Stick, Rain Coat, Maintenance Oil	Export	C-141
NIPPON TRANSFER PAPER CO., LTD.	3-29, Nakano 4-chome, Higashi-Sumiyoshi-ku, Osaka 546, Japan Phone: (06) 702-1551	Sachiko Ibata	Motonobu Kato	NT Cutter & NT Dresser	Export	C-123
SUGATSUNE KOGYO CO., LTD.	8-11, Higashikanda 1-chome, Chiyoda-ku, Tokyo 101, Japan	Hiroshi Sugasawara President	T. Sugano Manager Int'l Dept. E. Takayama Int'l Dept. M. Kawaguchi, Int'l Dept.	Fittings for Furniture, Builders Hardware	Export      Import	C-124

**Exhibiting Enterprises of '86-JAPAN DO-IT-YOURSELF SHOW**

**18. Tokyo hardware and household appliance trade fair association group**

The code E with the Booth No. refers to East Hall, C to C Hall and O to outdoors.

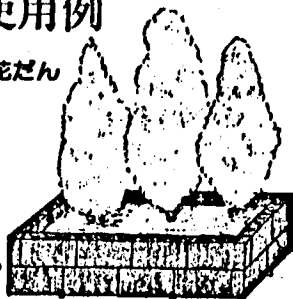
Company Name	Address & Phone Number	Representative	Responsible Personal	Main Products to be Exhibited	Form of Trade	Booth No.
SUGITA ACE CO., LTD.	14-15, Midori 2-chome, Sumida-ku, Tokyo, Japan Phone: (03) 633-5151	Saburo Sugita, President	Kazuo Abe	Hardware, Furniture	Export      Import	C-108
TAKAHASHI-KANAMONO CO., LTD.	27-4, Iriya 1-chome, Taito-ku, Tokyo 110, Japan Phone: (03) 876-0601	Ryoichi Takahashi	Yoshio Osaka	Metal Fittings for Building & Furniture		C-130
TOKYO BUILDER'S HARDWARE MANUFACTURERS ASSOCIATION	27-13, Higashi-Tateishi 4-chome, Katsushika-ku, Tokyo, Japan	Masayuki Maiyama	Akira Takayanagi	Builders Hardware & Houseware Door-Lock, Padlocks, Crescent, Hings, Bracket, Handles, Knobs, etc.	Export	C-98
TOSHIBA BATTERY CO., LTD.	Koei Bldg., 13-10, Ginza 7-chome Chuo-ku, Tokyo 104, Japan Phone: (03)542-9171	Isao Kinugasa	Hiroshi Hashimoto	Battery, Powered Appliances	Export      Import	C-98
YAMAGATA CUTLERY INDUSTRY ASSOCIATION	38, Ennoji-machi 4-chome, Yamagata-City, Yamagata 990, Japan Phone: (0236) 41-4533	Toshishige Hosoya	Keiji Tobitsuka	Sickles, Knives, Pruning Scissors, Gardening-Cutlery		C-135
YAMATO KOSAN CO., LTD.	525, Omiya-City 4-chome, Saitama, Japan Phone: (0486) 52-9190 64-2611	Yutaka Kimura	Yutaka Kimura	Hydro-assisted Hand Metal Shear, Hydro-assisted Hand Metal Bender	Export	C-128
YAMAYA	5, Tomiyama-cho, Kanda, Chiyoda-ku, Tokyo, Japan	Kazuhide Yamaya	Kazuhide Yamaya	Builder's Hardware	Import	C-112

- You will find the JAPAN DIY INDUSTRY booth inside the South Hall.
- Those enterprises which failed to submit documents for the list in English are not included on the list of exhibiting enterprises in English.
- Concerning the exhibiting booths of each enterprise, please refer to the sketch map of the site on which booth numbers are printed.

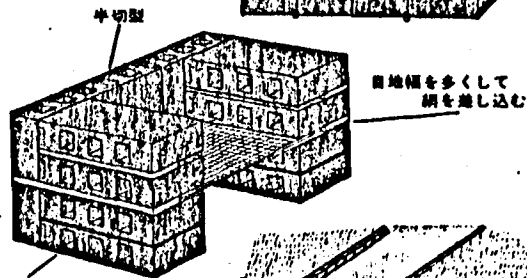
本英文名簿には、英文原稿を提出されていない出展社は掲載されておりません。

# いろいろな使用例

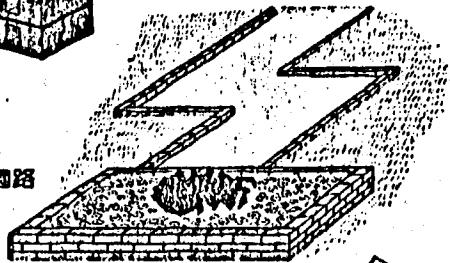
ボックス型花だん



パーベキュー用だんろ

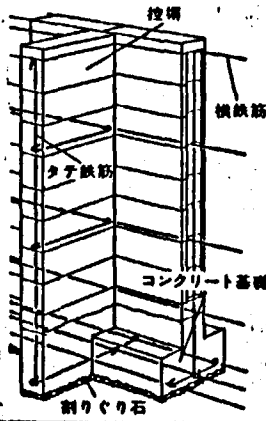


花だんと園路



## ●ブロックで塀をつくるときは

注意



宮城沖地震のときに、ブロック塀が倒壊して多くの被害がでたのは記憶に新しいことです。このようなことにならないようにブロックで塀をつくるときは十分な強度対策が必要になります。強くするためには、コンクリートを打って基礎をついたり、鉄筋を入れたり、控欄をついたりしますが、施工法は各県によって決まりがあり、また地盤の軟弱度によっても違います。ブロックで塀をつくるときは、ホームセンターの担当者や専門家にまず相談してください。

無駄をはぶき失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのために

チェック・リクト  
(使用する材料)

- 角材 (遣方用)
- 砂利 (基礎用)
- ブロック
- レンガ
- セメント・砂 (モルタル)

(使用する道具)

- スコップ
- カナヅチ
- コテ
- 目地ゴテ
- 下げ振り
- トロ舟
- 手クワや角型スコップ
- 水準器
- 水糸

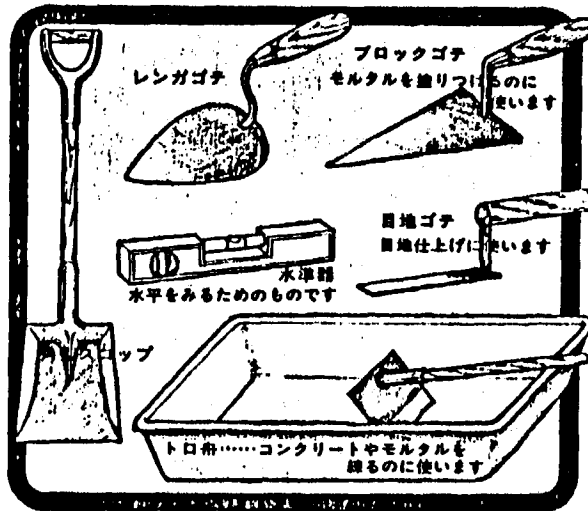
住まいと暮らしのDIYセンター



- |                    |                    |
|--------------------|--------------------|
| 与野店 ☎0488(53)5621  | 吹上店 ☎0485(48)3211  |
| 朝霞店 ☎0484(64)5656  | 足利店 ☎0284(42)1234  |
| 入間店 ☎0429(34)6015  | 小山店 ☎0285(22)1341  |
| 羽村店 ☎0425(55)8501  | 伊勢崎店 ☎0270(24)5656 |
| 川越店 ☎0492(23)1751  | 青葉台店 ☎045(981)8221 |
| 東大宮店 ☎0486(86)5601 | 大和店 ☎0462(63)3711  |
| 春日部店 ☎0487(54)5811 | 板橋志村店 ☎03(969)3221 |
| 北本店 ☎0485(92)1911  |                    |

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〒100 東京都千代田区濱が間1-4-2 ☎03(504)6759 定価20円  
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# HOW TO SERIES 37 DO-IT-YOURSELF ブロックとレンガの積み方



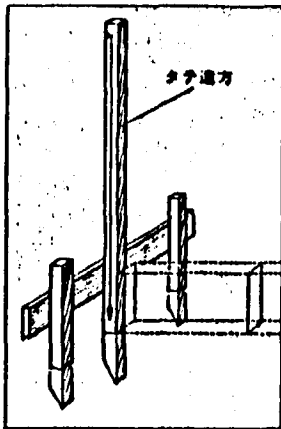
ブロックやレンガを積むときは、ただモルタルを塗りつけて積み上げても決してうまくいきません。垂直や水平の目安にする遣方を立てたり地面をしっかりと平らにするなど、いろいろな作業が必要です。しかしこのような基本的な工程さえ知っていれば、ゆがみなくきれいに積むのは簡単です。青々とした芝生にレンガの花壇や園路は美しいもの。ブロックで生垣をつくるのもいいですね。気軽にブロックやレンガを使って庭をグレードアップしてはいかがですか。

APPENDIX 1

# 積むときのポイント

## 遣方を立てる

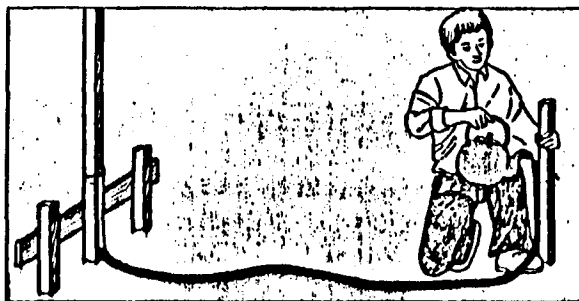
ブロックやレンガを積む場合、まず予定地の両端に角材を立てます。この角材のことをクワ遣方といい正式には、ブロックやレンガの幅に合わせた2本ずつ立てますが1本でもよいでしょう。  
立て方は、下げ振りをを使って、先端を斜めに落とした角材を打ち込みます。この遣方は、水平の基準になる糸を結ぶものなので、不安定な場合は、クイを2本打ち、板をクギ打ちして固定してください。



## 水平のとり方

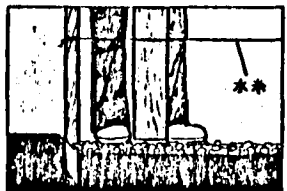
遣方に水平をとって印をつけます。まず一方の遣方に印をつけ、透明なホースを結び、次に他方の遣方にホースの口をそえ、ヤカンなどで水を入れます。ホースの中の水面が印

のところまできたら、水を入れるのをやめ、印をつけておきます。この印の部分に糸を結び、たるみのないように張り直します。この糸を水糸といい、水平の基準にします。

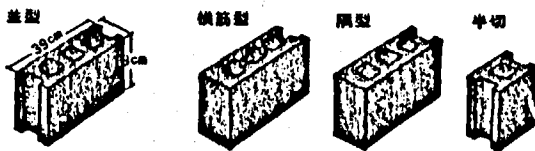


## 地固め

せっかく水平のラインをとっても、地面がやわらかだったり、凹凸があつては例にもなりません。ブロックやレンガを積む位置に少し溝を掘り、砂利を入れてから、丸太や太い角材で突き固めてください。このとき、水糸からの長さを測り、水平になるようによく注意してください。

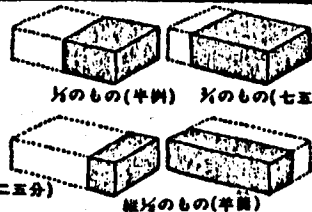


## ブロックとレンガの種類と大きさ



●ブロック……普通、長さ39cm、高さ19cm、厚さは10cm、15cm、19cmのものがあり、それぞれに並型、半分のサイズの半切、端の部分に使う隅型、鉄筋を入れるときに使う横筋型などがあります。重さは厚さ10cm、並型のもので11kgぐらいあります。また、これとは別に表面にいろいろな加工をした化粧ブロックがあり、サイズは普通のブロックよりも大きくなっています。

並型(なまこ)



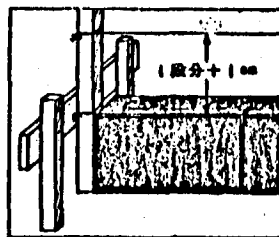
●レンガ……長さ21cm、幅10cm、厚み6cmが標準で、重さは2.25kgです。また、積み具合によって使う、片、片、片、クワ片のものがあります。色や焼き方によって黒焼過ぎ、焼過ぎ、並焼きなどの種類があり、これとは別に白レンガ、耐火レンガ、空洞レンガなどがあります。

●レンガは積む前に水につけると、レンガは乾いたまま使うと、モルタルの水分を吸収し接着力が弱くなります。積む前に5分ぐらいは水につけて、十分水を吸い込ませておきましょう。

## 水糸は1段ごとに高さを変える

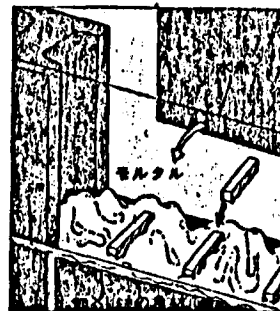
まず、1段目を並べるときは、遣方の一方にブロックやレンガを並べて、その位置まで水糸を下げます。他方の遣方の水糸も、移動した分だけ下げましょう。このとき、張り直した水糸には水準器を当て、水平を確認してください。

この張り直した水糸が、1段目の水平ラインになります。このラインに合わせて1段目を並べます。2段目からは、ブロックやレンガの高さに目地分の1cmを加えて水糸を上げて張り直します。なお、ブロックやレンガは、1個積むごとに水準器を前後、左右に置いて水平を確認してください。



## 積むときの接合法

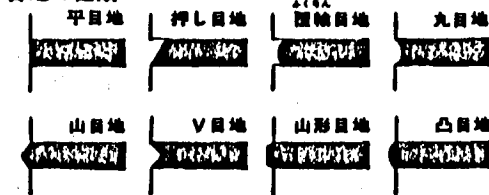
ブロックやレンガはモルタルをコテで塗りながら積みます。モルタルはセメントと砂を容積比で1:3に混ぜ、水を加えて練り合わせたものです。また、このモルタルの接合部分を目地といい、目地幅は1cmにするのが普通です。しかし目地幅を1cmにそろえて積むのは、非常に難しいので、1cm角の角材を適当に切り、これを間にはさんで作業するときれいにそろえます。



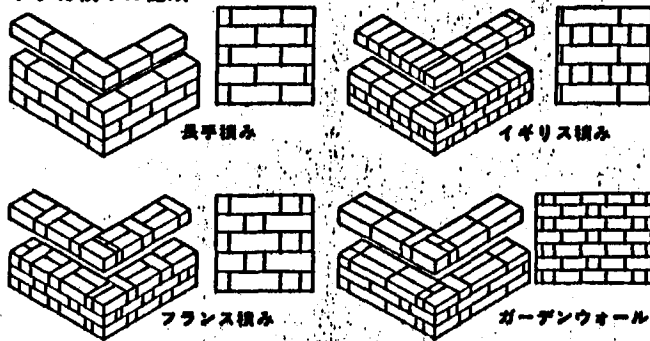
## 目地と積む配列

ブロックは、普通、クワ横をそろえた通し目地(字目地ともいいます)で配列し、目地仕上げも、平目地にしますが、レンガは美観を重要視するので、片が片重なるような互い違いにします。また目地の仕上げも詰ったものかいろいろあり、プロは目地部分を目隠りし、新たに砂を少なくしたモルタルで化粧目地をつくります。

### 目地の種類



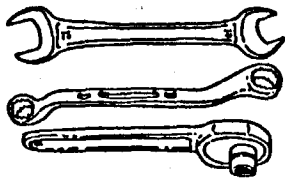
### レンガ積みの種類



## 揃えたほうが便利な道具

### スパナ・レンチ類

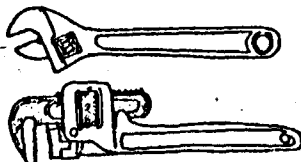
ナットを締めるための工具で、口の開いているものをスパナ、ナットにかぶせて使うものをレンチといいます。自転車や自動車の修理には欠かせないものです。



なお、レンチには、ラチェットハンドルに取りつけて使う、ポックスレンチもあります。

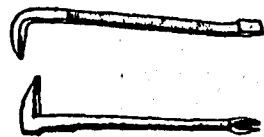
### モンキーレンチ・パイプレンチ

やはりナットを締める工具で、口の開きをネジで調節できるようになっています。使うときは必ず、下め側面に引くようにしてください。同じような工具で、引っかかりのないパイプにもがっちりくわえられるパイプレンチがあります。



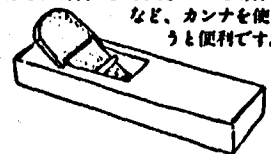
### カシヤ・パール

タギを抜いたり、梱包をはずしたりするために使います。



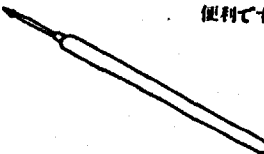
### カンナ

木を削るための道具です。プロは表面仕上げ用に使いますが、わりと熟練を要します。しかし、木工作で、材料が少し大きかった場合など、カンナを使うと便利です。



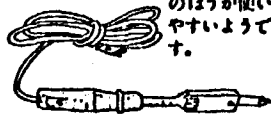
### キリ

穴を開けるための道具です。タギや木ネジの下穴をあけるのに便利です。



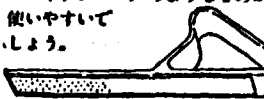
### ハンタゴテ

電気や板金の作業には欠かせません。電気の関係は30Wぐらいまでのものを、板金にはそれ以上のもののほうが使いやすいです。



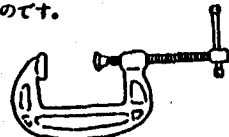
### ヤスリ

サンドペーパーで代用もできますが、本格的なヤスリも揃えたいものです。食器用には、鉄ヤスリの本組のもの。木工用にはサーフォームやアブレーダのようなものが使いやすいでしょう。



### クランプ・ハタ金

ものを固定する道具です。ヤスリでものを削るときや、木と木の接合などには、なくてはならないものです。



無駄をはぶき失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのために

### チェック・リスト

(ぜひ揃えたい道具・工具)

ドライバー (プラス・マイナス)

カナヅチ

ノコギリ

カッター・金尺

コンビネーションプライヤー

ウォーターポンププライヤー

ニッパー

コンベックス

(あると便利な道具・工具)

スパナ・レンチ

カシヤ・パール

カンナ

キリ

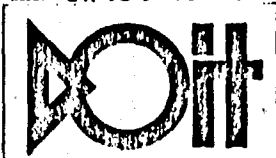
ハンタゴテ

ヤスリ

クランプ・ハタガネ

きしがね

住まいと暮らしのDIYセンター



ドイト

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ハウツーシリーズ発行(株)ダイヤモンド・フリードマン社

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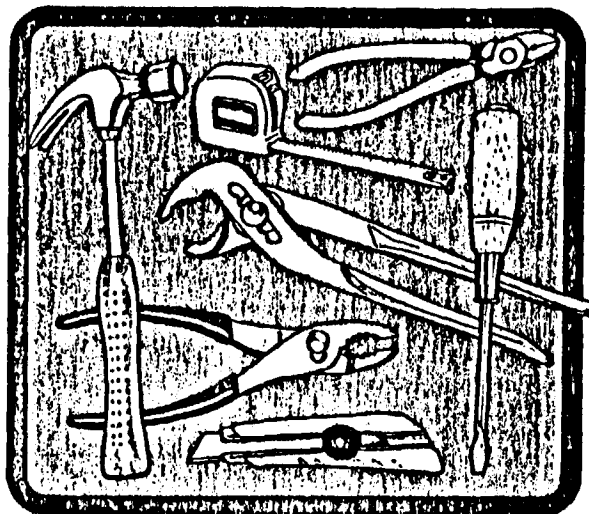
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HOW TO SERIES  
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## DO-IT-YOURSELF

## 揃えておきたい 道具・工具類



DIYの作業をするときに、  
どうしても必要なのが材料と道具です。

特に道具類は、  
補修から製作まで、いろいろと使えます。  
いざというときに不便のないよう、  
日ごろからそろえておきましょう。  
また、いつでも使えるように、

使用後は  
スプレーの防錆剤を吹きつけるなどの手入れをして  
いつまでも使えるようにしておきましょう。

# 必要な道具・工具類は揃っていますか

## ドライバー

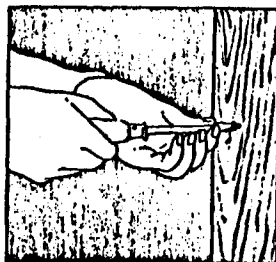
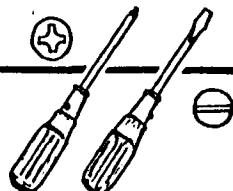
木ネジやビスを締めたり、ゆるめたりするもので、一番使用頻度の高い道具です。⊕と⊙があり、大小各2本ずつは揃えておきましょう。

### 使い方

片手で軸を押さえながら、もう一方の手のひらで押しつけるように持って使います。

ビスや木ネジの頭の切れ目とドライバーの先端とは必ずピッタリ合うものを使ってください。合わないものを無理に使うと切れ目が壊れて、はずせなくなることもあります。

また、先端や軸で重いものをこじおこしたり、取手部分で物をたたくと、軸がまがるのでやめましょう。



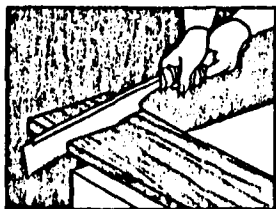
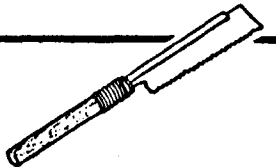
## ノコギリ

木を切るときに使います。種類はいろいろありますが、家庭用には、削つきノコのような形状の新しいタイプのノコギリがよいでしょう。

このタイプのものは、木の種類や木目のクチ、ヨコなどの区別なく使えるようになっています。

### 使い方

日本のノコギリは、引くときに切れるようになっています。押すときに力を入れるとノコ身が曲がったり折れたりするので注意しましょう。切り始めは、おや指をそえて、軽く引くようにするとよいでしょう。



## コンビネーションプライヤー

ものをつかんだり、くわえたりするもので、結合部が2ヵ所に移動することにより、もの大きさに合わせて口の開きをかえることができます。また口の奥の部分は、ピアノ線やハリガネなどを切ることもできるようになっています。

使い方  
支点になる結合部は、口を90°開いた状態で移動させることができます。もの大きさに合わせて、使いやすきましょう。  
プライヤーは、指や手にかわってものをしっかりとつかんだり、固定させたりするものです。カナツチがわ

