

AVERAGE WORK FORCE: 250

GROSS SALES: No Data

PLANT SIZE: 100,000 Sq Ft (Manufacturing Area)

EQUIPMENT: Equipment consists of a full range of CNC and NC profile milling machines including 2 five-axis CNC gantry profile milling machines; four-axis CNC travelling column machining centers with automatic tool changers; hydraulic trace profile milling machines; vertical, horizontal and universal mills; CNC and conventional lathes; boring mills; drilling and grinding tools and all other necessary support equipment to produce precision custom products.

EXPERIENCE: Present customers include: The Boeing Co, Boeing Military Airplane Co, Cleveland Pneumatic Co, The deHavilland Aircraft of Canada Ltd, Ernst Leitz Canada Ltd, Fleet Industries, Indal Technologies Inc, Kaman Aerospace Corp, Lockheed Georgia Company, McDonnell Douglas Canada Ltd, Menasco Aerospace Ltd, Martin Marietta Aerospace, and Spar Aerospace.

KEYWORDS: Aluminum Alloys; CNC Machining; Helicopter Hubs; Helicopter Retentions; High Strength Steels; Hydraulic Actuators; Landing Gear Components; Machining; Precision Machining; Precision Parts; Structural Components; Titanium.

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CIBA-GEIGY CANADA Ltd

ADDRESS: 6860 Century Avenue
Mississauga, Ontario, Canada
L5N 2W5

CONTACT: Mr Niels M Nielsen, Industry Specialist - Composite Materials (416) 821-4420

HISTORY: CIBA-GEIGY Canada Ltd is a Canadian member company of the worldwide CIBA-GEIGY Corporation based in Basel, Switzerland. The company was formed on 1 January 71 by the merger of two well established chemical corporations. CIBA has been operating in Canada since 1922 and GEIGY since 1945. The group consists of affiliates in some 60 countries, employing more than 80,000 people.

CAPABILITY: CIBA-GEIGY 's Plastics Division would be of primary interest to this survey. CIBA-GEIGY Plastics include synthetic resin systems and moulding compounds based on epoxies and other thermoset specialty resins. Their products, owing to their excellent adhesive qualities, toughness, chemical resistance and non-conductive properties, find their way into a wide range of applications such as construction, aerospace engineering, automotive, tooling, adhesives and electrical applications. In combination with fiber reinforcement, such as fiberglass, aramid and graphite, their resins are used to make aircraft and other military/civilian structures. These high performance, lightweight fabricated products are especially valuable for aerospace applications. They include unique lightweight, honeycomb structures - made from aluminum foil and aramid in paper form - and decorative reinforced plastics laminates.

The head office (Plastics Division) with warehouse/manufacturing is located in Mississauga, Ontario. There is also a warehouse located in Dorval, Quebec.

AVERAGE WORK FORCE: Over 15 (Plastics Division)

GROSS SALES: 1986 - \$12M (Plastics Division)
1987 - \$15M (Plastics Division)

EXPERIENCE: CIBA-GEIGY 's current customer list includes: the Canadian and US Governments, as well as all major industries in Canada and the US involved in aerospace design and manufacture.

KEYWORDS: Composite (Components); Advanced Composites; Adhesives; Honeycomb Materials; Fabrics (Composite); Plastics; Laminates.

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CLAY-MILL TECHNICAL SYSTEMS Inc

ADDRESS: 2855 Deziel Drive
Windsor, Ontario, Canada
N8W 5A5

CONTACT: Mr J Keith Arner, Vice President - (519) 944-7902

HISTORY: Clay-Mill Technical Systems Inc was founded by Clayton Pearce. In 1974, as half-owner, Clayton started an automotive tool company in Farmington Hills, MI. In 1981, Clayton resigned and took control of its Windsor operation, changing its name to Clay-Mill Technical Systems Inc. Anticipating market needs, Clay-Mill staff reviewed the existing state of robotics development and robotic applications. They developed an exceptionally strong, versatile gantry type robot. It is a refined and advanced version of this robot and complementary robotic systems that Clay-Mill is currently producing.

CAPABILITY: Clay-Mill is capable of doing in-house all engineering, design, fabricating, machining, assembly, service and training. The Clay-Mill Gantry Robot is ideally suited for applications that require heavy payloads to be manipulated with precision accuracy. The Clay-Mill Gantry Robot has been interfaced with machine vision systems to allow the robots to accurately perform complicated assembly procedures that were previously impossible for conventional robots. These include robotic systems for the automatic installation of fenders, doors, and deck lids. Gantry systems can also use vision generated offsets to pierce holes and slots accurately in specific locations throughout the car body. The applications for the Clay-Mill Gantry Robots are virtually limitless.

AVERAGE WORK FORCE: PhD - 1
MAsc - 2
Engineers - 4
Others - 95

GROSS SALES: 1986 - \$23.4M
1987 - \$15.4M

PLANT SIZE: 45,000 Sq Ft (2 assembly bays 75'x300'x32' under hook)
7,500 Sq Ft (Machine Shop)
5,000 Sq Ft (Admin & Engineering)

EQUIPMENT: Clay-Mill's equipment includes:

- IBM System 36, Microvax II and several IBM PCs, and IBM compatible including CAD.
- CNC vertical machining center, 6 boring mills, 2 lathes, 6 bridgeport vertical mills (standard), 3 vertical bandsaws, 2 horizontal bandsaws, and 1 blanchard grinder.

EXPERIENCE: Clay-Mill's customers include: General Motors Corp (Gantry Robotic systems), Chrysler Canada Corp (Crossmember Assembly), Chrysler Liberty (Door Loading System), Imperial Tobacco Ltd (Palletizing System), Magna Corp (Bumper Removal System), Pifco (Material Handling Equipment), and Standard Fuel Co (Material Handling Equipment).

KEYWORDS: Robotics; Gantry Robot; Manufacturing Technology; Automation (Manufacturing).

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COM DEV Ltd

ADDRESS: 155 Sheldon Drive
Cambridge, Ontario, Canada
N1R 7H6

CONTACT: Col (Retired) Neil Russell, Dir, Business Dev - (519) 622-2300

HISTORY: COM DEV was incorporated federally in 1971 and is a Canadian high technology company.