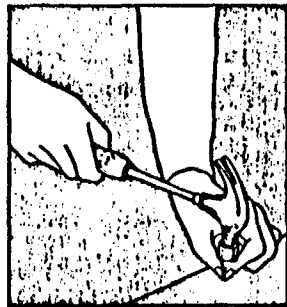
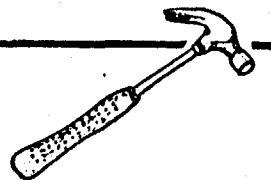
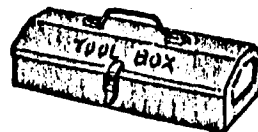
トイレの水もれなど、いざというときに困らないように、必要な道具・工具は、日ごろから揃えておきましょう。また、必要に応じて電動工具も揃えると、DIYの範囲もぐっと広がります。

## カナツチ

クギを打つほかに、ものをたたくのに使います。大小2つぐらい揃えたほうが便利です。カジヤのない場合は、片方にクギ抜きをついたネイルハンマーを揃えるとよいでしょう。

### 使い方

ものを打つときは、柄の端を握ったほうが力が入って打ちやすいのですが、小さなクギは、頭に近い所を持ったほうが楽です。ゲンノウの場合など、使い分けましょう。柄と頭がしっかりと固定されていないと作業中に、頭がはずれて危険です。また、側面でものを打ったりすると頭が破損したり、柄が折れたりすることがあるので、やめましょう。

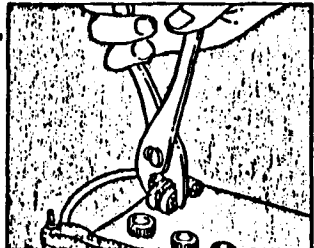
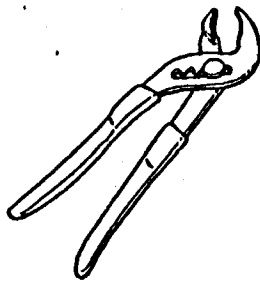


## ウォーターポンププライヤー

名前のとおり、水まわり関係の作業に大いに力を発揮する工具です。特に水栓や、トイレのタンクの補修には、これ1つあると他の工具はいらないほど便利なものです。

### 使い方

コンビネーションプライヤー同様口を開いた状態で、結合部を移動させ、口の開きを調節することができます。口の部分は、もの大きさに合わせて、平行になるように調節して使うのがコツです。

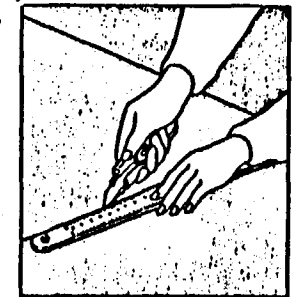
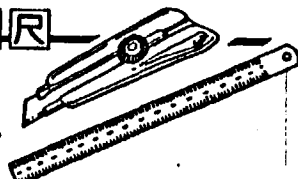


## カッターと金尺

紙やひもなどを切るのに使うほか、大型のものはベニヤを切ったり、木を削ったりするのにも使います。大型と小型と両方があると便利。金尺はカッターに当てるとほかに、ものを測ったり、線を引いたりします。

### 使い方

握りをしっかりしないと、作業中危険です。定規を当てるときは、金尺を使いましょう。プラスチック製だと、定規を削ってしまうことがあります。切り始めは、まずラインをつける感じで軽く引き、2〜3回に分けて切るようにします。特にベニヤ板を切るときは、木目にそって曲がりやすいので注意しましょう。

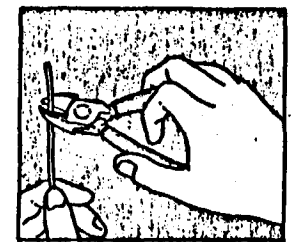
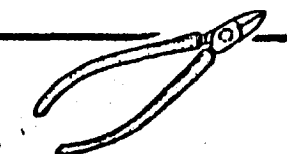


## ニッパー

ものを切るための工具です。特に配気関係の補修にはかかせないものです。また日常生活でも、爪切りに使うと抜群の切れ味です。

### 使い方

スプリングつきのものは、握るだけでいいですが、スプリングなしのものは、人差し指をレバーの内に入れて開閉します。鋼線のように柔らかいものは先端でも切れますが、太いハリガネなどは、なるべく奥の方で切るとよいでしょう。また、ピアノ線などの鋼線やワイヤーなどは刃を傷めるので切らないようにしましょう。

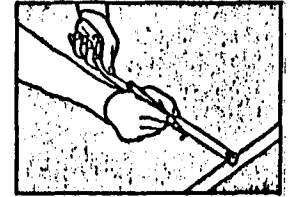
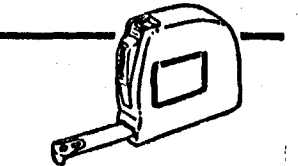


## コンパックス

ものの長さを測るためのもので、巻尺ともいいます。先端の金具がグラグラしているのは、引っかけに使う場合と、押し当てて使う場合の金具の厚みを調整するためです。

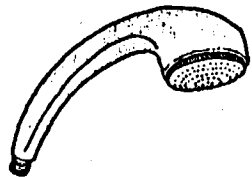
### 使い方

長さを測るときに斜めになると、長さか違ってきます。上下、左右とも気をつけまっすぐに測るようにしましょう。どうしても、平らな部分を測れないときは、たるみにも注意しましょう。



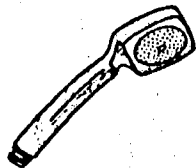
## シャワーヘッドの種類

### ●丸ハンドシャワー



丸型の標準タイプのシャワーです。

### ●角ハンドシャワー



ヘッドの部分が角形のシャワーです。機能的には、丸型と同じです。

### ●その他



デザインがシャレたものや、いろいろな機能があるものは、外国製品に多いようです。このシャワーは、水流にマッサージ効果があるタイプです。外国製品が、店頭にない場合は、係員にご相談ください。

## ホースの種類

### ●回転ハンドシャワー用ホース



シャワーヘッドとホースの接合部のテーパー金具が、回転するため、ホースのよじれがありません。

### ●ハンドシャワー用ホース

サンブレード樹脂にテフロン糸を編み込み、外側を塩化ビニールでおおったホースで、冬でも柔軟です。



### ●ラセンホース



美しい金属性のホースです。ホースがよじれない回転テーパー金具付もあります。

無駄をはぶき失敗をなくす  
 役割は立つハウツーシリーズ  
 あなたのDIYのために

### チェック・リスト

〈使用する道具〉

- シャワーヘッド、ホースの交換
- ウォーターポンププライヤーなど

- 掛具の取り付け

- コンクリートドリル □カナヅチ

- ドライバー

- 穴ぶまりの補修

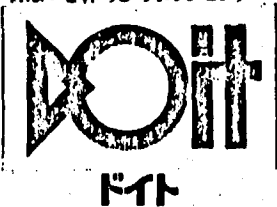
- 歯ブラシ □虫ピン、マチ針

〈使用する材料〉

- ハンドシャワーヘッド □ホース

- プラグ □木ネジ

住まいと暮らしのDIYセンター



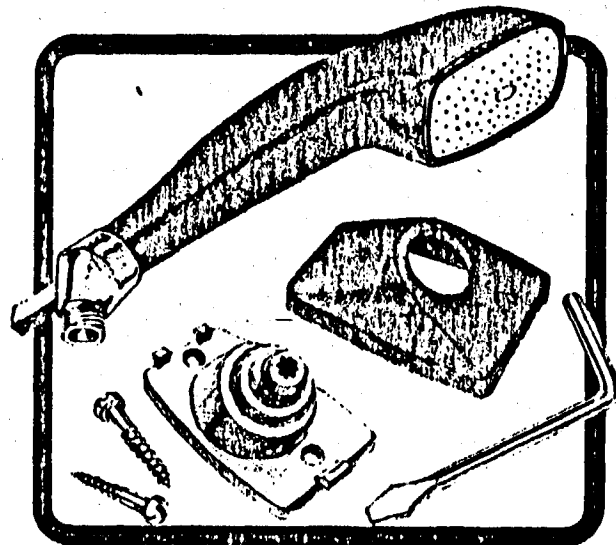
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HOW TO SERIES  
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## DO-IT-YOURSELF シャワーヘッドの交換



キラキラと太陽の照りつける戸外から帰宅し、  
 サツとシャワーをあびて汗を流す。  
 じつに気持ちのいいものです。

しかし、シャワーヘッドがこわれていたり、  
 ホースが破れては、

せつかくの爽快感が台無し。  
 シャワーヘッドやホースの交換は、簡単にできます。  
 こわれているのに気がいたら、  
 すぐに交換しておきましょう。

また、浴室の壁を塗りかえたときは、  
 カラフルなシャワーヘッドにするのも、  
 気分が変わって良いものです。



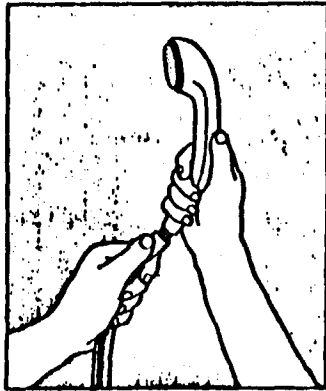
## シャワーヘッドとホースの交換

シャワーヘッドやホースは、それぞれ単体も、セットになっているものもあります。必要に応じて交換すると良いでしょう。

### ■シャワーヘッドの交換

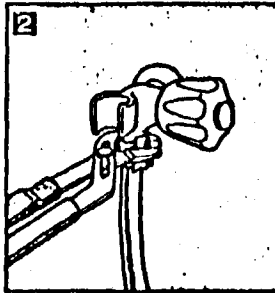
ホースとシャワーヘッドは、どのメーカーのものでも合いますが、ヘッドによって、専用の掛具を使用するものもあるので注意しましょう。

ホースとヘッドの接合部の金具をしっかり押え、ヘッドを左にまわすとはずれます。新しいヘッドはしっかりとネジ込んでおきましょう。

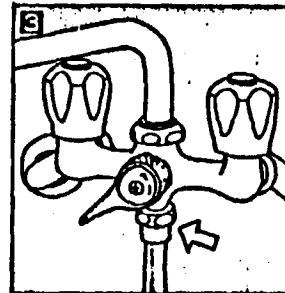


### ■ホースの交換

1 1 まず、ヘッドをはずします。



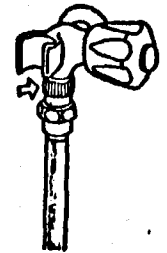
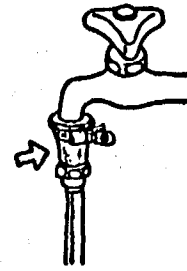
2 2 次に、水栓とホースを接続しているナットをはずし、新しいホースと交換します。ナットを締めるときは、傷をつけないように、布や革をあてると良いでしょう。



3 3 湯水混合栓でシャワーと吐水口の切替え式になっているものときは、混合栓のメーカーにより、ホースのナットと合わないものがあるので、注意してください。

### ▼ホース差し口

ハンドシャワーのホースを普通の水栓に差し込んで使用するアダプターです。



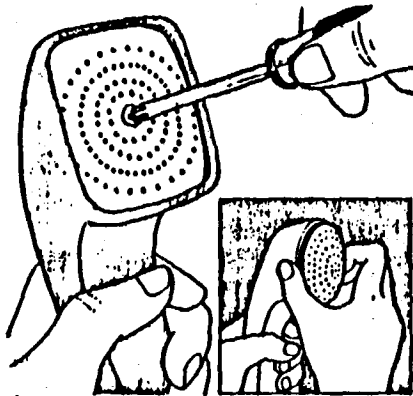
### ■シャワー用遮止弁

ハンドシャワーホースからの湯水の逆流を防ぎます。ホースと水栓の間に入れて使用します。

## シャワーの穴づまり

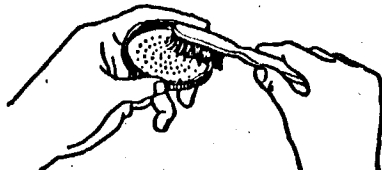
シャワーの水が均一に出なかったり、水の出が悪いときは、水アカによる穴の詰まりが原因です。

1. 中央にビスのあるものは、ビスを取ると、金属部分がはずれます。ビス止めでないものは、全体を左にまわせば、とれます。



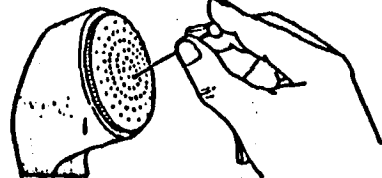
シャワーヘッドの穴のあいた金属部分をはずし、バス用洗剤を歯ブラシにつけて洗うと良いでしょう。それでも詰まっているときは、針で、穴を通し、水アカを取ると良いでしょう。

2.



歯ブラシなどに、バス用洗剤をつけ、穴をよく通すようにこすります。

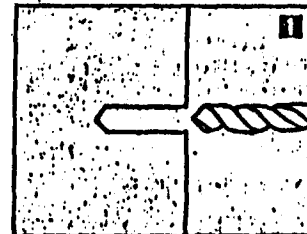
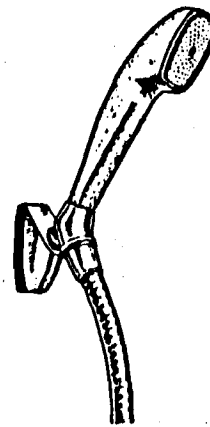
3.



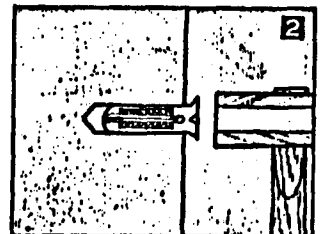
マナ針や虫ピンなど、頭のついた針で穴を突いて、水アカを取ります。

## ハンドシャワー用掛具の取り付け

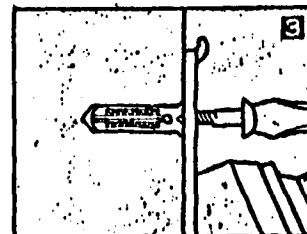
シャワー用の掛具には、エポキシ系の接着剤がセットされているものもありますが、浴室は、湿気も多く温度差もはげしいところなので、接着剤だけで止めるよりも、ビス止めの方が安心です。



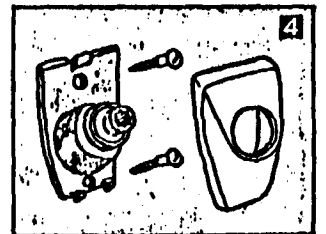
1 1 タイルやコンクリートの壁は、コンクリート用ドリルビットで穴をあけます。



2 2 プラグを差し込みます。入りにくいときは、カナヅチで軽くたたくと良いでしょう。



3 3 掛具の止める部分を、木ネジで固定します。

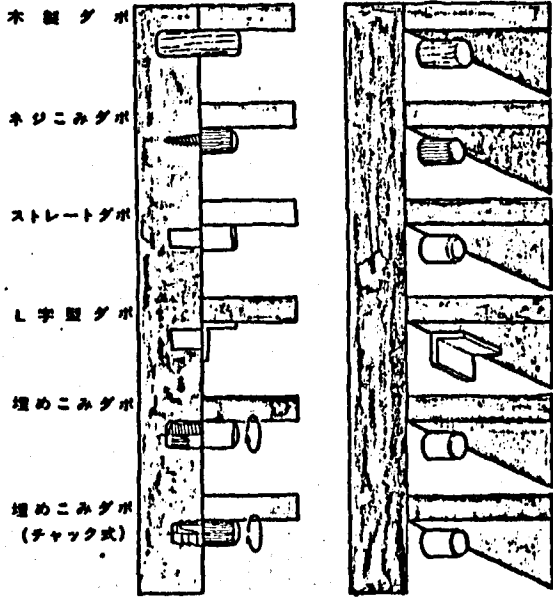


4 4 掛具本体をかぶせ、強く押えつくとカチッと合います。

## ■中仕切りの棚板をささえるダボ

既成のキャビネットなどの棚によく使われているのがダボです。種類はネジ込み式と、穴をあけて、差し込むタイプ、またオス、メスがあり、メスダボを棚板に埋め込み、そこにオスダボをセットするタイプと3種類あります。

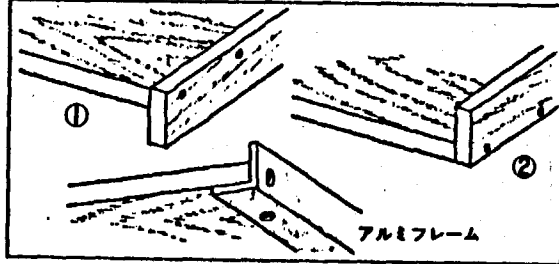
棚板に埋め込み式のダボをいくつかセットしておく、仕上がってから棚の高さや段数を変えられるので便利です。



## ■棚板がしなわないために

棚にものを乗せると 棚板がしなうことがあります。これを防ぐには、棚板の前面に幅の狭い板やアルミフレームを取りつける方法があります。

補強用の板は、普通①のように取りつめますが、高いところにある棚には、落下防止をかねて②のようにつけてもよいでしょう。アルミフレームは、金属用のドリルで穴をあけ、木ネジで固定します。



無駄をはぶき失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのために

### チェック・リスト

〈使用する道具〉

- |                               |                               |
|-------------------------------|-------------------------------|
| <input type="checkbox"/> ノコギリ | <input type="checkbox"/> さしがね |
| <input type="checkbox"/> ドライバ | <input type="checkbox"/> カナツチ |
| <input type="checkbox"/> クランプ | <input type="checkbox"/> ドリル  |

〈使用する材料〉

- |                                   |                                    |
|-----------------------------------|------------------------------------|
| <input type="checkbox"/> 棚板       | <input type="checkbox"/> クギ        |
| <input type="checkbox"/> 木ネジ      | <input type="checkbox"/> 合板(3%ぐらい) |
| <input type="checkbox"/> 棚受け金具    | <input type="checkbox"/> ダボ        |
| <input type="checkbox"/> ヒートンとクサリ | <input type="checkbox"/> 棚受けレール    |
| <input type="checkbox"/> 木工用接着剤   |                                    |

住まいと暮らしのDIYセンター



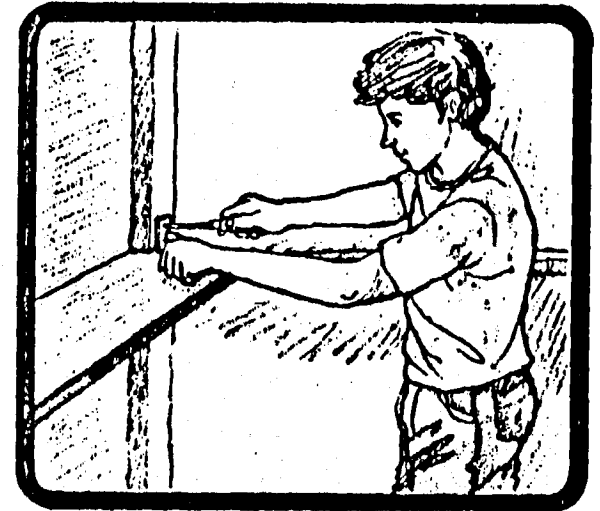
DIY

- |                    |                    |
|--------------------|--------------------|
| 与野店 ☎0488(53)5621  | 吹上店 ☎0485(48)3211  |
| 朝霞店 ☎0484(64)5656  | 足利店 ☎0284(42)1234  |
| 入間店 ☎0429(34)6015  | 小山店 ☎0285(22)1341  |
| 羽村店 ☎0425(55)8501  | 伊勢崎店 ☎0270(24)5656 |
| 川越店 ☎0492(23)1751  | 青葉台店 ☎045(981)8221 |
| 東大宮店 ☎0486(86)5601 | 大和店 ☎0462(63)3711  |
| 春日部店 ☎0487(54)5811 | 板橋志村店 ☎03(969)3221 |
| 北本店 ☎0485(92)1911  |                    |

ハウツーシリーズ発行(株)ダイヤモンド・フリードマン社  
〒100 東京都千代田区霞が関1-4-3 ☎03(504)8759 定価20円

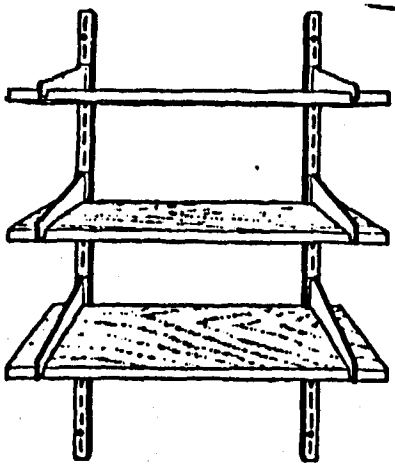
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# HOW TO SERIES 17 DO-IT-YOURSELF 棚のつり方



普段使わないパックやツツ、小物など、  
家の中のものは、  
知らず知らずのうちにふえてしまいます。

このようなものを整理するときに、  
まず考えるのが棚をつることです。  
棚を上手につるのは、難しいようですが、  
実際に作業してみると意外に簡単にできます。  
階段の下や出入口の上部など、  
空いているスペースを有効に利用しましょう。



**棚受けレールを利用した棚**

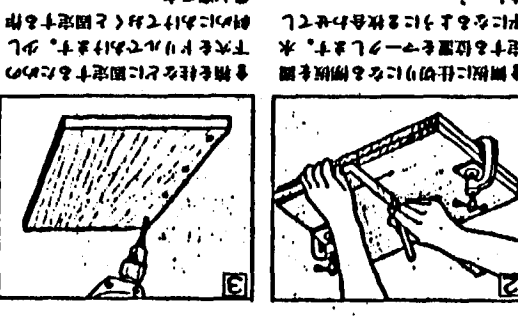
レールを壁に固定するだけで、棚の厚さや高さを自由にできる便利なものです。木枠のきく壁面にレールを2本取りつけ、棚受け金具を差し込み、そこに棚板を乗せるだけで済みます。



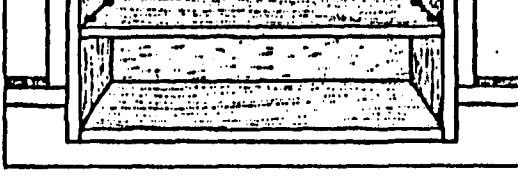
1 壁にレールを固定するだけで、棚の厚さや高さを自由にできる便利なものです。木枠のきく壁面にレールを2本取りつけ、棚受け金具を差し込み、そこに棚板を乗せるだけで済みます。

2 棚板の上にもう一枚の板を乗せると不安定になりがちで危険です。ものをぐに積み重ねるよりも、中仕切りのある棚を取りつけた方が、スッカリとムダなくものが納まります。

**仕切りの入った箱を利用した棚**



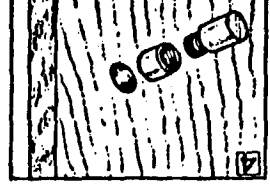
2 棚板に仕切りになる棚板を固定する位置をマークします。水下穴をドリルであけます。少し斜めにあけておくこと固定する作業が楽です。



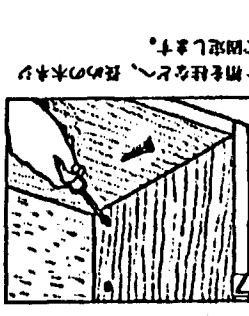
3 棚板を壁などに固定するための水下穴をドリルであけます。少し斜めにあけておくこと固定する作業が楽です。



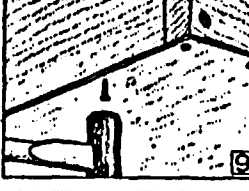
4 棚板を乗せるためのドリルを取っつけます。専用のめがねの出ないように裏板を張ります。3%程度の余裕を削ぐことでめがねと食いこまします。



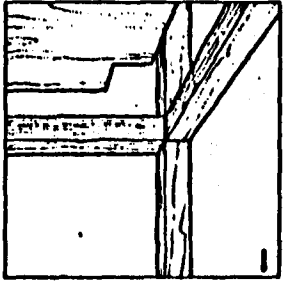
5 専用のめがねの出ないように裏板を張ります。3%程度の余裕を削ぐことでめがねと食いこまします。



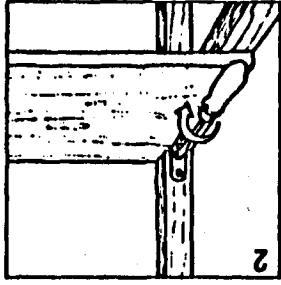
6 専用のめがねの出ないように裏板を張ります。3%程度の余裕を削ぐことでめがねと食いこまします。



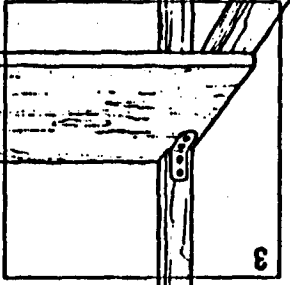
7 専用のめがねの出ないように裏板を張ります。3%程度の余裕を削ぐことでめがねと食いこまします。



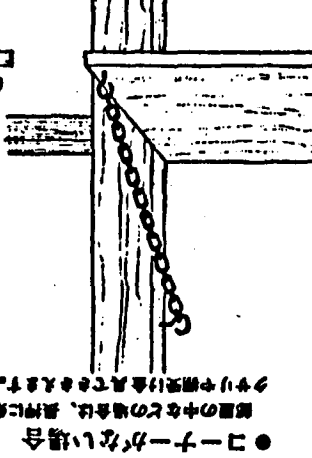
1 コーナーの柱に合わせて、棚板を家具補強用の金具などを木枠に切りこみを入れます。



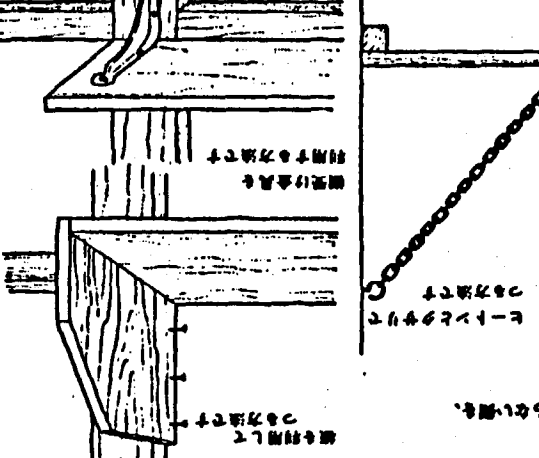
2 家具補強用の金具などを木枠に切りこみを入れます。棚板を固定すると、棚板がずれません。



3 家具補強用の金具などを木枠に切りこみを入れます。棚板を固定すると、棚板がずれません。



●長押しに棚に乗せる



●コーナーがない場合

部屋のなかの場合は、長押しに角のない棚を、クオリティや棚受け金具でかええます。

●チェーンで吊り下げる方法です

●棚受け金具を利用する方法です

●チェーンで吊り下げる方法です

●チェーンで吊り下げる方法です

**鴨舌や長押しを利用した棚**

鴨舌や長押しに棚板を乗せる簡単な棚です。廊下のスリットなど、幅の狭いところに棚をつくる時は、切り込みを入れ、金具で止めただけで良いですよ。

## 生き生きとした芝生にするために

### ●芝刈りはひんばんに

芝の成長最盛期は月に4回、春と秋は月2回の割合で刈りこみましょう。刈りこむことにより、上に伸びる栄養分が新しい葉や茎になり、芝が密生して雑草のはえにくい見事な芝生になります。

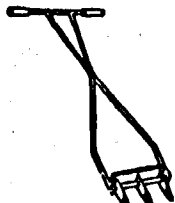
### ●芝刈りの方向はそのつど変える

1回目をクマに刈ったら2回目はヨコ、3回目はナナメとそのつど変えるようにしましょう。刈り跡が残らず、きれいな芝生になります。

### ●土が堅くなったら穴をあける

芝の表面に太いクギをさして、スポッとさならなくなったら土が固まっています。こうなると水分や養分が根で吸収できず、通気も悪くなるので芝生全体が弱ってきます。このような場合、芝生に穴をあけると水はけや通気がよくなり、根の張りか促進されて芝生が生きかえります。穴あけは15cm間隔、深さ5~6cmぐらいでよいでしょう。

先のとがった鉄の棒や太クギなどでもできますが、専用のものにローンスパイクがあります。



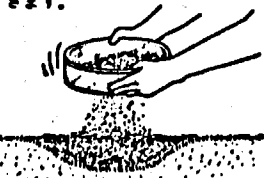
ローンスパイク

### ●サッチができていない場合



●芝生に凹凸がきたり、部分的に薄くなった場合

凹凸がきたときは、鍬やナイフでその部分に切れ目を入れ、芝をはかします。目土を入れたり、土を取ったりして平らにし、芝をもとし、足でよく踏み込みます。最後に目土をかけておきます。またへこみか少ないときは、上から目土をかけて、平らにするだけでも、もとにもどります。



部分的に薄くなった場合も、同様に、薄い部分の芝をはかし、新しい芝を入れて、目土をかけておきます。

# 無駄をはぶき失敗をなくす 役に立つハウツーシリーズ あなたのDIYのために

## チェック・リスト (芝張りや手入れに使用する道具と材料)

### 《使用する道具》

- |                               |                                   |
|-------------------------------|-----------------------------------|
| <input type="checkbox"/> スコップ | <input type="checkbox"/> ふるい      |
| <input type="checkbox"/> シャベル | <input type="checkbox"/> レーキ      |
| <input type="checkbox"/> ナイフ  | <input type="checkbox"/> ローンスパイク  |
| <input type="checkbox"/> 木切れ  | <input type="checkbox"/> クイ、糸、ロープ |

### 《使用する材料》

- |                              |
|------------------------------|
| <input type="checkbox"/> 芝苗  |
| <input type="checkbox"/> 消石灰 |
| <input type="checkbox"/> 肥料  |

## 住まいと暮らしのDIYセンター



DIY

- |                    |                    |
|--------------------|--------------------|
| 与野店 ☎0488(53)5621  | 吹上店 ☎0485(48)3211  |
| 朝霞店 ☎0484(64)5656  | 足利店 ☎0284(42)1234  |
| 入間店 ☎0429(34)6015  | 小山店 ☎0285(22)1341  |
| 羽村店 ☎0425(55)8501  | 伊勢崎店 ☎0270(24)5656 |
| 川越店 ☎0492(23)1751  | 青葉台店 ☎045(981)8221 |
| 東大宮店 ☎0486(86)5601 | 大和店 ☎0462(63)3711  |
| 春日部店 ☎0487(54)5811 | 板橋志村店 ☎03(969)3221 |
| 北本店 ☎0485(92)1911  |                    |

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〒100 東京都千代田区霞が関1-4-2 ☎03(504)6759 定価20円  
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# HOW TO SERIES 12 DO-IT-YOURSELF 芝の張り方



よく手入れされた芝生の庭は

見た目に美しいだけでなく

砂水コリをたてない

雑草の発生を防ぐ

地温を保って、夏すずしく

冬は暖かいなど

数々の特長をもっています。

またガーデンパーティーなどにも

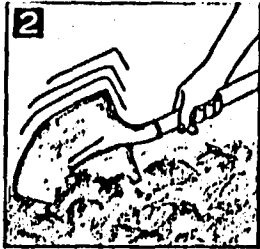
爽やかな雰囲気をおたえてくれます。

お宅の庭も芝生にはいかがですか。

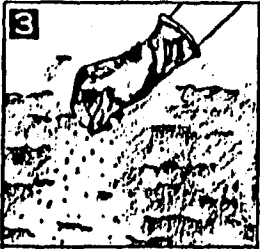
## 芝を張る前に床土をつくる



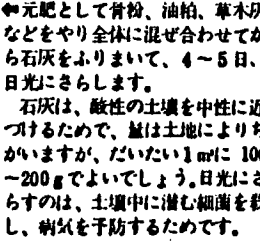
① まず雑草を取り除きます。シャベルなどで根から取りましょう。



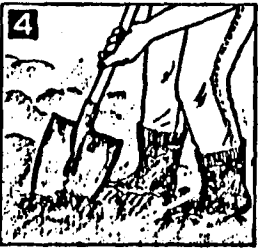
② 會スコップなどで土を掘り起こし、土のかたまりは細かくします。



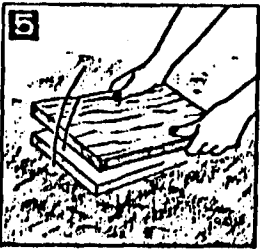
③ 元肥として骨粉、油粕、草木灰などをやり全体に混ぜ合わせてから石灰をふりまいて、4~5日、日光にさらします。



石灰は、酸性の土壌を中性に近づけるため、量は土地によりちがいますが、だいたい1㎡に100~200gでよいでしょう。日光にさらすのは、土壌中に潜む細菌を殺し、病気を予防するためです。



④ 會全体を表面から15cmぐらいの深さまで、よく混ぜ合わせます。



⑤ 會全体をならし、足で踏むか木片でたいたいて凹凸をなくし完成です。

## 芝の肥料

植物が生育するためには、三要素と呼ばれるチッソ、リン酸、カリが必要です。

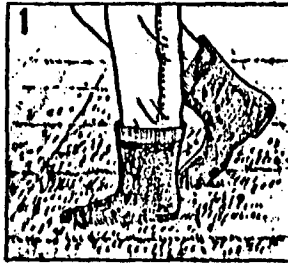
芝生に与える肥料は、晩秋から春先までの葉の枯れている時期に骨粉、堆肥、草木灰、油粕、鶏糞などの有機肥料を目土といっしょにほどこすといでしょう。また三要素をバランスよく混ぜ合わせた配合肥料もよいでしょう。この

配合肥料は、袋にチッソ、リン酸、カリの割合を15-10-10などと%で表わしてあります。

春から秋までの芝の生育期には、化成肥料(無機肥料)の芝生用のものを少量ずつ与えるといでしょう。化成肥料は、有機肥料に比べ、効果が表われるのが早く、ニオイや病気の発生が少ないなどの利点がありますが、持続性はありません。また、どの肥料も多すぎると害があるので注意しましょう。

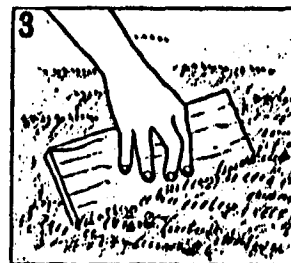
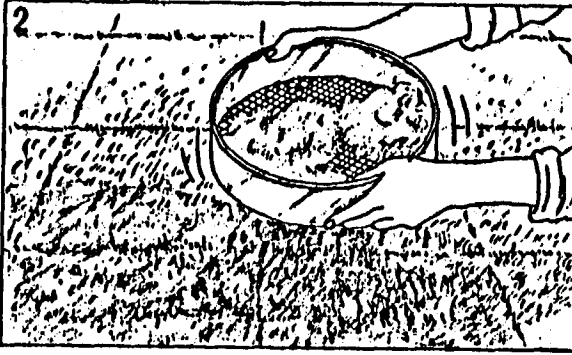
## 芝の張り方

芝張りに適した時期は3~9月ごろで、特に梅雨入り前の4~5月ごろが最適です。



① まず、芝を張る床土にクイを打ち、そこに糸を張ります。この糸にそって芝苗を並べ、板切れで芝の上をよくたたくか足で踏みます。

② 會全体に床土と同じ土をふりかけます。「ふるい」を使うといでしょう。この作業を「目土をかける」と言います。



③ 木切れを使って目土をよく芝苗にすり込みます。またメジ(芝苗のすき間)の段差がないように全体を平らにして、水をたっぷりあたえ、作業は終了です。

## 芝張り直後の手入れ法

水はたっぷりを与えた方がよいのですが、表面に水たまりができるのはやりすぎです。また芝苗を張った後1週間は、目土が十分に乾いてきたら水をやるいでしょう。

また2週間ぐらいは、ロープを張るなどとして、芝生に入らないようにしましょう。

3週間から1ヶ月すると葉の長さ6~7cmぐらいに伸びるので、1回目の芝刈りします。このとき4cmぐらい残るようにするのがコツです。その後は1週間に1度ぐらいの割合で芝刈りをするいでしょう。

また、メジの部分がかくぼんだら、目土を与え平らにします。



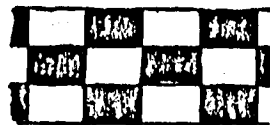
## 芝張りの種類



ベタ張り  
すき間をあげずにならべる張り方で、最も早く芝生が完成します。



メジ張り  
芝苗どうしのすき間を3~4cmかけて張る方法で、芝生が均一になるまでに3~6ヶ月かかります。

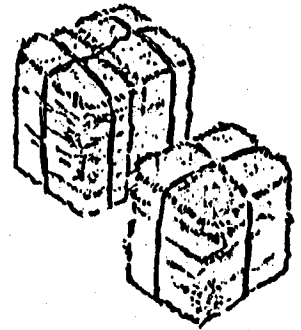


市松張り(一条張り)  
芝苗は、ベタ張りの半分の量ですみますが、芝生が均一に完成するまでに1年以上かかり、雑草の発生など手間がかかるので、あまりおすすめてできません。

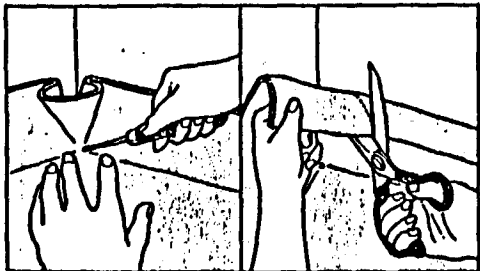
## 芝苗の大きさ

市販されている芝は、ふつう4尺×4尺分の芝が1つのセットになり、束ねてあります。これは、実際に芝を張るときには、メジを3~4cmとって張るので、1坪(6尺×6尺)となるわけです。しかし、芝の切り方はまちまちで、枚数や大きさは一定していません。

芝苗を買い求めるときは、1束でどのぐらいの面積を張ることができるのか、よく聞きましよう。

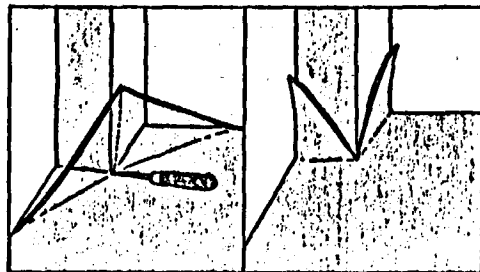


### コーナーの処理



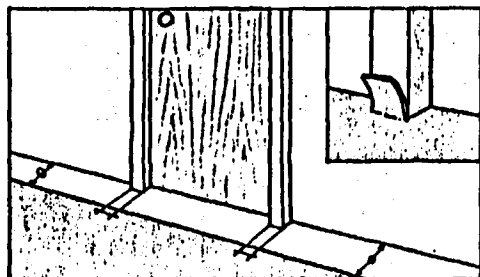
コーナーは、床材を押しつけ、中心点に千枚通しやキリなどで穴を明け、はさみで切り込みを入れておきます。

### 大きな出っばりの処理



大きな出っばりの場合は、荒切りをせずに床材の角を持ち上げ、頂点の部分に千枚通しを打ちます。斜めに切り込みを入れ、出っばりの壁ぎわをきめ込み、カットします。

### 小さな出っばりの処理



ドアの脚り縁など小さな出っばりの場合は、壁と平行に床材を置き、出っばりの幅に切り込みを入れてから、壁に押しつけ、きめ込んでから余分を切り取ります。

無駄をほぶぎ失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのために

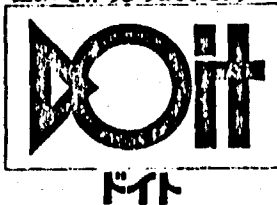
#### チェック・リスト

- (使用する材料)
- 口塩ビクッション型床材
- 口カーペットテープ
- 口ビニール床材用シーリング剤

#### (使用する道具)

- 口万能バサミや裁ちバサミ
- 口カッターナイフ
- 口千枚通しやキリ
- 口和裁用ヘラ
- 口大型金属ヘラ

住まいと暮らしのDIYセンター



- |                    |                    |
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| 春日部店 ☎0487(54)5811 | 板橋志村店 ☎03(969)3221 |
| 北本店 ☎0485(92)1911  |                    |

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HOW TO SERIES  
24

## DO-IT-YOURSELF ビニール床材の敷き方



台所に貼ってある

プラスチックタイルがところどころはがれてきた。

洗面所の木製の床が湿りがちで汚れが目立つ。

このようなトラブルは、わりに多いものです。

解決法はいろいろありますが、防水性や防音性のある

クッション型のビニール床材を敷きつめては、

いかがでしょうか。

このビニール床材は、ロール状で販売されているので、

ちょっと作業が難かしそうですが、

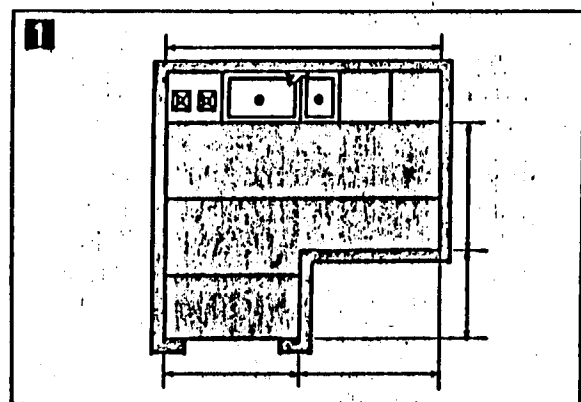
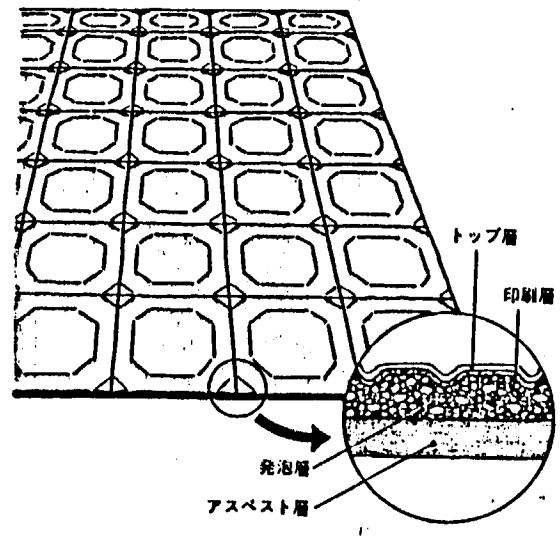
コツさえわかれば、素人でも簡単にできます。

ぜひチャレンジしてみてください。

部屋が見えがえるようになります。

# ビニール床材を敷きつめる

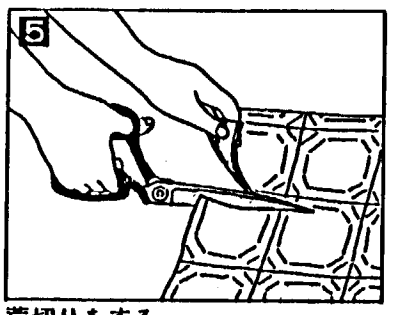
## クッションタイプの構造



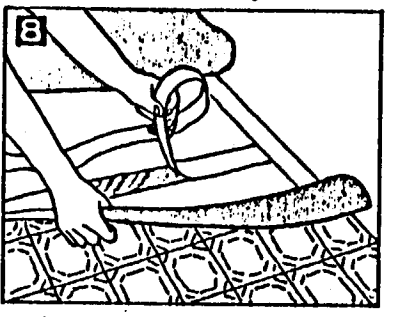
**1 床材の必要な長さを見積る**  
 まず、床材を貼る部屋の見取り図を書き、寸法を入れます。これに床材の幅（約90cmか180cm）で、めやすの線を入れると必要な長さがでます。



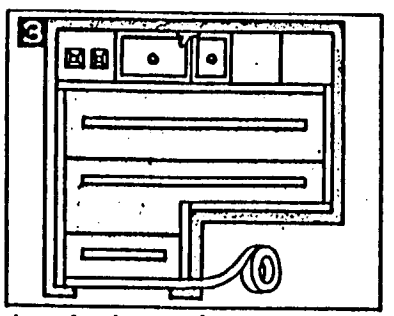
**2 床の掃除をする**  
 床の表面がホコリや油で汚れていると、カーペットテープの粘着力が弱まります。ゴミを掃除したあと、住まいの洗剤で拭いておきましょう。



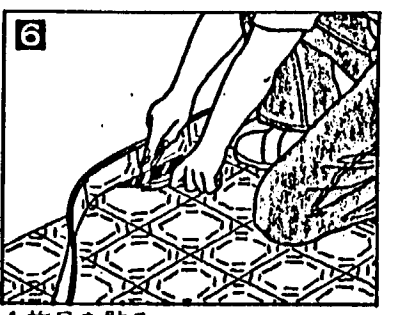
**5 荒切りをする**  
 床材を両端5cmぐらいづつ余裕をとり、大きめのハサミで切ります。柄合わせが必要な場合は、柄のピッチを測り、それ以上の長さの余裕をとります。



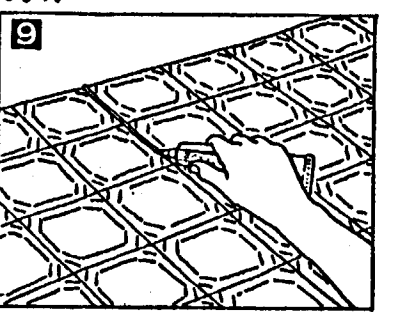
**8 つぎ目にもテープを貼る**  
 つぎ目を中心になるように、床材の下にカーペットテープを貼ります。このとき、壁ぎわのテープと重ならないように注意しましょう。はくり紙をはがし、固定します。



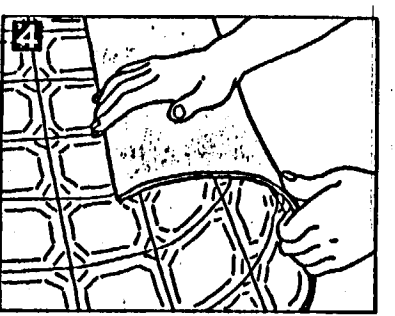
**3 カーペットテープを貼る**  
 薄いタイプのカーペットテープを四方の壁ぎわと、仮止め用として中央に貼ります。このとき、はくり紙は、まだはがさないようにしてください。



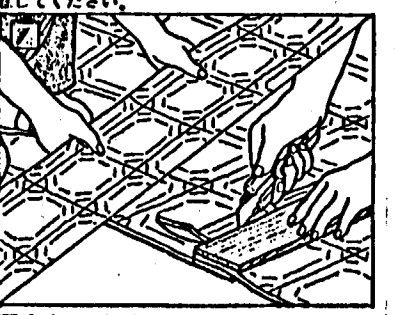
**6 1枚目を貼る**  
 仮止めの用のはくり紙をはがし、床材を貼ります。壁ぎわの余分は、和服用のヘラできめ込み、金属の大型ヘラを定規がわりにしてカッターで切りましょう。



**9 壁ぎわを固定し、シールする**  
 部屋全面を貼り終わったら、壁ぎわのテープのはくり紙をはがし、床材を固定します。次につぎ目や、切り込みすぎた部分にシーリング剤でシールしておきます。



**4 床材は逆巻きにしておく**  
 買った床材は巻きぐせがついているので、逆巻きにしておくこと作業しやすくなります。しかしあまりきつく巻くと裏のアスベストが割れるので注意してください。



**7 柄合わせをする**  
 タテ、ヨコの柄を合わせ、ガムテープなどで固定し、仮止めのテープのはくり紙をはがします。重なっている部分は、3枚いっしょにカッターで切りましょう。

**シーリング剤**

つぎ目や切り込み部分から水分がしみ込んだり、床材のめくれを防ぐものです。必ず使用してください。

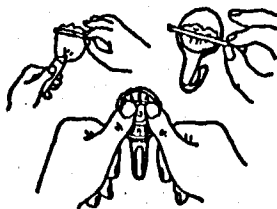
## フックの種類

### 粘着式フック



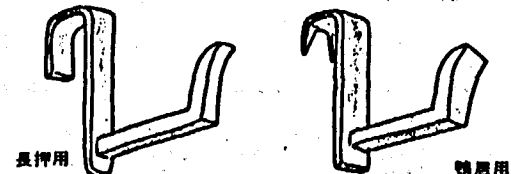
デコフ、スチール家具など、平らな面に向いています。貼る前に面をよく拭いておきましょう

### 接着式フック



多少の凹凸のある面にも使用できます。接着する面は、ホコリや油分などをよく取っておきましょう

### 鴨居や長押用のフック

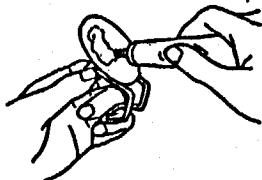


長押用

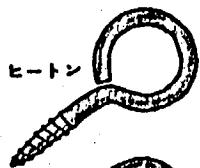
鴨居用

### すぐに落ちる吸盤

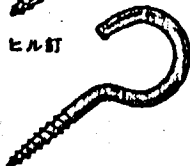
台所や浴室で使用する石鹸受けやタオル掛けなど、吸盤で固定するものが多く市販されています。このようなものが、すぐに落ちてしまう場合は、取りつける面を乾いた布でよく拭いてから、吸盤に瞬間接着剤を塗って取りつけてください。



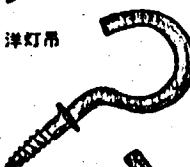
### ネジ込み式フック



ヒートン



ヒル釘



洋釘



洋折釘

無駄をはぶき失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのために

### チェック・リスト

〈使用する道具〉

ドリル (下穴用)

文龍 (プラグを打ち込む)

ドライバー (木ネジを止める)

〈使用する材料〉

フック

Uプラグ

木ネジ

ITプラグ

カールプラグ

モリーアンカー

住まい暮らしのDIYセンター



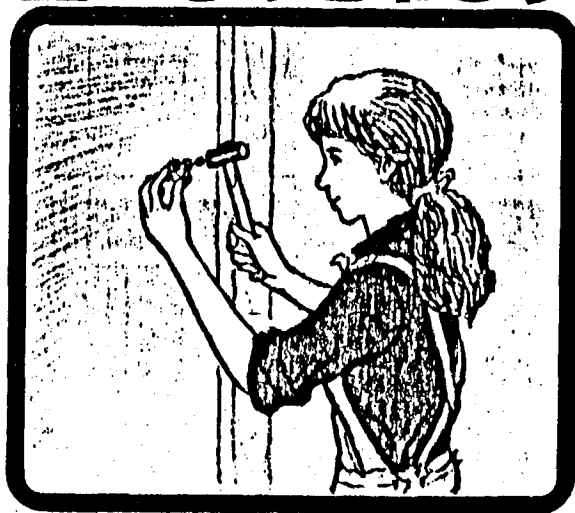
DIY

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HOW TO SERIES  
27

# DO-IT-YOURSELF 壁にもものを吊るす



壁に吊るした額が突然落ちてきた  
このような経験はありませんか  
これは、

壁の材質とフックの組み合わせがうまく合わず、  
吊るしたものの重量が  
ささえきれなくなって、落ちるのです。  
特にうら紙をはがす粘着シートや  
接着剤で固定するフックは、  
取りつけるところのホコリや汚れを  
よく落とさないで使用すると、すぐにはがれ、  
落ちてしまいます。

壁にもものを吊るすときは、  
壁の材質や表面の状態をよくわきまえて、  
フックを選びましょう。

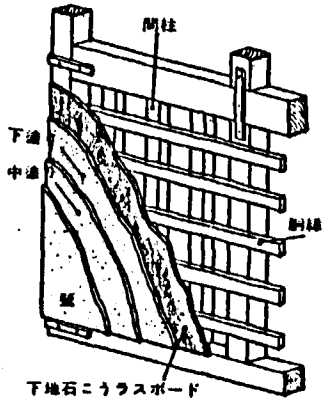


# 壁の構造

一般の木造住宅の場合、壁の内側には、間柱や胴縁が入っています。

間柱は、柱と柱の間に約45cm間隔で入っている角材で、胴縁は、30cm～45cmの間隔で間柱に止めてある横板です。

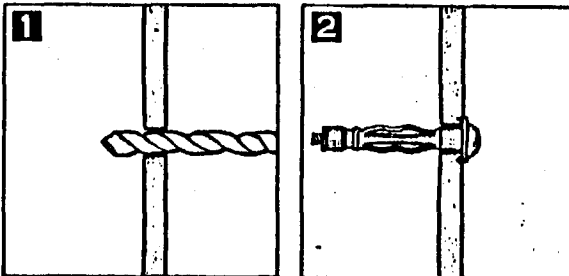
木ネジで固定するフックや、ネジ込み式のフックは、表面がどのような壁でも、間柱や胴縁に固定すれば良いわけです。しかし実際には、クロス貼りの壁や化粧合板の壁以外は、間柱や胴縁を探し出すのは困難なので、それぞれの壁に合った方法で、フックを固定しましょう。



## 中空構造の壁にフックをつける

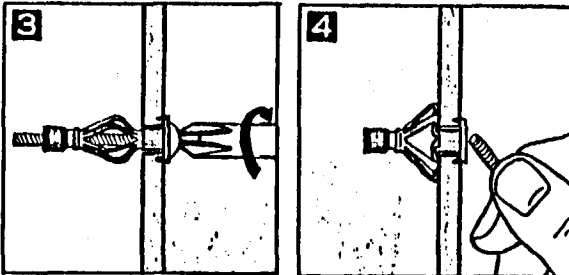
石膏ボードや化粧合板の壁は、間柱や胴縁に止めてある部分以外は内にも無い中空の構造になっています。このような壁にフックをつける場合は、モリーアンカーやITプラグを使用すると良いでしょう。

### モリーアンカーの取り付け



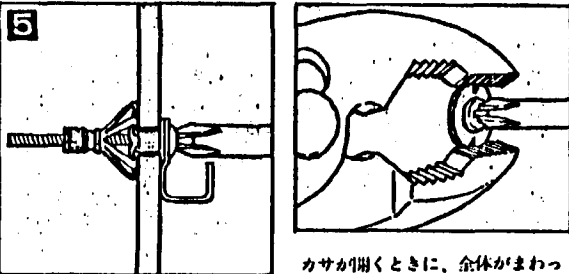
① モリーアンカーの径に合ったドリルで下穴をあけます。

② モリーアンカーを差し込みます。



③ ドライバーでネジをまわすと、内側でカサが開きます。

④ カサが開ききると固定されるので、ネジをはずします。



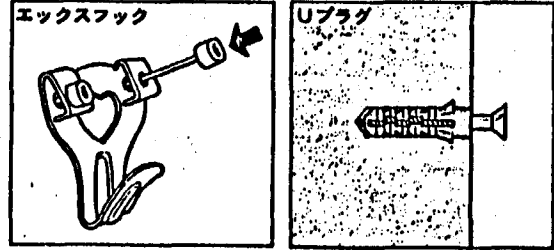
⑤ ものを用いるためのフックを通し、再びネジを締めます。

カサが開くときに、余体がまわってしまうときは、プライヤーではさみ、ネジをまわすときちんと開きます。

## しっくいなどの塗り壁にフックをつける

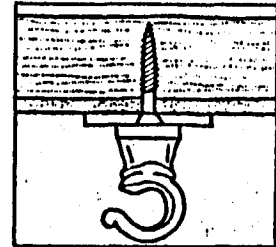
額やカレンダーなど、軽いものを吊るすときは、細くて長いピンを斜めに打ち込んで固定するエクスパックを使います。

洋服掛けなどを取りつける場合は、ドリルで下穴をあけてから、カーンプラグを少し大きくしたようなUプラグを差し込んで、木ネジで固定すると良いでしょう。

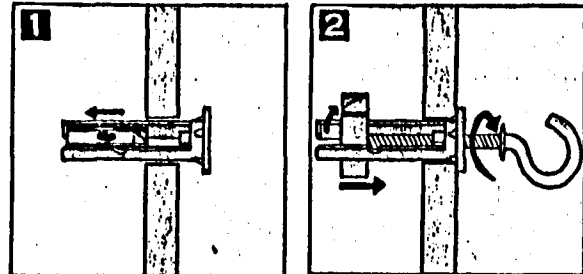


## 天井からフックなどを吊るす

天井裏には、必ず野縁という板や角材が入っています。天井から物を吊るすときは、ネジ込み部分が35%以上あるフックをこの野縁に固定して下さい。フックを取りつけたときは、左右にゆずってみてギシギシと音のするときは、かかりが浅いので位置を少しずらすとよいでしょう。また、重量のあるものはプランターフックのように強度のあるものをつかいます。



### ITプラグの取り付け



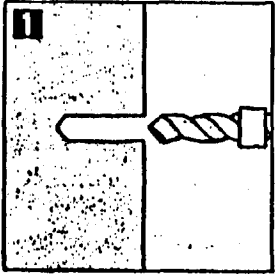
① 下穴をあけて、ITプラグを差し込みます。

② フックをまわすと、押さえの板が起き上がり、ボードを締めつけて固定されます。

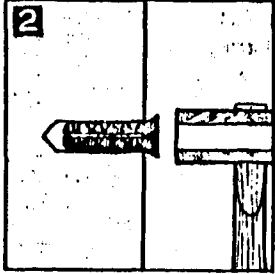
## コンクリートの壁にフックをつける

### カールプラグの取り付け (コンクリートプラグ)

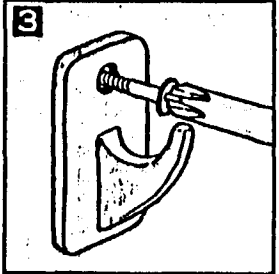
コンクリートの壁やタイル張りの壁にフックを取りつけるときは、カールプラグを使います。カールプラグにはプラスチック製と鉛製のものがありますが、プラスチック製は、打ち込むときに折れにくいのにに対し、鉛製は折れやすいのですが、強度があります。



① コンクリート用ドリルビットで径をプラグに合わせて下穴をあけます。



② ③ カールプラグを打ち込みます。

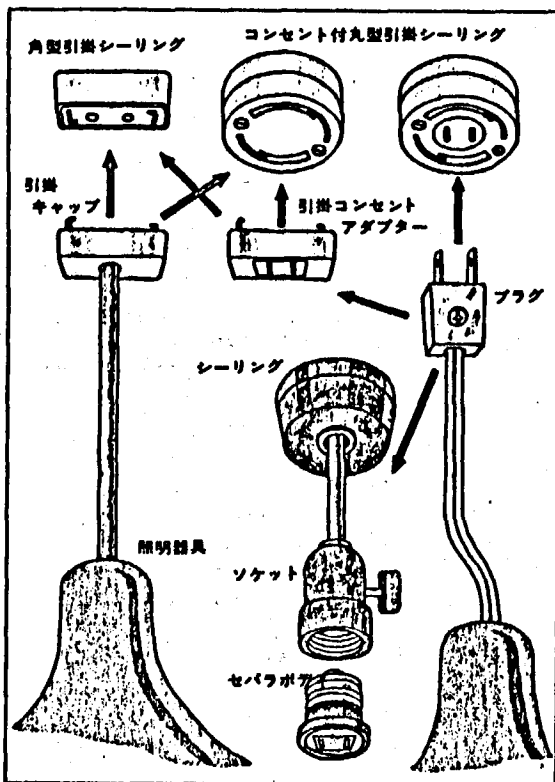


④ ⑤ 木ネジでフックを固定します。

# 電源との接続

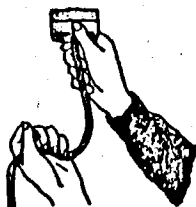
天井の電源部は、引掛シーリングやコンセント付きの引掛シーリング、またシーリングからコードが出てソケットのついているものなどがあります。

引掛シーリングの場合は、引掛シーリングキャップを、ソケットのついたものは、セパボアディーをねじ込んで、プラグで接続します。



## 引掛シーリングをはずすときは注意

引掛シーリングだけで吊ってある古い照明器具を取りはずすときは、必ずコードを持ち、器具の重量をささえてから引掛シーリングをはずしてください。不用意に引掛シーリングをはずすと、思わぬ重さがかかり、取り落とすことがあります。



無駄をはぶき失敗をなくす  
 役に立つハウツーシリーズ  
 あなたのDIYのために

### チェック・リスト

〈使用する道具〉

ドライバー

ニッパー

ドリル

千枚通しやキリ

〈使用する材料〉

木ネジ

ペンダント用コード

洋灯吊りやヒートン

プラグ

引掛シーリング・キャップ

住まいと暮らしのDIYセンター



DIY

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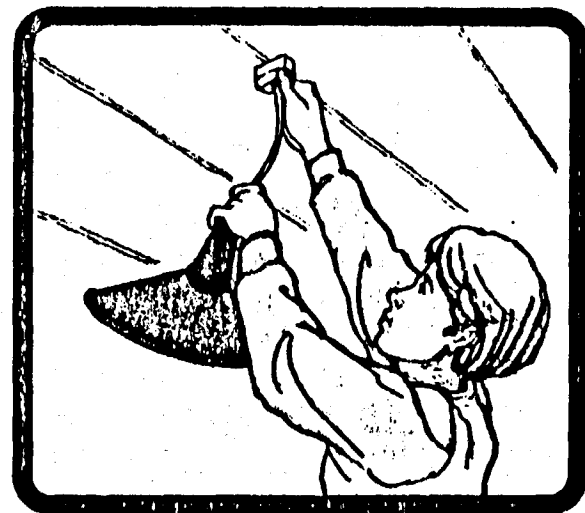
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HOW TO SERIES  
 29

# DO-IT-YOURSELF 照明器具の取り付け方



カーテンや壁紙などとともに、照明器具を取り替えることも、部屋の雰囲気を変え、気分転換にはいい方法です。

しかし、

華奢に見える器具でも重量はかなりあります。

取り付けは、ほとんどの場合が天井。

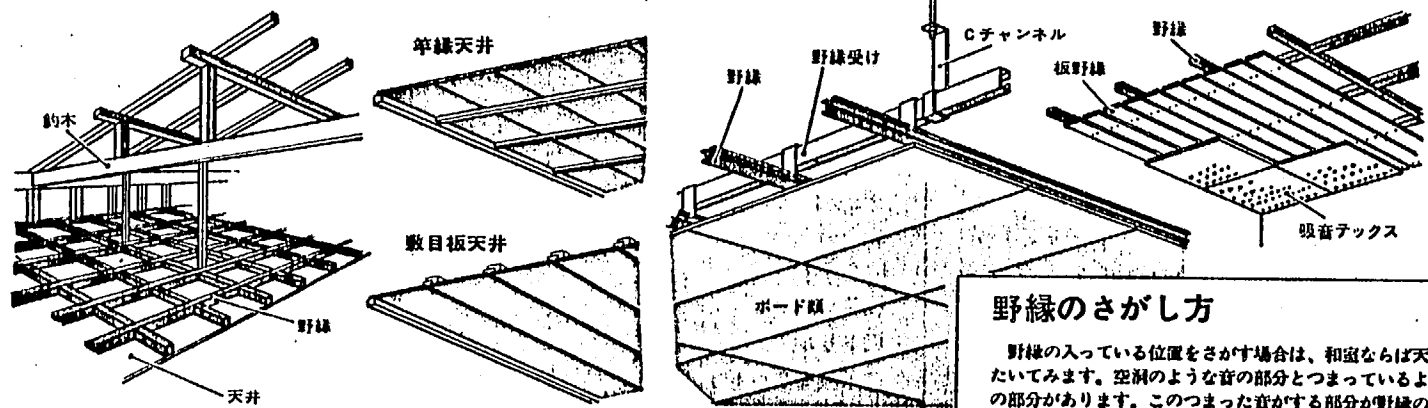
場所が場所だけに落ちたときは危険です。

天井の構造をよく理解して、

安全な方法で取り付けましょう。

# 天井の構造

天井の裏側には、必ず野縁という板や角材が入っています。この野縁は、天井板を止めるもので、間隔は45cmになっています。照明器具を吊り下げるためのフックや金具は、必ずこの野縁に固定してください。フックは、ねじ込み部分が35mm以上ある洋灯吊りを使うとよいでしょう。



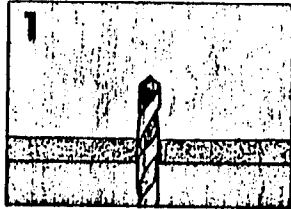
## 野縁のさがし方

野縁の入っている位置をさがす場合は、和室ならば天井をたいてみます。空洞のような音の部分とつままっているような音の部分があります。このつままった音がする部分が野縁の位置です。

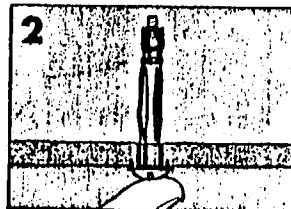
洋室で、防音テックスなどの天井材が張ってあるときは、天井材のメジ部分（ツギ目）に野縁が入っています。また、下地が石膏ボードでクロス張りしてある天井は、壁際から45cm測り、千枚通しを突き差してみると野縁の位置がわかります。磁石を利用したネイルレーダーを使って、石膏ボードのクギの位置を見つける方法もあります。

## アンクルで吊ってある天井に照明器具を取りつける

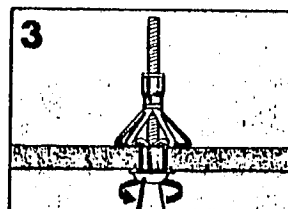
### ●モリーアンカーの使い方



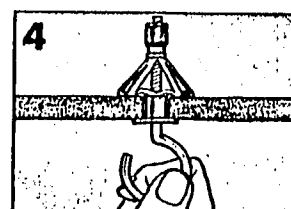
1 モリーアンカーに合った径のドリルで下穴をあけます。



2 アンカーを差し込み、ドライバーで締めます。



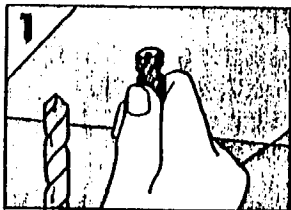
3 カサが開き、手ごたえが重くなったらビスをゆるめて取ります。



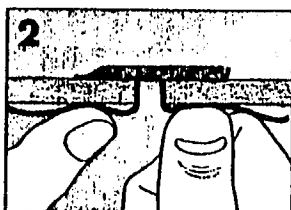
4 洋灯タイプのフックをねじ込んで、しっかり止めます。

マンションなど、鉄筋コンクリートの住宅の場合、木製の野縁ではなく、CチャンネルやMバー、Tバーなどのスチール製のアンクルで天井材を吊っていることがあります。このようなときは、アンクルから少しはなれた位置に穴をあけ、モリーアンカーや安全アンカーの洋灯タイプを取りつけるとよいでしょう。ただし、あまり重量のあるものを吊るすのは危険です。

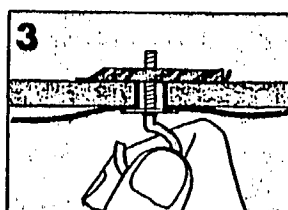
### ●安全アンカーの使い方



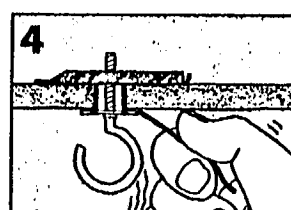
1 10.5mmの径のドリルで下穴をあけます。石膏ボードならば、アンカーのドリル部分でも穴をあけることができます。



2 アンカーを差し込み、帯金を左右に開いて仮止めしておきます。



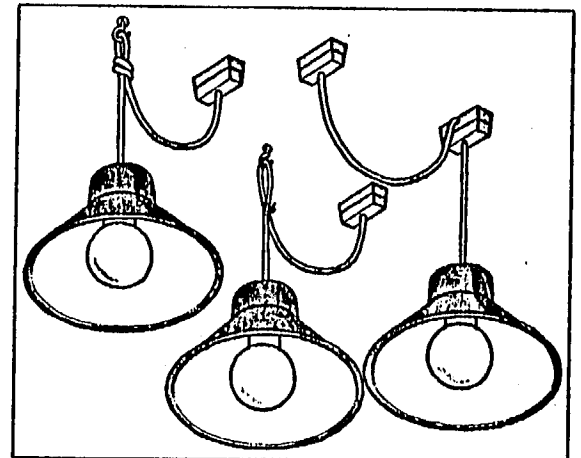
3 洋灯タイプのフックにワッシャーを通し、アンカーのナット部分にねじ込みます。



4 左右の帯金は、5〜6回上下に折り曲げると、その部分からちぎれます。

## ペンダントタイプの照明器具

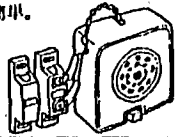
照明器具のコードをフックに掛けるときは、コードを横にしておきましょう。副部屋のある部分だけスポット的に明るくしたいような場合、電源部からのコードの長さがたりないことがあります。このような場合は、ペンダント用の長いコードに取り替えます。ペンダント用コードが入りすぎない場合は、ペンダントを吊り下げる位置に引掛シーリングを取りつけ、その引掛シーリングと電源を接続するとよいでしょう。



# ドアの防犯

## 防犯警報器

ドアや窓にセットしておくと、開けられたときにマグネットスイッチが作動してブザーがなります。乾電池をセットして両面テープで貼るだけなので取りつけも簡単。



## ドアチェーン

ドアチェーンを取りつけるときは、必ず横位につけましょう。ドアのはしに縦に取りつけると、わずかなすき間からはずされることがあります。ドアの構造上どうしても縦にしつつけれない場合は、ハズレ止めか、押しネジのついたタイプを選んで取りつけるとよいでしょう。

## 防犯レンズ

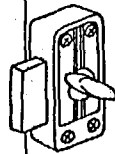
ドアを閉めたままで、外の人物が確認できるのが防犯レンズです。取り付け方は、ドアに穴をあけ、そこに差し込んでネジを締めるだけです。なお、しゃかんでいる人物まで見える、視角200度の広角防犯レンズもあります。

## 防犯(ガード)プレート

構造上、最も空気にさらわれやすいのが、デッドボルトのない錠前です。ドアと枠にすき間があるような場合は特にこじあけられる危険があります。この場合は、必ず防犯プレートと補助錠を取りつけましょう。取り付け方は、ドアに木ネジで止めるだけなので簡単です。フロント板の長さにより、合うものを選んでください。

## 補助錠

よくワンドア・ツーロックといわれますが、これは1つのドアに錠を2つということです。万一主錠が壊されても補助錠があれば安心です。取り付け方など詳しくはシリーズNo.3の補助錠のつけ方を参考にしてください。



無駄をはぶき失敗をなくす  
役に立つハウツーシリーズ  
あなたのDIYのため

## チェック・リスト

〈使用する道具〉

マイナスドライバー

プラスドライバー

カッター

〈使用する材料〉

錠前

割りばし

木工用接着剤

住まいと暮らしのDIYセンター



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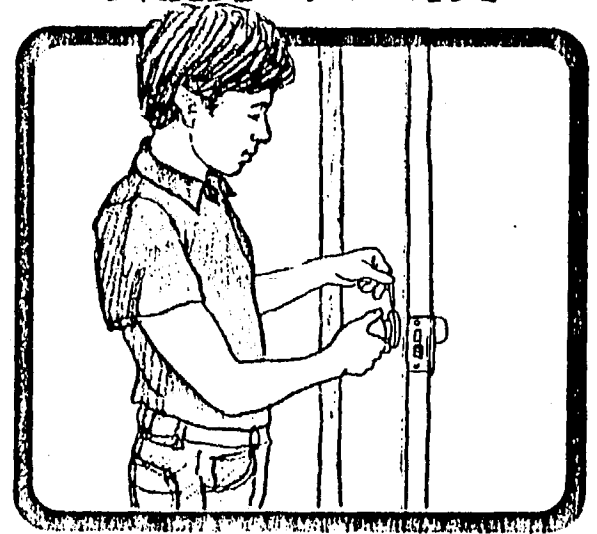
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HOW TO SERIES  
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DO-IT-YOURSELF

# 錠前の交換



玄関や勝手口など、  
ドアの錠前のトラブルは防犯の上からも困りものです。  
錠前のトラブルは、錠前自体が壊れていなくても、

錠がすり減ったり、  
錠穴にゴミがつかまつたりすると起こります。

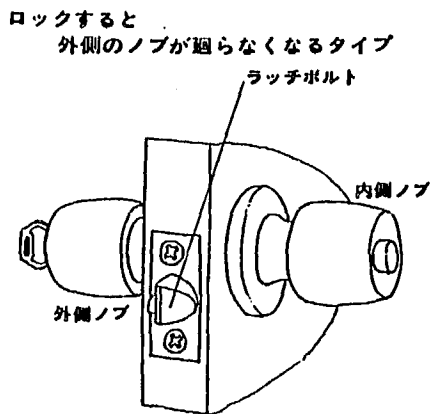
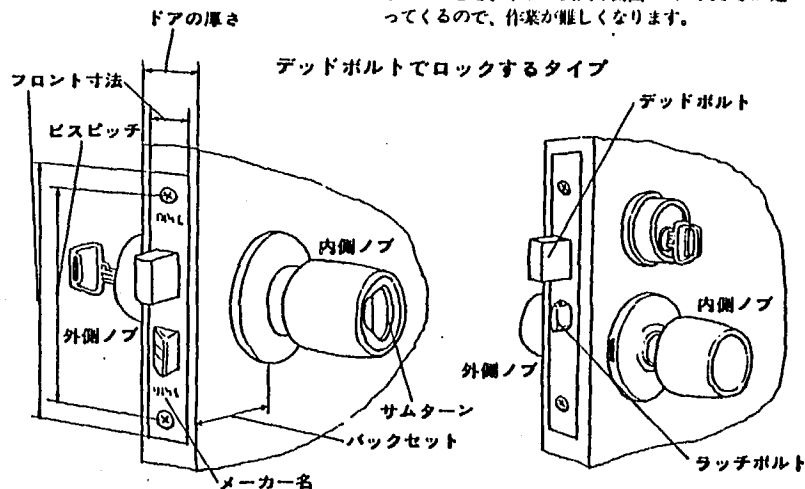
まず、よく点検して、  
錠前の調子の悪いときは、  
すぐに交換しておきましょう。

交換作業は、  
同じサイズの錠前ならば簡単にできます。

# 錠前の交換

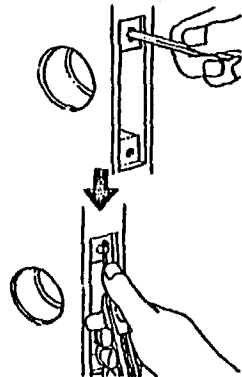
玄関や勝手口のドアについている錠前は、ドアノブの中心に鍵穴のあるモノロックタイプと鍵穴が別にある箱錠タイプのものがあります。また同じモノロックタイプでもロックしたときに、ノブが回らなくなるものと、デッドボルトがストライクに入るものがあります。錠前を交換するときは、違うタイプのものにする、ドアの表面や側面の穴の大きさが違ってくるので、作業が難しくなります。

同じタイプで、同じサイズ、できれば同じメーカーのものとの交換するようにしてください。新しい錠前を購入するときは、古いものを持っていくのが一番ですが、それができない場合は、簡単な絵を書いて、バックセット、フロント寸法、ビスピッチ、ドアの厚さ(できれば材質も)、ラッチとデッドボルトのピッチ、メーカー名を書き入れて持参するとよいでしょう。



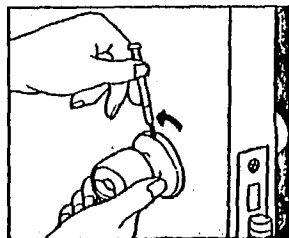
## 錠前の交換

新しい錠前は、セットされた状態になっているので、あらかじめ分解しておき、はずしたときと逆の順序で組み立てます。このとき、フロント板を止めるための、古い木ネジの穴は、潤りばしなどを削ったものを木工用接着剤を塗って埋め、カッターで表面を平らにしてから取りつくとよりしっかりとします。箱錠タイプのものははずし方や取りつけ方も、サムターン部分など、内側の木ネジで止めてある部分以外は、他のタイプのものとまったく同じです。



## 錠前のはずし方

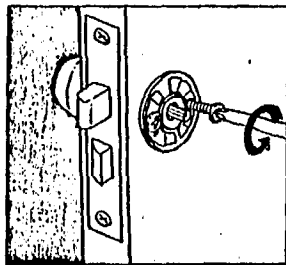
### ①内側のノブをはずす



モノロックタイプで、デッドボルトのあるものは、丸座とノブが一体のままはずれます。丸座がネジ止めしてあるものはネジをゆるめると簡単にとれます。その他、丸座を左に回してはずすもの、このタイプは回しやすいうように丸座に小さな穴があり細いドライバーなどを差し込んで回します。また、取り付け部分に切り込みがあり、マイナスドライバーでこじ起こすものなどがあります。ロックしたときにノブが回らなくなるタイプのものは、ノブと丸座が別別にはずれます。ノブの根元の部分に小さな穴があり、そこに干渉しやクギを差し込んでノブを引くとはずれます。また、クギなどを差し込んだまま一度ロックし、それを解放するとはずれるタイプもあります。丸座は、切り込み部分にマイナスドライバーを差し込んで、こじ起こします。

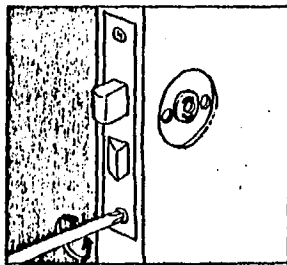
### ②丸座裏金をはずす

丸座をとると、ドーナツ型の丸座裏金がビスで止めてあります。このビスをはずすと、丸座裏金と外側のノブをはずすことができます。



### ③フロント板のビスをはずす

フロント板を止めているビスをはずし、フロント板をこじ起こすようにすると、残りの部分かはずれます。

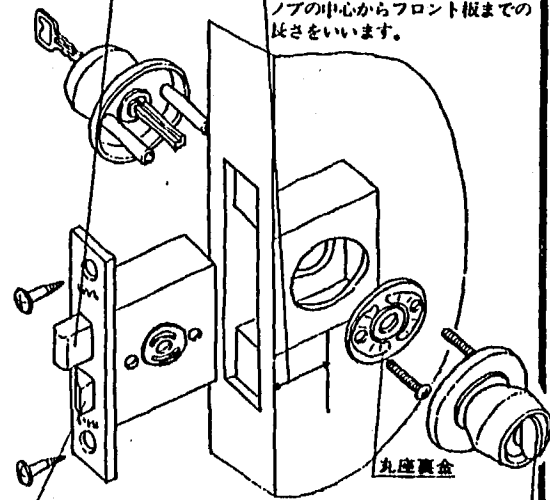


錠前は機種によってははずし方が多少違いますが、基本的には、内側のノブから順にはずしていきます。

## 錠に関する用語

**デッドボルト**  
ラッチとは逆に、ロックすると出なくなる部分をいいます。

**バックセット**  
ノブの中心からフロント板までの長さをいいます。

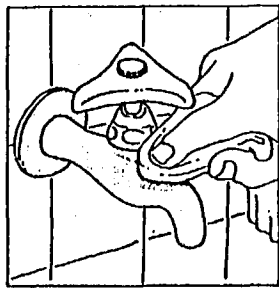


**ラッチボルト**  
通常は出っぱっていて、ノブを回すとへこむ部分をいいます。

**サムターン**  
内側から錠を解錠するために回すレバーをサムターンといいます。

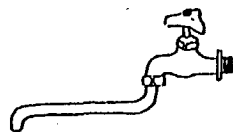
# 水栓金具のお手入れは？

水栓金具は、水を使う場所だけに意外と汚れやすいものです。通常は、バス用洗剤や台所用洗剤を布につけて洗うときれいになります。それでも落ちない汚れや、多少サビの出た場合は、カー用品のメッキ部にも使えるクリーナーを布につけて拭くとよいでしょう。このクリーナーは、サビや汚れを落とすだけでなく、保護膜をつくってサビを防止する働きもあります。

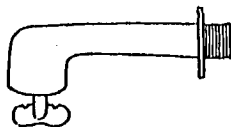


## 水栓金具のいろいろ

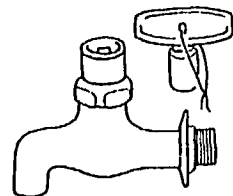
**自在水栓**  
台所によく使われます。



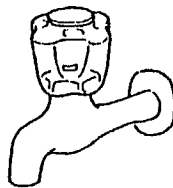
**衛生水栓**  
トイレの下洗用。



**共用水栓**  
屋外の駐車場や散水用に使われます。カギ付なので、他人に使用されません。



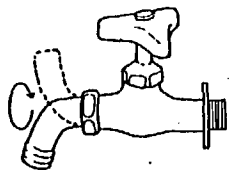
**アクリルハンドルの水栓**  
湯を長時間使っても、ハンドルが熱くなりません。



**散水栓**  
散水用ホースが取りつけやすいようになっています。



**ホーム水栓**  
学校でよく使われます。上向きにすると目を洗ったり、水を飲むのに便利です。



無駄をばらばら失敗をなくす  
後にはつばらシリーズ  
あなたのDIYのため

### チェック・リスト

〈使用する道具〉

- 水道修理セット
- 水栓取外しレンチ
- 立カラン締め
- ウォーターポンププライヤー

〈使用する材料〉

- 水栓金具
- シールテープ

住まいを暮らしのDIYセンター

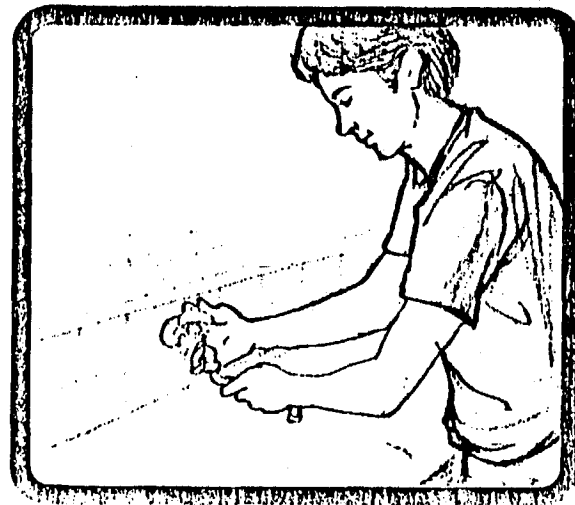


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# HOW TO SERIES 47 DO-IT-YOURSELF 水栓金具の交換



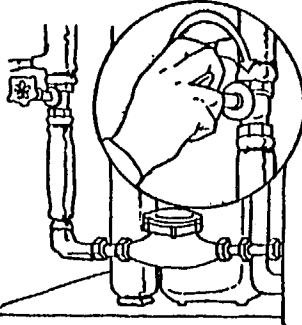
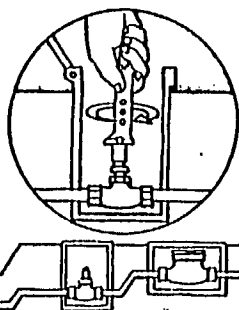
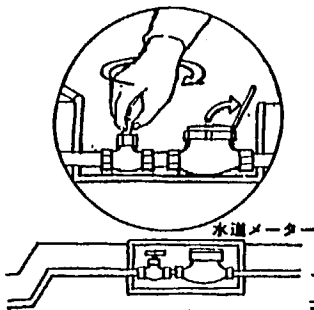
水栓金具は、パッキングさえ交換すれば、半永久的に使えるものです。しかし、サビが出て汚れてしまったものやメッキのはがれてしまったものは、新しく交換してはいかがですか。特に浴室など、壁を塗り替えたときは、水栓の汚れが目立ってくるものです。また、洗濯機を使うときなど、水栓がもう1つほしいときは、分岐水栓を取りつけると便利です。

# 作業の前に、まず止水栓を止めましょう

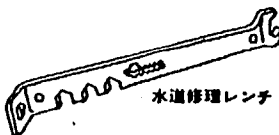
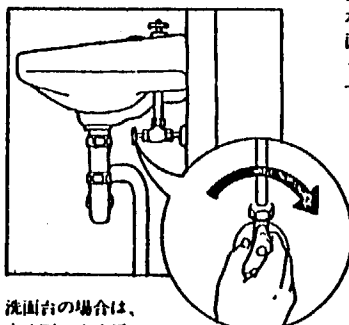
メーターボックス

止水栓ボックス

中高層住宅の場合



洗面台の場合

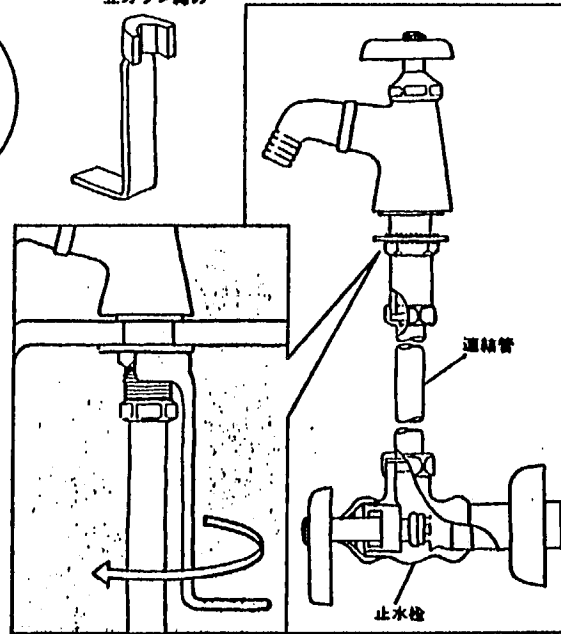


水道修理レンチ

## 立水栓金具の交換

水平面に取りつけてある水栓金具を立水栓金具といいます。まず、連結管と水栓を止めているナットをはずします。次に水栓本体を止めているナットをはずし、水栓を引き抜きます。このとき洗面台のように、作業する場所が狭く、通常の工具ではナットがまわせないときは、立カラン締め(ナット締付用スプナ)を使うとよいでしょう。新しい水栓は、ネジ部の先端から1cmぐらいにシールテープを巻き、はずしたときと逆の方向で組み立てます。

立カラン締め



パッキングの交換同様、水栓金具を交換するときも、まず止水栓を止めてください。止水栓は、ほとんど水道メーターの付近にあります。1戸建住宅ではメーターボックス内に、マンション

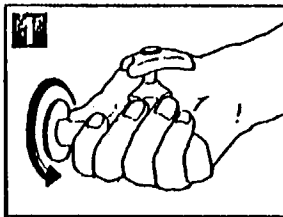
などでは、ガスや水道のメーターの入っているボックスの中にあります。また、古い住宅では、メーターと本管の間に止水栓が設けられていることがあります。これは、鉄の閉鎖のボックスに止水栓が納められてい

専用の工具を使って閉鎖します。この工具は、水道修理セットについているレンチを利用するとよいでしょう。いずれの場合も右にまわすと閉まって水が止まり、左にまわすと開きます。

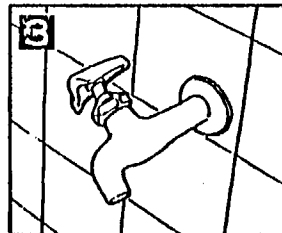
洗面台の場合は、すぐ下に止水用のハンドルがあり、これを右にまわすと水が止まるので、家全体の止水栓を止める必要はありません。

## 横水栓金具の交換

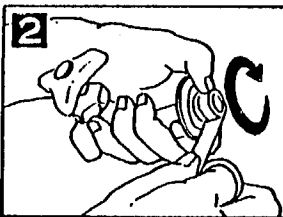
壁面に取りつけてある水栓金具を横水栓金具といいます。



まず、古い水栓金具を左へまわしてはずします。普通手でまわせますが、かたい場合は雑巾などをはさんで、ウォーターポンププライヤーを使うとよいでしょう。また水栓金具専用の水栓取外しレンチを使うと簡単にはずせます。



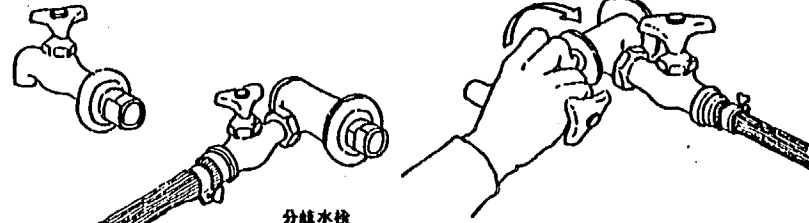
新しい水栓金具を右にまわしておなじみします。最後までおなじみ込んでも水栓が斜めになる場合は、いったんはずしてシールテープの量を増減して正しい位置になるようにしましょう。最後に止水栓を開け水もれを点検します。水もれするときは、シールテープの巻き方が悪いので、もう1度作業しなおしてください。



新しい水栓金具に根本パッキングを差し込んでから、ネジの部分にシールテープを巻きます。シールテープは軽く引っぱりながら、ネジにくい込むようにし、全体が2~3厘ぐらいになるように巻きます。巻きすぎるとおなじみできなくなり、ネジ内部でよれて固まりになり、水もれの原因にもなります。

## 水栓がもう1つあったら、とても便利です。

洗濯機を使ったり、シャワーにしたり、1つの場所からもう1つ水栓がほしいときには、分岐水栓を取りつけましょう。取り付け方は、基本的に横水栓と同じです。



分岐水栓

APPENDIX J

NOTES FOR A SPEECH TO THE  
DIY MISSION REPORT MEETING

Friday, March 13, 1987, TOKYO, JAPAN

The maturity of the Canadian DIY manufacturing industry, and the potential opportunities to market DIY products in one of the largest consumer markets in the world, has resulted in the Government of Canada conducting two DIY Missions to Japan.

The first was from September 20-29, 1985. It was the first joint industry-government project to assess the export potential for Canadian DIY products and services in the Japanese market, to ascertain an overview of the Japanese perspective on DIY, and to identify possible market niches.

The data collected in the first mission and its later analysis combined with the STEP Canadian DIY Products Committee mandate led to the Research Institute for Distribution Policy in Tokyo conducting a survey of the Japanese DIY market in June 1986.



The description of the Japanese market for DIY products and services identified by this survey, and its assessment of opportunities led to the second DIY Mission to Japan (September 11-19, 1986) to be recruited by the Government of Canada. The program was arranged by the STEP Canadian DIY Products Committee, with the Canadian Government hosting a complementing enhanced Canadian information booth at the Second International Japan DIY Show.

OBSERVATIONS OF THE FIRST DIY MISSION MEMBERS

Their main observations and comments were:

- Japan's DIY market is in its infancy, but the market is growing, and the time to break into it is now.
- While there exist good opportunities in Japan, Canadian exporters need a clarification of the Japanese distribution system and how it applies to the import of foreign manufactured DIY products.
- Given how expensive housing in Japan is, the Japanese tend to prefer quality and prestigious products.

- In general, the Japan DIY Show is less sophisticated than the Canadian Hardware Show in Toronto in terms of Canadian understanding of a trade show; the primary difference is in the number of recreational products on display at the Japan DIY Show. The show also appears designed to more specifically meet the needs of the consumer, not trade, traffic.
  
- Japanese packaging of DIY products displayed at the Japan DIY Show were also considered less sophisticated than expected in that the packaging in general lacked colour and design creativity. There were few graphics and the quality of materials was considerably lower than expected.
  
- Finally, a strong case could be made for some Canadian items packaged for the DIY market in Canada being re-packaged on a larger scale for the construction, designer and home builders market. In Canada, DIY is generally understood to mean the 4 "R": redecorating, remodelling, repairing, and renovating; the greatest interest being in redecorating. The first DIY mission's assessment of the Japanese DIY market was of DIY

being strongly associated as a recreational activity. However, their assessment also identified a maturing orientation towards the North American idea of DIY.

THE SECOND DIY MISSION TO JAPAN (SEPTEMBER 11-19, 1986)

The second DIY mission resulted from recognition of the wide range of Canadian products suitable for the Japanese market, the growing market for DIY products in Japan, and the findings of the DIY Survey on Japan's market potential. The goal of this second mission was to introduce Japan to some of Canada's most successful manufacturers while introducing to Japan a selection of Canadian DIY products.

The mission's itinerary prepared by the STEP Canadian DIY Products Committee, gave a thorough overview of and practical insights into the Japanese DIY market. During the first mission, Canadian members had only visited the Japan DIY Show. On the second mission, the Canadian government participated in this show with an enhanced information booth, which presented these companies, and other Canadian manufacturers unable to in

the mission, with an opportunity to display product samples and literature. Over fifteen Canadian products were displayed.

OBSERVATIONS OF THE SECOND DIY MISSION MEMBERS

By the end of their itinerary the major differences in lifestyle between Canada and Japan had become very evident. In Canada, the home tends to be used more as an entertainment and leisure centre. In Japan, homes are more functional in design with smaller kitchens and bathrooms (the major locations for Canadian renovation time and energy); bedroom and family room generally occupy a single area.

The Japanese have considerably less leisure time than the average Canadian. Working hours are longer, often including Saturday mornings. The hours remaining are usually devoted to the family. The entertaining of friends and business acquaintances primarily occurs outside the home.

Even so, the increasing amount of leisure time available to the average Japanese since the early 1960's has contributed to a greater interest in DIY. DIY is

undertaken as an expression of creativity, as a hobby and within the concept of healthy, happier living. But as in Canada, there is a sense of accomplishment, in "doing-it-yourself". As such DIY activity in Japan is much more craft or hobby-based than in Canada.

Major renovations, such as putting in kitchen cabinets, windows and doors, or adding a room, are rare and are usually contracted to a specialist. As well DIY stores generally do not handle such "basic" building materials as roofing, doors, windows, lumber etc.

Different customs, a different language, and transportation distances contribute to the complexity in understanding and trading with a country so distant from North America. Because of this, substantial market research and identification is required to break into this very selective market. A business/social relationship has to be established with the Japanese client even before initial discussions can be undertaken.

Japanese consumers demand high quality and appreciate innovative and distinctive products. As referenced in the DIY Survey, the Japanese consumer attaches a great deal of importance to the rare and

handmade craft rather than mass-produced and uniform manufactured products. Even so, imports must be designed for their specific needs. Many North American DIY products currently being marketed in Japan have had to be modified for Japanese use. For example, the hand-saw technology in Japan is significantly different from that of North America. Hammers and screw drivers are noticeably smaller. Electrical requirements are different. Products and product demands (because of more compact living space) are smaller. Also, Japanese made products have innovative help-aids incorporated into the product design, like a marker in tape measures.

Many Japanese are apartment dwellers. DIY and renovation activities are for the most part limited to cosmetic applications, and then only to when there is a change of tenant. In highrise apartment buildings, Japanese tenants are extremely limited to what they are allowed to change, maintain, or repair under tenant contract.

Most Japanese residences have limited outdoor space. This makes outdoor recreational equipment, such as bar-be-ques, lawn and garden furniture extremely difficult to market in Japan.

There are well-established traditional distribution channels and methods in Japan. For most export transactions, the foreign manufacturer must market through an importer/agent (who is willing to take the risk of marketing & distributing a foreign manufactured product), who sells to the distributor who sells to the wholesaler who sells to the store who sells to the consumer. One must market at all levels of this network before the importer will even consider bringing the product into Japan. The distribution system is so complex that there is a real risk that the product can be priced out off its market. As such, many products are sold on consignment, and cash flow requirements may make it more difficult to get established in the Japanese market.

The risk of merchandizing foreign products also often results in the Japanese client placing an order too small to warrant either the foreign manufacturer shipping it or re-tooling to meet specific Japanese requirements. In other words, if the shipment is large enough for the exporter, it is usually too large for the Japanese importer.

FINAL DEBRIEFING: SECOND DIY MISSION MEMBERS

Mission members offered the following observations:

- perseverance is needed to penetrate the Japanese market. In many cases, a demand would have to be created for Canadian DIY products;
- market research is a major necessity;
- Japan is a consumer society, but the Japanese consumer is very frugal and careful in product selection and ultimate purchase;
- Canadian companies interested in penetrating this market must offer high quality, well-designed goods, but at competitive pricing, and,
- small Japanese retailers wanting to buy Canadian products, while interested in sample shipments, often choose not to, given Japan's complex distribution system, their lack of knowledge of how to import, and the difficulty in accomplishing direct importation of goods from



the manufacturer. The larger chains also seem more interested in having Canadians participate in a "World Product Week" than in buying a container of goods, perhaps because not enough Canadian manufactured products are exported to Japan to warrant a "Canada Week".

Primarily it is Canadian manufacturers of DIY products which can be installed in short time frames (i.e. one day) that should be encouraged to try the Japanese market. However, many Canadian DIY products remain too complicated and too big for the average Japanese consumer. The DIY and renovation market potential for Canadian manufacturers, for wood and paper converted products still appears to be limited. Even so, there is market potential in new housing and contractual renovation for products such as millwork components, solid wood decorative paneling, wall coverings, wood mouldings, floorings, doors & windows. High potential is seen for the supply of traditional Canadian style kitchen cabinetry, due to the strong Japanese preference for wood.

The best opportunity for Canadian manufacturers products therefore appears to be in wood and wood-related products, especially but not exclusively for the home

builders industry and the decorator market. Such products should concentrate on "better design" features. The best Canadian wood products can compete in quality and price, but will generally have to meet stringent local specifications requiring changes in design and production. Product packaging will be all important. It must be strong and clear so that the purchaser understands function, potential, and method of installation.

The key market niches for products from the Canadian converted wood and paper product sector appear strongly aligned to the rapid growth of Timber Frame Construction (TFC) in Japan, outside the major population centres.

#### FOLLOW-UP ACTIVITY

Although the volumes involved were small, six of the participating companies on two DIY missions have reported sample shipment sales and further potential sales for their products. Liaison activities aimed at facilitating and reinforcing the success achieved on these missions are being ongoing.

However, the emphasis for the third mission will be shifted from the DIY market sector to that of new residential construction and contractual renovation. DEA and DRIE are currently planning a Canadian manufactured wood products mission to Japan this coming September to complement an enhanced Canadian Information Booth at the Japan Home Show, (similar in style to the one designed for the Japan DIY Show last September). The Japan Home Show has been chosen for Canadian participation given that show's greater emphasis on wood products. Recruitment for this mission and company participation in the Japan Home Show to complement the Canadian information stand will begin this spring.

There will be a concerted effort to involve some of Canada's larger, more competitive millwork firms to take a serious look at market penetration in Japan.

Opportunities in the DIY sector will continue to be explored and monitored. A report on the recent Hinode Corporation buyers mission to the Canadian Hardware Show (February 7-11, 1987) in Toronto is currently being completed by the Canadian Embassy and will incorporate the information provided by the Hinode Corporation at today's meeting. To facilitate initial sample shipments, the Canadian company D.H. Howden has offered to consolidate Canadian products identified by the Hinode buyers for market assessment in their store chains.

As well, the second DIY mission members have now completed a six-month update of their market activities since the 1986 mission. This update is being presented today and we hope will be used as a platform for further discussion of DIY and related marketing activities.



# JAPAN HOME SHOW '86

HOME AUTOMATION '86

## **Guide for Visitors**

September 16 – 20, 1986  
Tokyo International Trade Center, Japan

## GREETINGS

The JAPAN HOME SHOW is a comprehensive presentation of new home furnishings, appliances, furniture, floor covering, wall covering, lightings, building materials, gardens and home improvement supplies promoting the home building industry.

Side by side with the 1986 event will be held the HOME AUTOMATION '86. This is because of the great interest continually generated concerning the development of Home Automation (HA) with an extensive utilization of electronics and other gimmicks of advanced technology.

One of our greatest concerns is how to produce better-quality homes and more functional home furnishings and appliances to meet growing needs.

Of the many changes taking place in Japan now, the government has targeted its attention to the activation of the home building industry, as one of its main tactic to spur the domestic economy. Because of this, the organizers believe that this year, both exhibitor and visitor response will be a more satisfactory one than ever before.

The intensive demonstrations of the home related products at the JAPAN HOME SHOW will stimulate the exchange of up-to-date information among some 220 exhibitors including manufacturers and suppliers and visitors, and will benefit all of them.

## EXHIBITION INFORMATION

**Period:** Sep. 16 - 20, 1986  
**Place:** Tokyo International Trade Center, Harumi, JAPAN  
**Exhibition Hours:** Daily from 10:00 a.m. to 5:00 p.m.  
**Sponsored by:** Japan Management Association  
Japan Housing Equipment & System Association  
**Authorized by:** Ministry of International Trade and Industry  
Ministry of Construction  
Ministry of Posts and Telecommunications  
Ministry of Home Affairs  
Science and Technology Agency  
Housing & Urban Development Corporation  
Housing Loan Corporation  
**Number of Exhibitors:** 211 companies 688 booths  
**Hall Space:** Hall 1 : 6,782 m<sup>2</sup> Hall 2 : 6,782 m<sup>2</sup>  
**Exhibit Space:** 5,292 m<sup>2</sup> (net space)  
**Admission:** Free of charge but all visitors must register on arrival.  
**Products to be Exhibited:** JAPAN HOME SHOW '88  
Kitchen Appliances, Bath Tubs and Washing Stands,  
Cooling, Heating and Ventilating Equipment, Home  
Interior, Home Exterior, Building Materials, Housing  
Maintenance Materials, Housing Information, Housing  
Equipments and Appliances for the aged  
HOME AUTOMATION '88  
HA Network System, Home Security System, Informa-  
tion Communication System, New Media, Living Environ-  
ment Control System  
**Organized by:** Japan Management Association  
3-1-22, Shiba-Koen, Minato-ku, Tokyo 105, JAPAN  
Tel.: (03) 434-6211 Tlx.: JMA J25870  
Japan Housing Equipment and System Association  
1-23-7, Torano-Mon, Minato-ku, Tokyo 105 JAPAN  
Tel.: (03) 503-4546

## SPECIAL EXHIBITION CORNER

### HOME HEALTH CARE

Year after year, acceleration in the increase in the over-65 age group in Japan is recorded, and in connection to this, expansion of the "Silver Market" (business targeted to this over-65 age group) is expected.

Talking of the home industry, the public has high expectations in the development of homes and related products for the aged and handicapped, and also for the improvement and enhancement of the Home Health Market such as Home Care.

To provide for safer and more convenient homes, HA (Home Automation) comes to play an even more important role.

With these developments in mind, we will exhibit overseas and domestic home health care products, which will be in great need from now on. The intention is to assist, guide and activate the home industry to adjust and cope with the changes triggered from the progress of the "old-age society".

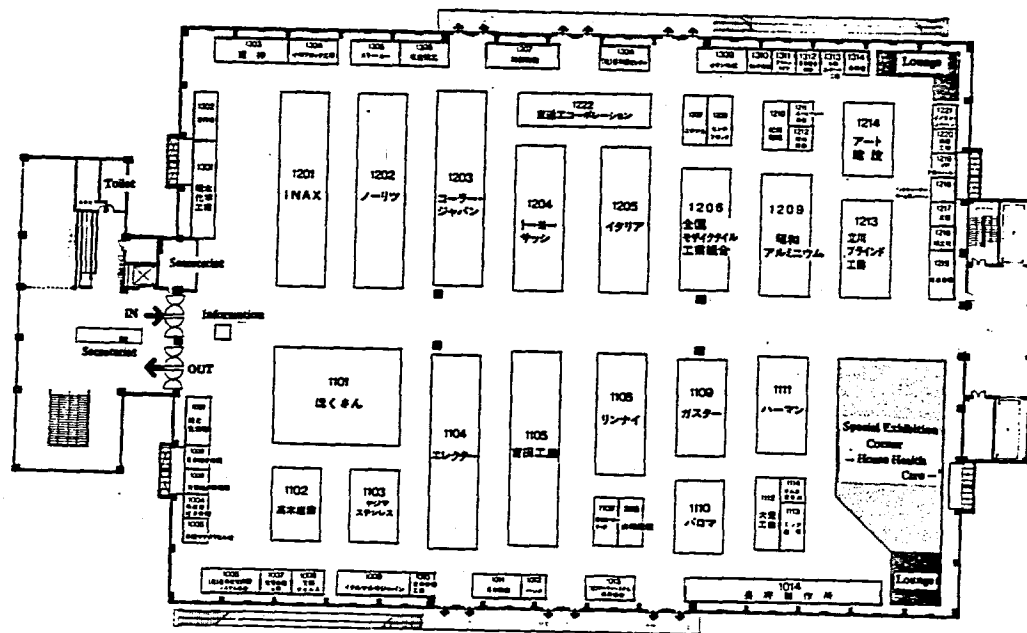
Nation	Company	Major Exhibits
Canada	GARAVENTA (CANADA) LTD. 7505-134A. Street Surrey, B.C. V3W 7B3	Stairway Lift for Wheelchair
U.K.	F. J. PAYNE MANUFACTURING LTD. Stanton Harcourt Road, Eynshaw, Oxford OXB 1JT	Lift for Bathing and Nursing (Electric/ Hand-driven)
	HEMOCRAFT SUPPLIES LTD. 27 Trinity Road London SW17 7SF	Helping Appliances for Bathing and Toilet
	MANGAR AIDS LTD. Prestelgne Industrial Estate Prestelgne	Helping Appliances for Bathing

Nation	Company	Major Exhibits
U.S.A.	DAYS MEDICAL AIDS LTD. Litchard Industrial Estate Bridgend, Mid-Glamorgan	Tip-Up Seat for Bathing, Handrail Lift, Walker
	MINIVATOR SALES LTD. Townsend Industrial Estate, Houghton Regis, Beds., LV 55BA	Chair Type Lift for Stairway
	FRED SAMMONS INC. 145 Tower Dr. Burr Ridge IL. 60521	Supplies for Bathing and Toilet, Kitchen Utensils
	GUARDIAN PRODUCTS INC. 780 Easy St. Siml Valley CA93062	Shower Chair, Handrail, Walker
	TRANS AIDS INC. 13130 S. Nomandle Ave. Gardena, CA 90249	Slope for Wheelchair
Sweden	MADDAK INC. 6 Industrial Road Pequannock, NJ 07440	Supplies for Bathing and Toilet, Hand- rail, Kitchen Utensils
Sweden	ARJO HOSPITAL EQUIPMENT P. O. Box 61 S-241 00 Eslov	Bathing System for Home Use
France	LEICHLÉ SA P. O. Box 14 54480 Cirey	Bath Tub for Home Use
Belgium	HANDI-MOVE Leopoldiaan 47 9400 Minove	Ceiling Lift
Holland	LINIDO BV Weceringweg 7 P. O. Box 70 2640 Aa Pijnacker	Bath Chair of Hanging-up-on-the-Wall Style, Bench, Handrail
	HOMAT BV Muideoweg 6 P. O. Box 1090 Gouda 2800 BB	System Kitchen
Japan	MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. 2-1-61, Shiromi, Higashi-ku, Osaka 540	Home Automation Machinery and Equipment, Infrared Sensor System
	JAPAN ABILITIES ASSOCIATION 5-16-4, Yoyogi, Shibuya-ku, Tokyo 151	

# Floor Plan

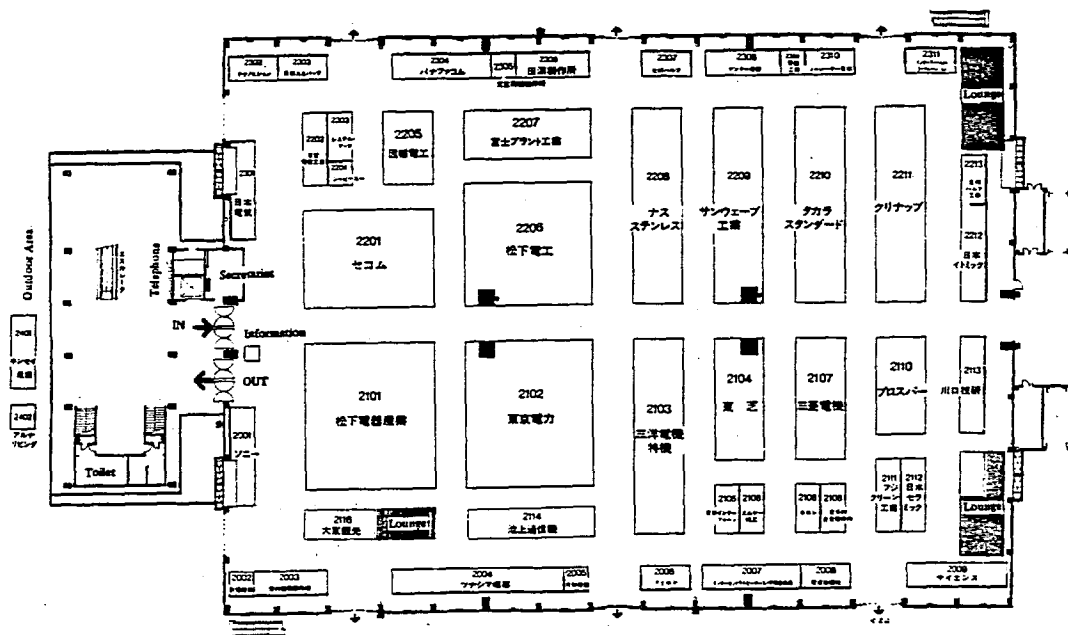
Hall 1

- 8 -



Hall 2

- 7 -





# Exhibitors' List

## Domestic Exhibitors

Company	Address	Exhibits	Booth No.
<b>A</b>			
ABC TRADING CO., LTD.	2-12-14, Nagata-cho, Chiyoda-ku, Tokyo 100 Tel.: 03-507-7111 Tlx.: 222-6742 ABCTKD J	Building Materials	1211
ABE KOGYO CO., LTD.	1-7-10, Shinjuku, Shinjuku-ku, Tokyo 160 Tel.: 03-341-9021	Royal Kits, Beds, President Door, Blind Door	1307
AIPHONE CO., LTD.	2-18, Jinno-cho, Atsuta-ku, Nagoya-shi, Aichi 456 Tel.: 052-682-3877 Tlx.: J59995	Video Door Station W/CCD Camera, Intercom and Telephone W/Video Monitor, CATV Condominium Telephone System, etc.	2006
ALNA LIVING CO., LTD.	3-577, Togasaki, Misato-shi, Saitama 341 Tel.: 0489-55-5181	Unit Frames for Drying Clothes	2402
ART KENSETSU CO., LTD.	Shasoku Bldg., 4F, 6-3-13, Koutoubashi, Sumida-ku, Tokyo 130 Tel.: 03-633-7271	Health Room	1214
<b>C</b>			
CHOFU SEISAKUSHO CO., LTD.	2-1, Chofu, Ougimachi, Shimonoseki-shi, Yamaguchi 752 Tel.: 0832-48-1111	Water Heater, Air Conditioner, Oil Fan Heater, Solar System	1014
C. ITOH & CO., LTD.	2-5-1, Kita-Aoyama, Minato-ku, Tokyo 107 Tel.: 03-497-2121		2007

Company	Address	Exhibits	Booth No.
* INTER CENTRAL HEATERS CO., LTD.	Yamada Bldg., 48, Kanda-Higashi-Matsushita-cho, Chiyoda-ku, Tokyo 101 Tel.: 03-258-1271 Tlx.: 222-3685 INCNHS J	Hot Water Electric Baseboard Heater INTER-THERM (Intartherm Inc. U.S.A.), Radiant Infra Red Electric Panel Heater "Glass Heat"	
CLEANUP CORPORATION	6-22-22, Nishi-Nippori, Arakawa-ku, Tokyo 116 Tel.: 03-894-4771 Tlx.: 2655398 CLINUP J	Household Kitchen Equipment, Stainless Steel Door, Stainless Steel Bath Tub, Range Hood, Gas Cooker, etc.	2211
CPU CO., LTD.	2-1-24, Arimatsu, Kanazawa-shi 921 Tel.: 0762-41-0001	Interlocked Squaring System	2204
<b>D</b>			
DAIKYO KANKO CO., LTD.	4-19-18, Sendagaya, Shibuya-ku, Tokyo 151 Tel.: 03-476-1111	Model Room (Manston)	2116
DEMPA PUBLICATIONS, INC.	1-11-15, Higashi Gotanda, Shinagawa-ku, Tokyo 141 Tel.: 03-445-6111	Dempa-Shinbun, Solar-Guide-Book Denwaki-Guide, Gakken "Denkitan", OA-Jouhou, Computer-Design, OA-Pasocan	2008
<b>E</b>			
E.G.O. NIHON	6-4-10, Wakane-dori, Chuo-ku, Kobe 651 Tel.: 078-242-1531	Solid Element Cooktop	2310
ERECTA INTERNATIONAL CORPORATION	NS Bldg., 2-4-1, Nishi-Shinjuku, Shinjuku-ku, Tokyo 163 Tel.: 03-344-4611	Jacuzzi's Whirlpool Bath and Spa	1104
<b>F</b>			
FUJICLEAN INDUSTRY CO., LTD.	4-1-4, Imaike, Chikusa-ku, Nagoya 464 Tel.: 052-733-0325	Shower Toilet	2111
FUJI PLANT KOGYO	Kodachi 1909, Kawaguchikomachi, Minamitsuru-gun, Yamanashi 401-03 Tel.: 05557-3-1151	Energy Stations	2207

Company	Address	Exhibits	Booth No.
<b>G</b>			
GASSTAR CO., LTD.	3-4, Fukami-dai, Yamato-shi, Kanagawa 242 Tel.: 0462-62-0181	Water Heater, Bath Boilers	1109
GREEN LIFE CO., LTD.	4-1-9, Minami Yokka-machi, Sanjo-shi, Niigata 955 Tel.: 0256-35-3754	Pedestrian & Traffic Controlling Poles	1311
<b>H</b>			
HAJIME CO., LTD.	8-5-19, Toshima, Kita-ku, Tokyo 114 Tel.: 03-927-0111	Solar System	1012
HARMAN CO., LTD.	1-1-52, Minami-Ichloka, Minato-ku, Osaka 552 Tel.: 06-584-4000	Water Heater, System Kitchen	1111
HATAYA TOOL CO., LTD.	4-10-90, Ohsu, Naka-ku, Nagoya 460 Tel.: 052-261-3821	Cord Reels, Metal Sensor Reels, Gas Reels, Air Reels, Hose Reels, Hand Lamps, etc.	1220
HOUSING LOAN CORPORATION	1-40-10, Kouraku, Bunkyo-ku, Tokyo 112 Tel.: 03-812-1111	Information on Housing	1007
HOXAN CORP.	5-13-12, Ginza, Chuo-ku, Tokyo 104 Tel.: 03-543-6551	Both Units, Sanitary Ware	1101
<b>I</b>			
ICHIKAWA KENSO CO., LTD.	Takasago Bldg., 8-8-18, Nishi-Gotanda, Shinagawa- ku, Tokyo 141 Tel.: 03-490-3220	Anti-Mold Sealing Materials, Anti-Mold Painting System	1212
* LABORATORY OF ANTI-MICRO MICROBIAL TECHNOLOGY	Takasago Bldg. 4F, 8-8-18, Nishi-Gotanda, Shinagawa- ku, Tokyo 141 Tel.: 03-490-0740		
IKEGAMI TSUSHINKI CO., LTD.	1-1-11, Hamamatsu-cho, Minato-ku, Tokyo 105 Tel.: 03-433-5261	Ikegami Video Information System (Mr. Look 401, etc.)	2114
INABA DENKO CO., LTD.	4-16, Takaida Hondoori, Higashi-Osaka-shi, 577 Tel.: 06-783-5061 Fax.: 06-783-5079	Quality Piping Material and Service Tools	2205

\* Joint Company

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Company	Address	Exhibits	Booth No.
* INABA DENKI SANGYO CO., LTD.	1-4-6, Honden, Nishi-ku, Osaka 550 Tel.: 06-582-8651 Tlx.: 06-525-6804 ELINA J		
INAX CORPORATION	3-6, Koie-Honcho, Tokoname-shi, Aichi 479 Tel.: 05693-5-2700	System Kitchen, Bath Tab, Wash Basin, Water Closet with Washing Device, Sanitary Ware, Unit Bath, Shower Unit, Interior and Exterior Tile, Ceramic Tile, Floor Tile	1201
INOCON JAPAN K. K.	Conny Bldg. 5F, 1-6-3, Higashi-machi, Toyama 930 Tel.: 0764-21-2520 Tlx.: 05152-850 CONNY J	Pittashi-Sensor Finding Stud, Inogon Angle Indicator (Inogon INT AB, Sweden), Inogon Guide Light (Inogon INT AB, Sweden), Jet Clamp System (Sylvax Corp., USA), Rubber of Resist Vibrations	1221
INTER CENTRAL HEATERS CO., LTD.	Yamada Bldg., 4B, Kanda- Higashi-Matsushita-cho, Chiyoda-ku, Tokyo 101 Tel.: 03-258-1271 Tlx.: 222-3565 INCNHS J	Hot Water Electric Baseboard Heater INTERTHERM (Intertherm Inc. U.S.A.), Radiant Infra Red Electric Panel Heater "Glass Heat"	2007
* C. ITOH & CO., LTD.	2-5-1, Kita-Aoyama, Minato- ku, Tokyo 100-91 Tel.: 03-497-7095		
INTERFIELD	Mitsui Bldg. 5F, 2-1-1, Nishi Shinjuku, Shinjuku-ku, Tokyo 163 Tel.: 03-348-5671 Tlx.: J26970	Personal Computer	2311
ISHIKURA PETRO PLANT ENGINEERING MFG. CO., LTD.	1-14-2, Fukuura, Kanazawa- ku, Yokohama 236 Tel.: 045-784-1471	Underground Storage Chamber "Under Space"	1306
ITAL MARMO JAPAN INC.	Koito Bldg. 2F, 6-12-4, Nishi-Shinjuku, Shinjuku-ku, Tokyo 160 Tel.: 03-342-4551 Tlx.: J27149 ITALMAR	Italian Marble and Granite (Polished Slabs), Fire Place, Table Tops, Marble Rollers and Surfaces, etc.	1009
* SHINSHO KAIHATSU CO., LTD.	Eitero Bldg., 1-2-5, Nihon- bashi, Chuo-ku, Tokyo 103 Tel.: 03-276-2414		

\* Joint Company

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<b>J</b>			
JAPAN CERAMIC MOSAIC TILE MANUFACTURERS' ASSOCIATION	2105-4, Kasahara-cho, Toki-gun, Gifu 507 Tel.: 0572-43-3208	Ceramic Tiles (Interior and Exterior, Wall Tiles, Floor Tiles, Mosaic Tiles)	1206
JAPAN COPPER DEVELOPMENT ASSOCIATION	Konwa Bldg., 1-12-22, Tsukiji, Chuo-ku, Tokyo 104 Tel.: 03-542-6631 Tlx.: J23793	Copper Tubing for City Water Supply	1308
<b>K</b>			
KAWAGUCHI GIKEN CO., LTD.	1-14-41, Kami-Aoki, Kawaguchi-shi, Saitama 332 Tel.: 0482-65-5411	Aluminum Gate Doors, Frames for Drying Clothes, Saunas, Door Locks	2113
KEIDEN SANGYO CO., LTD.	1-12-1, Sugamo, Toshima-ku, Tokyo 170 Tel.: 03-945-0069 Tlx.: KEIDEN J 33652	Tag Card Locks, Home Security Systems	2002
KINSEI INDUSTRIES, INCORPORATED	768, Yanaka-cho, Takaseki-shi, Gunma 370-12 Tel.: 0273-46-2161	Kinsei Anti-Pollution Smokeless Incliner and Boiler	2401
KIRINDO CO., LTD.	2-7-12, Tsukiji, Chuo-ku, Tokyo 104 Tel.: 03-545-6431	Building Materials and Bath Tubs made of Japanese Cypress	1314
KISHU PAPER CO., LTD.	1-4-16, Dojimehama, Kita-ku, Osaka-shi, 530 Tel.: 06-345-6471	Construction Materials for Thermal Insulation, Sound Proof and Vapor Condensation Control	1210
KITAMURA VALVE CO., LTD.	308, Kurono, Gifu 501-11 Tel.: 0582-39-3111	Excellent Shower, Combination Faucet	2307
KOBAYASHI BLOCK INDUSTRY CO., LTD.	1-7-14, Futaba, Shinagawa-ku, Tokyo 142 Tel.: 03-783-0186 Fax.: 03-783-0188	GRC Manufactured Goods	1304
KODAIHINOKI CO., LTD.	4-11-2, Tokiwa, Urawa-shi, Saitama 338 Tel.: 0488-31-4126	Unit Bath Room, Cypress Wooden Bath Tub	1302
KOHLER JAPAN K. K.	3-19-23, Minami-Azabu, Minato-ku, Tokyo 106 Tel.: 03-440-4440	Bath, Lavatory, Toilet, Bidet, Faucet, Accessory	1203

Company	Address	Exhibits	Booth No.
KURITA WATER INDUSTRIES LTD.	3-4-7, Nishi-Shinjuku, Shinjuku-ku, Tokyo 160 Tel.: 03-347-3381	Preventive Agent for Reddish or Bluish Supply Water "Mizukurin", Feeding Unit "Mizukurin-Feeder", Cleaning Agent for Portable Water Supply Line "Cleanlife-L", Cleaning Agent for Portable Water Supply Tank "Cleanlife-T", Cleaning Agent for Electric Dust Cleaner "Kurichemical-AL", Cooling Water Automatically Controller "Sun-Catch"	2309
KYOWA CONCRETE INDUSTRY CO., LTD.	Yuraku Bldg., 1-B, Nishi, Minami 1-Jou, Chuo-ku, Sapporo 060 Tel.: 011-251-0181	Basement Units	1313
<b>L</b>			
LINDAL CEDAR HOMES JAPAN K. K.	No. 3 Sanwa Bldg., 4-5-4, Hiebashi, Chiyoda-ku, Tokyo 102 Tel.: 03-234-0661 Fax.: 03-221-7208	Lindal Cedar Home	1218
* SHINSHU CEDAR HOMES	Oduna, Mibusawa, Toyooka-mura, Shimolnagun, Nagano 399-32 Tel.: 0265-35-8327		
LIVING LIFE INC.	2-18-1, Maruyama, Funabashi-shi, Chiba 273 Tel.: 0474-39-3514	Interior and House Making Books	1001
<b>M</b>			
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.	National Tower 21 F, 2-1-61, Shiroki, Higashi-ku, Osaka 540 Tel.: 06-949-2121	System Kitchen, House Equipment, Home Automation System	2101
MATSUSHITA ELECTRIC WORKS LTD.	1048, Kadoma, Kadoma-shi, Osaka 571 Tel.: 06-908-1131	System Kitchen, etc.	2206
MEIKOSHA CO., LTD.	6-8-19, Shimomaguro, Meguro-ku, Tokyo 153 Tel.: 03-712-1106	Electrical Wiring Devices	1216

Company	Address	Exhibits	Booth No.
MIC	2-13-20, Nakano, Nakano-ku, Tokyo 164 Tel.: 03-380-2671	Sauna, Electromotive Beds	1113
MITSUBISHI ELECTRIC CORPORATION	2-2-3, Marunouchi, Chiyoda-ku, Tokyo 100 Tel.: 03-218-2111 Tlx.: J24532	House Keeping System, Tele-Control System, Intelligent Telephone	2107
MK SEIKO CO., LTD.	1825, Amenomiya, Kohshoku-shi, Nagano 387 Tel.: 0262-72-0601	Warm Shower Toilet (Microcomputer-Controlled Type, IC-Controlled Type), Separated Type Shower Toilet	2108
MONTE BUSSAN CO., LTD.	22-2, Shinsan-cho, Shibuya-ku, Tokyo 150 Tel.: 03-485-4481 Tlx.: 03-242-4648 MBTKO J	Sunshade Tent	1310
MYM CORPORATION	868, TomiInage, Miyama-cho, Yamagata-gun, Gifu 501-22 Tel.: 0581-52-2111	Thermostat Shower, Fine Ceramic One-Lever Shower	2109
<b>N</b>			
NAS STAINLESS CO., LTD.	3-7-13, Nihonbashi Ningyo- cho, Chuo-ku, Tokyo 103 Tel.: 03-662-3351	System Kitchen, Kitchen Furniture, Bath Room Units	2208
* NIPPON YAKIN KOGYO CO., LTD.	Ajinomoto Takaracho Bldg., 1-15-1, Kyobashi, Chuo-ku, Tokyo 104 Tel.: 03-567-8918		
NEC CORPORATION	5-33-7, Shiba, Minato-ku, Tokyo 108 Tel.: 03-453-5511	NEC Personal Computer, Integrated CAD System and Software for Housing	2301
NEPON INC.	1-4-2, Shibuya, Shibuya-ku, Tokyo 150 Tel.: 03-409-3131	Water Saving Type Toilet, Unit Toilet	2108
NICHIAS CORPORATION	1-1-26, Shibadaiimon, Minato-ku, Tokyo 105 Tel.: 03-433-7255 Fax.: 03-438-0600	Incombustible Building Materials, Calcium Silicate Board "Hometile", "Aslux", "Nokitan Board", Rockwool Insulation "Homamat"	1207
NIHON ITOMIC CO., LTD.	2-21-15, Chuo, Ohta-ku, Tokyo 143 Tel.: 03-776-5111 Tlx.: J02655116	Automatic Electric Boiler, Electric Hot Water Boiler, Electric Hot Water Heater	2212

\* Joint Company

Company	Address	Exhibits	Booth No.
NIHON SOGO SHUPPAN CO., LTD.	Kyodo Bldg., 2-4-10, Higashi-Shimbashi, Minato- ku, Tokyo 105 Tel.: 03-431-3491	Publications: "Modern European Architectures", "World Stores & Space Design"	1002
NIHON TOGYO CO., LTD.	4-1, Tougou-cho, Tokonama-shi, Aichi 479 Tel.: 05693-5-3353	Sanitary Equipment, Washing Stand, Water Drainage Unit for Bath Room	1011
NIKKEI MCGRAW-HILL INC.	1-1, Kanda Ogawamachi, Chiyoda-ku, Tokyo 101 Tel.: 03-233-8011 Tlx.: J26296 NKMCGRW	Publications: "Nikkai Business", "Nikkai Archi- tecture", "Nikkai Personal Computing", "Nikkai Venture"	1005.
NIPPI DENSHI CO., LTD.	2-28, Kusayanagi, Yamato- shi, Kanagawa 242 Tel.: 0462-60-2175	Parking Station Managing System	1312
NIPPON BENKAN KOGYO CO., LTD.	2-8-26, Sannoh, Ohta-ku, Tokyo 143 Tel.: 03-777-1531	Water Supply and Drainage System	1010
NIPPON HEATERTEC CD., LTD.	6-28-10, Minami-Ohi, Shinagawa-ku, Tokyo 140 Tel.: 03-758-6111	Well-Imbedded Type Fan Heater, Foot Warmer, Towel Hanger	1108
NIPPON INTERPHONE CO., LTD.	2-27-13, Nishlogi-Kite, Suginami-ku, Tokyo 167 Tel.: 03-395-1181 Tlx.: 2325237 TELECA J	Interphone	2105
NIPPON KINZOKU CO., LTD.	3-3-1, Marunouchi, Chiyoda-ku, Tokyo 100 Tel.: 02-212-8111 Fax.: 03-211-3730	Stainless Steel Gratings, Stainless Steel Roof Drain, Stainless Steel Valve Box, Metako Tile	1215
NIPPON UNIVAC KAISHA, LTD.	2-17-51, Akasaka, Minato-ku, Tokyo 107 Tel.: 03-585-4111 Fax.: 03-584-2300	Housing CAD System, Housing Accounting System, EF Realty System	2303
NIPPO VALVE INDUSTRIAL CO., LTD.	3046, Sasage, Matsumoto-shi, Nagano 399 Tel.: 0263-58-2705 Fax.: 0263-85-3128	Automatic Anti-Freeze System, Anti-Back-Flow Preventor	2213
NISSERA CO., LTD.	1-3-6, Kolka, Inazawa-shi, Aichi 492 Tel.: 0587-21-3313	Sanitary Ware, Bath Tubs	2112

Company	Address	Exhibits	Booth No.
<b>NORITZ CORPORATION</b>	Meikai Bldg., 32, Akashi-cho, Chuo-ku, Kobe-shi 650 Tel.: 078-391-3319	Central Heating System, Solar System, Gas Water Heaters, Mixing Units, Bath Tubs, Home Sauna, Warm Shower Toilets, Home Automation Equipment	1202
<b>O</b>			
<b>OBA YASHI SANGYO CORP.</b>	358-2, Kamimachiya, Kamakura-shi, Kanagawa 247 Tel.: 0467-43-1821	Burglary-Resistive System and Equipment	2005
<b>OHSATO-KOGYO COMPANY LIMITED</b>	23, Satokawa-machi, Komatsu-shi, Ishikawa 923 Tel.: 0761-47-3607	Western-Style Bathroom Unit, Japanese-Style Bathroom Unit, Domestic Type Bath for Welfare	1112
<b>OMCO HIGASHINIHON</b>	8-20-27, Takashimadaira, Itabashi-ku, Tokyo 175 Tel.: 03-936-0300	Alkali Ion Water Maker	1114
<b>P</b>			
<b>PALOMA INDUSTRIES, INC.</b>	1-28-9, Aobadai, Meguro-ku, Tokyo 153 Tel.: 03-791-2541	Water Heater, Bath Boiler	1110
<b>PANAFACOM LTD.</b>	NP Onarimon Bldg., 3-25-33, Nishi-Shinbashi, Minato-ku, Tokyo 105 Tel.: 03-438-0311	Total System for Housing Construction	2304
<b>PINCH BLOCK COMPANY LTD.</b>	4-12-39, Shibaure, Minato-ku, Tokyo 108 Tel.: 03-456-0531	Sound-Proof, Heat-Interrupting Special Packing Materials, Cushion Floor Materials, Floor Heating System	1208
<b>PROSPER CO., LTD.</b>	669-1, Sakureshinmachi, Nagano 380 Tel.: 0262-43-6348	Floor Heating System, Fan Heater, Flyer	2110
<b>R</b>			
<b>RINNAI CORPORATION</b>	2-9-1, Shibadalmon, Minato-ku, Tokyo 105 Tel.: 03-431-7364	Water Heater, Bath Boiler, Cooking Appliances, Heating and Cooling Appliance, Automatic Gas Meter Reading System	1106

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<b>S</b>			
<b>SAN-AI</b>	2-15-2-1107, Akabane-Kita, Kita-ku, Tokyo 115 Tel.: 03-907-6456	Cleaning Appliances, Can Openers	1217
<b>SANYO ELECTRIC TOKKI CO., LTD.</b>	1-1-10, Ueno, Taito-ku, Tokyo 110 Tel.: 03-835-1111	Small Oil Water Heater, Inverter Water Heater, Gas Water Heater, Floor Heating System, Home Automation System	2103
<b>* SANYO ELECTRIC CO., LTD.</b>	2-18, Keihan-Hondori, Moriguchi-shi, Osaka 570 Tel.: 06-991-1181		
<b>SCIENCE INC.</b>	2-88-1, Miyahara-cho, Ohmiya-shi, Saitama 330 Tel.: 0486-66-7733	Japanese Bath System	2009
<b>SECOM CO., LTD.</b>	Shinjuku Nomura Bldg., 1-26-2, Nishi-Shinjuku, Shinjuku-ku, Tokyo 163 Tel.: 03-348-7511	Home Security System	2201
<b>SEKISUI CHEMICAL CO., LTD.</b>	3-4-7, Toranomon, Minato-ku, Tokyo 105 Tel.: 03-434-9075 Tlx.: 02424303 SEKITK J	Metal-Reinforced Composite Plastic Pipes, Drain Collecting Plastic Box in Housing Site	1301
<b>SHO-DN GIKEN CO., LTD.</b>	1-9-11, Koshikawa, Bunkyo-ku, Tokyo 112 Tel.: 03-815-7091 Fax.: 03-812-6073	1K-Type Silencer, Ventilating Noise Filter, 1K-Type Noise Filter	2117
<b>SHOWA ALUMINUM CORPORATION</b>	3-6-5, Hidabeshi, Chiyoda-ku, Tokyo 102 Tel.: 03-239-5385	Sunroom, Green House	1209
<b>SOLAR SYSTEM DEVELOPMENT ASSOCIATION</b>	No. 3 Mori Bldg., 1-4-10, Nishi-Shinbashi, Minato-ku, Tokyo 105 Tel.: 03-593-3636	Solar System Catalogue, P. R. Display, etc.	1013
<b>SONY CORPORATION</b>	6-7-35, Kite-Shinagawa, Shinagawa-ku, Tokyo 141 Tel.: 03-448-2111	Security System	2001
<b>SUN WAVE INDUSTRIAL CO., LTD.</b>	Kyodo Bldg., 3-1, Honcho, Nihonbashi, Chuo-ku, Tokyo 103 Tel.: 03-278-4311 Tlx.: J 23234	System Kitchen, Vanity, Bath Tub, Heat Pump Air Conditioner with Hot Water Supply System	2209

Company	Address	Exhibits	Booth No.
SYSTEM MAC CO., LTD.	2-20-26, Dogenzaka, Shibuya-ku, Tokyo 150 Tel.: 03-463-8989	Automatic Interlocked Management System for Housing Design and Squaring	2203
TABUCHI MFG. WORKS CO., LTD.	2-1-56, Uruwari-Minami, Hirano-ku, Osaka 547 Tel.: 06-708-0150 Fax.: 06-708-0210	Faucets, Mixing Unit, Thermostatic Mixing Unit, Calor Mixing Unit	2308
<b>T</b>			
TACHIKAWA CORPORATION	4-30-7, Yoyogi, Shibuya-ku, Tokyo 151 Tel.: 03-378-1111	Blinds, Room Partitions	1213
TAKAGI INDUSTRIAL CO., LTD.	201, Nishi Kashiwabara Shinden, Fuji-shi, Shizuoka 417 Tel.: 0545-33-0700	Bath Boiler, Water Heater	1102
TAKARA STANDARD CO., LTD.	1-2-1, Shigino Higashi, Joutou-ku, Osaka 536 Tel.: 06-982-1531 Tlx.: 5296558	System Kitchen, System Bath Boiler	2210
TAMURA ELECTRIC WORKS, LTD.	2-2-3, Shimomeguro, Meguro-ku, Tokyo 153 Tel.: 03-493-5111 Tlx.: 0246821B PAYFON J	Interior Telephones, Key Telephone, Home Security, etc.	2003
TECHNOVISION INC.	Maruyoshi Bldg., 203, Sakido Tama-shi, Tokyo 206 Tel.: 0423-73-0521	CAD for Architecture	2302
TOKYO DENKI KOGYO CO., LTD.	4-16-4, Shiba, Minato-ku, Tokyo 108 Tel.: 03-452-3991	Electric Storage Heater, Electric Convection Heater, Electric Hot Water Heater, Electric Instantaneous Water Heater, Hand Dryer	2202
TOKYO ELECTRIC POWER COMPANY, INC. The	1-1-3, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100 Tel.: 03-501-8111	Domestic Water Heater, Electric Cooking Heater, Electro Magnetic Cookers, Floor Heating System, Heat Pump Air Conditioner	2102
TOKYO SOKKI CO., LTD.	1-12-16, Momoi, Suginami-ku, Tokyo 167 Tel.: 03-397-7811	Surveying and Drafting Machines	2305
TOSHIBA CORPORATION	Toshiba Bldg., 1-1-1, Sibaure, Minato-ku, Tokyo 105 Tel.: 03-457-4511	Home Control System, Air Conditioner, Ventilating Fan, etc.	2104

Company	Address	Exhibits	Booth No.
* TOSHIBA SETSUBI KIKI CO., LTD.	Danpa Bldg., 1-11-15, Higashi-Gotande, Shinagawa-ku, Tokyo 105 Tel.: 03-440-8333 Fax.: 03-440-0531		
TOSHIN CO., LTD.	2-35-13, Chuo-cho, Meguro-ku, Tokyo 152 Tel.: 03-715-5568	G.R.C. Products: Balustrade, Planter, etc.	1303
TOTSUKO CORPORATION	Sweden Center Bldg. 4F, 6-11-9, Roppongi, Minato-ku, Tokyo 106 Tel.: 03-403-0357	"Andersen" Window, "Memphis" Hardwood Flooring	1222
TOYO SASH CO., LTD.	Fukokusei Bldg. 10F, 2-2-2, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100 Tel.: 03-591-3155	Aluminum Sash, Aluminum Door, Sliding Door, Sliding Plastic Sash Bay Window	1204
TSUNASHIMA & CO., LTD.	3-20-12, Yushima, Bunkyo-ku, Tokyo 113 Tel.: 03-833-1331	Refrigerator (G-E, AMANA, U.S.A.), Washer (G-E, White-Westinghouse, U.S.A.), Dryer (G-E, White-Westinghouse, U.S.A.), Dishwasher (G-E, White-Westinghouse, U.S.A.), Gas Range (Magic Chef, U.S.A.), Disposer (Waste King, White-Westinghouse, U.S.A.)	2004
<b>U</b>			
URBAN UNDER UNIT CO., LTD.	2-1-14, Shinjuku, Shinjuku-ku, Tokyo 160 Tel.: 03-354-1090	Underground Room, Underground Storage Facilities, etc.	1305
<b>V</b>			
VIP GLOBAL CO., LTD.	6-7-17, Nishinakajima, Yodogawa-ku, Osaka 532 Tel.: 06-304-9515	High-Grade Roller Chairs, Radiant Infrared Mats, Sauna	1219
<b>Y</b>			
YAJIMA CO., LTD.	4-1-3, Honcho, Kogenai-shi, Tokyo 184 Tel.: 0423-83-3388	System Kitchen, Japanese Bath Unit, Sauna	1103

Company	Address	Exhibits	Booth No.
YAMAZAKI SANSYO CO., LTD.	6-12-1, Kamaido, Kohto-ku, Tokyo 136 Tel.: 03-682-2111	Bow Window Units	1107
YANMAR INDUSTRY LTD.	7-13-4, Ginza, Chuo-ku, Tokyo 104 Tel.: 03-542-0211	Faucet (Single Handle Type)	2308
YANO RESEARCH INSTITUTE LTD.	2-10-1, Nihonbashi Hamacho, Chuo-ku, Tokyo 103 Tel.: 03-667-0251 Tlx.: 2522278 YANO J	Publication of Marketing Books Based on Research	1003
YOSHIDA KOGYO K. K.	1, Kandaizumi-cho, Chiyoda-ku, Tokyo 101 Tel.: 03-864-2177	Garage, Awning, Bay Window, Door	1105

## Z

ZEON KASEI CO., LTD.	6-9-7, Shinbashi, Minato-ku, Tokyo 105 Tel.: 03-433-2144	"Sandam" sheets are highly valued for their performances as a noise control barrier for industrial and housing applications.	1309
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## Foreign Exhibitors

### Group Stand of Italy

Centro Estero Camere di Commercio del Lazio  
Via de' Burrò, 147 - 00186 Roma  
Tel.: (06) 6794541  
Telex 616376 CAROMA

Organizzazione Caselli SRL  
P.O. Box 130 - Via Magenta, 19 - 50100 Firenze  
Tel.: (055) 284292/283174  
Telex 572 134 CASELL I

Booth No. 1205

Company	Address	Exhibits
MATRACO SAS DI F. DATTI & C.	Via Acquaragna, 171 00019 Tivoli, Roma Tel. (0774) 528065/525626 Tlx. 614627 MTCDDT	Travertine in blocks, Plates and Processed
M.T.C. SAS DI C. DATTI & C.	Via Empolitana, 8 - 00019 Tivoli, Roma Tel. (0774) 52065/525626 Tlx. 814627 MTCDDT	Travertine in blocks, Plates and Processed
S.I.C.O. MARMI SRL	Via Ravano, 1 - 03040 Pignatero Interamna Frosinone Tel. (0776) 94038/94279 Tlx. 812199 SICOMO	Marble Royal
CERAMICA ETRURIA SPA	Via Civitacastellana - 01030 Castel Sant'Elia, Viterbo Tel. (0761) 516809/516854 Tlx. 811659 CERETR	Sanitary Ware, Ceramic Sanitary
LIVING SRL	Via Cancelliera - 00040 Albano Laziale, Roma Tel. (06) 9342517/9343388	Residential Furniture

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CHOFU SEISAKUSHO CO., LTD. - 1014  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. - 2101

RINNAI CORPORATION - 1106  
TOKYO ELECTRIC POWER COMPANY, INC. The - 2102  
TOSHIBA CORPORATION - 2104

### Boilers

CHOFU SEISAKUSHO CO., LTD. - 1014  
FUJI PLANT KOGYO - 2207  
KINSEI INDUSTRIES, INCORPORATED - 2401  
NIHON ITOMIC CO., LTD. - 2212  
TOKYO DENKI KOGYO CO., LTD. - 2202

### Central Heating System

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### Pipes

SEKISUI CHEMICAL CO., LTD. - 1301

### Piping Materials

JAPAN COPPER DEVELOPMENT ASSOCIATION - 1308  
NIPPON BENKAN KOGYO CO., LTD. - 1010  
NIPPON KINZOKU CO., LTD. - 1215  
SEKISUI CHEMICAL CO., LTD. - 1301

### Others

INABA DENKO CO., LTD. - 2205  
NIHON TOGYO CO., LTD. - 1011

## D. HOT WATER SUPPLY

### Electric Water Heaters

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. - 2101  
NIHON ITOMIC CO., LTD. - 2212  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO DENKI KOGYO CO., LTD. - 2202  
TOKYO ELECTRIC POWER COMPANY, INC. The - 2102

### Gas Water Heaters

CHOFU SEISAKUSHO CO., LTD. - 1014  
GASSTAR CO., LTD. - 1109  
HARMAN CO., LTD. - 1111  
HOXAN CORP. - 1101  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. - 2101  
NORITZ CORPORATION - 1202  
PALOMA INDUSTRIES, INC. - 1110  
RINNAI CORPORATION - 1106  
SANYO ELECTRIC TOKKI CO., LTD. - 2103  
TAKAGI INDUSTRIAL CO., LTD. - 1102

### Instant Water Heaters (Oil)

CHOFU SEISAKUSHO CO., LTD. - 1014  
SANYO ELECTRIC TOKKI CO., LTD. - 2103  
TAKAGI INDUSTRIAL CO., LTD. - 1102

### Mixing Units

HOXAN CORP. - 1101  
KITAMURA VALVE CO., LTD. - 2307  
MYM CORPORATION - 2109  
NORITZ CORPORATION - 1202  
TABUCHI MFG. WORKS CO., LTD. - 2306  
YANMAR INDUSTRY LTD. - 2308

## E. KITCHEN APPLIANCES

### Cooking Appliances

E.G.O. NIHON - 2310  
HARMAN CO., LTD. - 1111  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. - 2101



PROSPER CO., LTD. - 2110  
RINNAI CORPORATION - 1106  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The 2102

#### Dish Dryers

CLEANUP CORPORATION - 2211  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The 2102  
TSUNASHIMA & CO., LTD. - 2004

#### Range Hoods

CLEANUP CORPORATION - 2211  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102

#### Ranges

CLEANUP CORPORATION - 2211  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
RINNAI CORPORATION - 1106  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TSUNASHIMA & CO., LTD. - 2004

#### Refrigerators

CLEANUP CORPORATION - 2211  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102  
TSUNASHIMA & CO., LTD. - 2004

#### Sinks

CLEANUP CORPORATION - 2211  
KOHLER JAPAN K.K. - 1203  
NAS STAINLESS CO., LTD. - 2208  
NIPPON HEATERTEC CO., LTD. - 1108  
SUN WAVE INDUSTRIAL CO., LTD. - 2209

#### System Kitchen

CLEANUP CORPORATION - 2211  
INAX CORPORATION - 1201  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
NAS STAINLESS CO., LTD. - 2208  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The 2102

#### Others

CPU CO., LTD. - 2204  
DAIKYO KANKO CO., LTD. - 2116  
ITAL MARMO JAPAN INC. - 1009  
KOHLER JAPAN K.K. - 1203  
OMCO HIGASHINION - 1114  
SAN-AI - 1217  
SHO-ON GIKEN CO., LTD. - 2117  
TSUNASHIMA & CO., LTD. - 2004

### F. BATH TUBS AND BATH ROOM ACCESSORIES

#### Bath Accessories

KODAIHINOKI CO., LTD. - 1302

#### Bath Boilers

CHOFU SEISAKUSHO CO., LTD. - 1014  
GASSTAR CO., LTD. - 1109  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
NORITZ CORPORATION - 1202  
PALOMA INDUSTRIES, INC. - 1110

TAKAGI INDUSTRIAL CO., LTD. - 1102  
TAKARA STANDARD CO., LTD. - 2210  
RINNAI CORPORATION - 1106

#### Bath Tubs

CHOFU SEISAKUSHO CO., LTD. - 1014  
CLEANUP CORPORATION - 2211  
ERECTA INTERNATIONAL CORPORATION  
- 1104  
HOXAN CORP. - 1101  
INAX CORPORATION - 1201  
KIRINDO CO., LTD. - 1314  
KODAIHINOKI CO., LTD. - 1302  
KOHLER JAPAN K. K. - 1203  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
NISSERA CO., LTD. - 2112  
NORITZ CORPORATION - 1202  
OHSATO-KOGYO COMPANY LIMITED  
- 1112  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKAGI INDUSTRIAL CO., LTD. - 1102  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102  
YAJIMA CO., LTD. - 1103

#### Home Sauna

MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
MIC - 1113  
NIPPON HEATERTEC CO., LTD. - 1108  
NORITZ CORPORATION - 1202  
KAWAGUCHI GIKEN CO., LTD. - 2113  
YAJIMA CO., LTD. - 1103

#### Others

DAIKYO KANKO CO., LTD. - 2116  
KODAIHINOKI CO., LTD. - 1302  
KOHLER JAPAN K. K. - 1203  
NIHON TOGYO CO., LTD. - 1011  
SAN-AI - 1217  
SCIENCE INC. - 2009

### WASHING STANDS AND APPLIANCES

#### Vanity Cabinets

SUN WAVE INDUSTRIAL CO., LTD. - 2209

#### Wash Basins

HOXAN CORP. - 1101  
KOHLER JAPAN K. K. - 1203

#### Washing Stands

CLEANUP CORPORATION - 2211  
INAX CORPORATION - 1201  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
NIHON TOGYO CO., LTD. - 1011  
NIPPON HEATERTEC CO., LTD. - 1108  
SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210  
TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102  
TOYO SASH CO., LTD. - 1204  
YAJIMA CO., LTD. - 1103

#### Others

KOHLER JAPAN K. K. - 1203

### H. SANITARY EQUIPMENT

#### Sanitary Ware

CENTRO ESTERO CAMERE DI  
COMMERCIO DEL LAZIO - 1205  
HOXAN CORP. - 1101  
INAX CORPORATION - 1201  
KOHLER JAPAN K. K. - 1203  
NISSERA CO., LTD. - 2112

#### Shower Toilets

CHOFU SEISAKUSHO CO., LTD. - 1014  
FUJICLEAN INDUSTRY CO., LTD. - 2111  
INAX CORPORATION - 1201  
KITAMURA VALVE CO., LTD. - 2307  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101

MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206

MK SEIKO CO., LTD. - 2106  
NORITZ CORPORATION - 1202

TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102

Water Saving Type Toilet System  
NEPON INC. - 2108

#### Others

KINSEI INDUSTRIES, INCORPORATED  
- 2401

KOHLER JAPAN K. K. - 1203

### I. DISASTER PREVENTING AND BURGLARY-RESISTIVE EQUIPMENT

Burglary-Resistive System and Equipment  
OBAYASHI SANGYO CORP. - 2005

Parking Station Management System  
NIPPI DENSHI CO., LTD. - 1312

Video Information System  
IKEGAMI TSUSHINKI CO., LTD. - 2114

### J. UNIT EQUIPMENT

#### Bath Units

HOXAN CORP. - 1101  
INAX CORPORATION - 1201  
KODAIHINOKI CO., LTD. - 1302  
NAS STAINLESS CO., LTD. - 2208  
OHSATO-KOGYO COMPANY LIMITED  
- 1112  
TAKARA STANDARD CO., LTD. - 2210

#### Dining Units

SUN WAVE INDUSTRIAL CO., LTD. - 2209  
TAKARA STANDARD CO., LTD. - 2210

#### Kitchen Units

CLEANUP CORPORATION - 2211  
YAJIMA CO., LTD. - 1103

#### Shower Units

INAX CORPORATION - 1201

### K. HOME INTERIOR

#### Blinds

TACHIKAWA CORPORATION - 1213

#### Door Locks/Closers

KAWAGUCHI GIKEN CO., LTD. - 2113

#### Doors

CLEANUP CORPORATION - 2211  
KAWAGUCHI GIKEN CO., LTD. - 2113  
TOTSUKO CORPORATION - 1222  
TOYO SASH CO., LTD. - 1204  
YOSHIDA KOGYO K. K. - 1105  
ZEON KASEI CO., LTD. - 1309

#### Furnishings

CENTRO ESTERO CAMERE DI  
COMMERCIO DEL LAZIO - 1205  
ITAL MARMO JAPAN INC. - 1009

#### Illuminators

TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102

#### Living Sets

CENTRO ESTERO CAMERE DI  
COMMERCIO DEL LAZIO - 1205

#### Sashes

TACHIKAWA CORPORATION - 1213  
TOYO SASH CO., LTD. - 1204  
YOSHIDA KOGYO K. K. - 1105

#### Systematic Storage Furniture

ABE KOGYO CO., LTD. - 1307

MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206

#### Others

DAIKYO KANKO CO., LTD. - 2116  
VIP GLOBAL CO., LTD. - 1219

### L. HOME EXTERIOR

#### Gardening Facilities

MONTE BUSSAN CO., LTD. - 1310  
SHOWA ALUMINIUM CORPORATION  
Housing Materials Division - 1209  
TOSHIN CO., LTD. - 1303

#### Gate Doors, Fences

GREEN LIFE CO., LTD. - 1311

#### Sunrooms, Sun Decks

SHOWA ALUMINIUM CORPORATION  
Housing Materials Division - 1209

#### Shutters, Garages

YOSHIDA KOGYO K. K. - 1105

#### Underground Rooms, Soundproof Chambers

SHO-ON GIKEN CO., LTD. - 2117  
URBAN UNDER UNIT CO., LTD. - 1305  
ZEON KASEI CO., LTD. - 1309

#### Windows, Bow Window Units

TOTSUKO CORPORATION - 1222  
TOYO SASH CO., LTD. - 1204  
YAMAZAKI SANSYO CO., LTD. - 1107

#### Others

ALNA LIVING CO., LTD. - 2402  
ART KENSETSU CO., LTD. - 1214  
ISHIKURA PETRO PLANT ENGINEERING  
MFG. CO., LTD. - 1306  
KAWAGUCHI GIKEN CO., LTD. - 2113  
SHO-ON GIKEN CO., LTD. - 2117

### M. BUILDING MATERIALS

Bricks, Stone Materials, Roofing Tiles  
ITAL MARMO JAPAN INC. - 1009

#### Ceramic Tiles

INAX CORPORATION - 1201  
JAPAN CERAMIC MOSAIC TILE  
MANUFACTURERS' ASSOCIATION  
- 1206

#### Floorings, Ceiling Materials

ITAL MARMO JAPAN INC. - 1009  
KIRINDO CO., LTD. - 1314  
KODAIHINOKI CO., LTD. - 1302  
PINCH BLOCK COMPANY LTD. - 1208  
TOTSUKO CORPORATION - 1222

#### Flooring Tiles

INAX CORPORATION - 1201  
JAPAN CERAMIC MOSAIC TILE  
MANUFACTURERS' ASSOCIATION  
- 1206  
KODAIHINOKI CO., LTD. - 1302  
NIPPON KINZOKU CO., LTD. - 1215

#### GRC Products

KOBAYASHI BLOCK INDUSTRY CO., LTD.  
- 1304  
TOSHIN CO., LTD. - 1303

#### Heat Insulation Materials

ABC TRADING CO., LTD. - 1211  
KISHU PAPER CO., LTD. - 1210  
NICHIAS CORPORATION - 1207

#### Metal Sidings

TOYO SASH CO., LTD. - 1204

#### Mosaic Tiles

JAPAN CERAMIC MOSAIC TILE  
MANUFACTURERS' ASSOCIATION  
- 1206

**New Materials for Housing, Building  
Materials of New Types**

NICHIAS CORPORATION - 1207  
KISHU PAPER CO., LTD. - 1210  
KYOWA CONCRETE INDUSTRY CO., LTD.  
- 1313

**Roofings**

CLEANUP CORPORATION - 2211  
NAS STAINLESS CO., LTD. - 2208

**Sound Absorption Materials, Sound  
Insulation Materials, Vibration-  
Proof Materials**

KISHU PAPER CO., LTD. - 1210  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
PINCH BLOCK COMPANY LTD. - 1208  
SHO-ON GIKEN CO., LTD. - 2117  
ZEON KASEI CO., LTD. - 1309

**Tiles for Interior, Exterior**

CENTRO ESTERO CAMERE DI  
COMMERCIO DEL LAZIO - 1205  
INAX CORPORATION - 1201  
JAPAN CERAMIC MOSAIC TILE  
MANUFACTURERS' ASSOCIATION  
- 1206  
NICHIAS CORPORATION - 1207

**Wall Panels**

CLEANUP CORPORATION - 2211  
ITAL MARMO JAPAN INC. - 1009  
NICHIAS CORPORATION - 1207  
NAS STAINLESS CO., LTD. - 2208  
KIRINDO CO., LTD. - 1314  
KODAIHINOKI CO., LTD. - 1302  
TOYO SASHI CO., LTD. - 1204

**Others**

ITAL MARMO JAPAN INC. - 1009  
NIPPON KINZOKU CO., LTD. - 1215  
KIRINDO CO., LTD. - 1314  
LINDAL CEDAR HOMES JAPAN K.K. - 1218

**N. HOUSING MAINTENANCE  
MATERIALS**

**Adherent, Sealing Materials, Tapes**  
ICHIKAWA KENSO CO., LTD. - 1212

**Cleaning Agents**

KURITA WATER INDUSTRIES LTD. - 2309

**Cleaning Apparatuses, Cleaning Machines**

KURITA WATER INDUSTRIES LTD. - 2309  
SAN-AI - 1217

**Decorative Materials for Wall**

ICHIKAWA KENSO CO., LTD. - 1212

**Paints and Painting Materials**

ICHIKAWA KENSO CO., LTD. - 1212

**Tools and Instruments for Maintenance**

HATAYA TOOL CO., LTD. - 1220  
INOOGON JAPAN K. K. - 1221

**Water-Proof Materials, Spraying  
Materials**

ICHIKAWA KENSO CO., LTD. - 1212

**Wiring Apparatuses and Related  
Electric Parts**

MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
MEIKOSHA CO., LTD. - 1216

**O. HOUSING INFORMATION**

**Computer-Aided Design System for  
Housing and Housing Facilities**

CPU CO., LTD. - 2204  
NEC CORPORATION - 2301  
NIPPON UNIVAC KAISHA, LTD. - 2303  
PANAFACOM LTD. - 2304  
SYSTEM MAC CO., LTD. - 2203  
TECHNOVISION INC. - 2302

**Consulting about Housing**

HOUSING LOAN CORPORATION - 1007

**On-Line Real Estate Information**

NIPPON UNIVAC KAISHA, LTD. - 2303

**Publications**

DEMPA PUBLICATIONS, INC. - 2008  
LIVING LIFE INC. - 1001  
NIHON SOGO SHUPPAN CO., LTD. - 1002  
NIKKEI MCGRAW-HILL INC. - 1005  
YANO RESEARCH INSTITUTE LTD. - 1003

**Squaring System**

CPU CO., LTD. - 2204  
SYSTEM MAC CO., LTD. - 2203

**Others**

LIVING LIFE INC. - 1001  
NIKKEI MCGRAW-HILL INC. - 1005  
NIPPON UNIVAC KAISHA, LTD. - 2303  
TOKYO SOKKI CO., LTD. - 2305

**P. MACHINES AND EQUIPMENT  
FOR THE AGED,  
HANDICAPPED PERSON**

**Electromotive Beds**

MIC - 1113

**Floor Heating System**

PROSPER CO., LTD. - 2110

**HOME AUTOMATION**

**A. TOTAL SYSTEM**

**Home Automation Network System**  
MATSUSHITA ELECTRIC INDUSTRIAL  
CO., LTD. - 2101  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
SECOM CO., LTD. - 2201  
TOKYO ELECTRIC POWER COMPANY,  
INC. The - 2102

**B. SECURITY SYSTEM**

**Burglary Resistive System**  
AIPHONE CO., LTD. - 2006  
KEIDEN SANGYO CO., LTD. - 2002  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
OBAYASHI SANGYO CORP. - 2005  
SANYO ELECTRIC TOKKI CO., LTD. - 2103  
SECOM CO., LTD. - 2201  
SONY CORPORATION - 2001  
TAMURA ELECTRIC WORKS, LTD. - 2003  
TOSHIBA CORPORATION - 2104

**Disaster Preventing System**

AIPHONE CO., LTD. - 2006  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
SANYO ELECTRIC TOKKI CO., LTD. - 2103  
SECOM CO., LTD. - 2201  
TAMURA ELECTRIC WORKS, LTD. - 2003  
TOSHIBA CORPORATION - 2104

**Display and Communication System**

KAWAGUCHI GIKEN CO., LTD. - 2113

MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
SECOM CO., LTD. - 2201  
TAMURA ELECTRIC WORKS, LTD. - 2003  
TOSHIBA CORPORATION - 2104

### C. INFORMATION COMMUNICATING SYSTEM

**Home Telephone**  
AIPHONE CO., LTD. - 2006  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
NIPPON INTERPHONE CO., LTD. - 2105  
TAMURA ELECTRIC WORKS, LTD. - 2003

**Interphone, Door Phone**  
AIPHONE CO., LTD. - 2006  
NIPPON INTERPHONE CO., LTD. - 2105  
SANYO ELECTRIC CO., LTD. - 2103  
TAMURA ELECTRIC WORKS, LTD. - 2003  
TOSHIBA CORPORATION - 2104

**Telecontrol**  
MATSUSHITA ELECTRIC WORKS, LTD.  
- 2206  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
NORITZ CORPORATION - 1202  
SANYO ELECTRIC CO., LTD. - 2103  
TOSHIBA CORPORATION - 2104

**Others**  
AIPHONE CO., LTD. - 2006  
MITSUBISHI ELECTRIC CORPORATION  
- 2107

### D. NEW MEDIA

**CATV System**  
INTERFIELD - 2311

**Videotex**  
INTERFIELD - 2311

**Others**  
INTERFIELD - 2311

### E. LIVING ENVIRONMENT CONTROL SYSTEM

**Air Conditioning, Ventilation,  
Air Cooling and Heating**  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
TOSHIBA CORPORATION - 2104

**Cookroom, Bathroom**  
NORITZ CORPORATION - 1202

**Hot Water Supply, Sanitary**  
NORITZ CORPORATION - 1202

**Illumination, Lighting, Acoustic Effect**  
MITSUBISHI ELECTRIC CORPORATION  
- 2107  
TOSHIBA CORPORATION - 2104

### F. OTHER HOME AUTOMATION RELATED MACHINERY AND EQUIPMENT

**Electronics • Computer Hardware/  
Software Information System**  
NIKKEI MCGROW-HILL INC. - 1005

**Integrated Home Automation System**  
AIPHONE CO., LTD. - 2006

EXHIBITION PREVIEW

JAPAN HOME SHOW '87  
8 - 12 September, 1987  
Tokyo International Trade Center

**FOR FURTHER INFORMATION, CONTACT:**

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