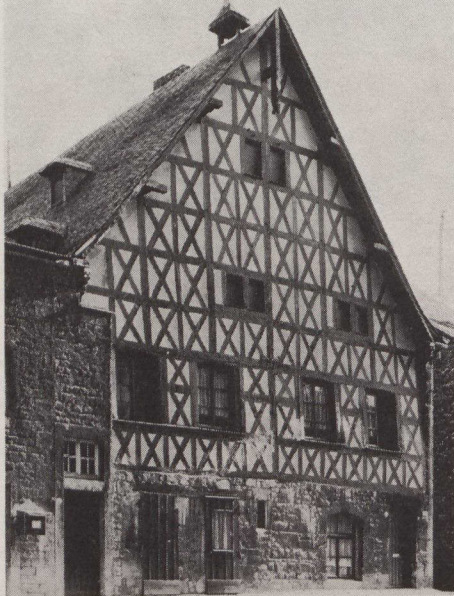


and element standardization, modern carpenters have not modified traditional building methods. An already-mastered art, with advantages recognized even 400 years ago, timber-frame construction has not changed. Its advantages, though, have become more pertinent to many of today's major housing concerns: in particular, control of increasing construction costs, and energy conservation. Timber-frame also responds to the ageless consumer demand for comfort, appearance and efficiency, with ease, offering contractors a solution to what is often their greatest challenge.

Vive la différence

In many ways, it is impossible to distinguish between today's masonry and timber-frame houses. This is because the identical exterior cladding is used in both types of construction.



Half-timbering techniques originated in Europe 400 years ago. Carpenters relocating to North America brought their skills in timber-frame construction with them.

Other factors also contribute to the resemblance of the two types of construction. Masons and carpenters both use newly-designed materials such as gyprock panels, heavy plastic finishes and fibrous insulation. They also use common building techniques, especially in the upper part of houses.

The similarities, however, are cosmetic in comparison with the great and fundamental difference between masonry and timber-frame construction: the primary building material, and the method of building the floors and the supporting frame.

For the contractor, one of the greatest advantages of timber-frame construction is its short assembly period. While a masonry house takes between 12 and 16 months to build, a timber-frame house takes one-quarter of that time. Assembly is quick simply because of an entirely dry-process construction system.

This system, as used in Canada, is based on the standardization of materials used in construction and results from a complete knowledge of the wood used for each construction component. This also means that the construction components themselves must be compatible with other materials used in construction: for example, insulation materials which are the same thickness as the frame timber, and which correspond exactly to their on-centre spacing; or, plywood sheathing and particle board panels that are manufactured in standard sizes and thicknesses.

This organization of compatible materials enables them to be easily available, and allows the prefabrication of certain elements such as roof trusses. This greatly reduces and modifies the work to be done on site.

Finally, a quickly-erected frame means quick shell enclosure and an early start to the interior finishing work. An enclosed building also offers weather-protected storage for materials.

Economical high-yield insulation

In the two decades following the Second World War, "energy conservation" was an unknown phrase in the world's vocabulary. Energy resources seemed plentiful, and no great cost was associated with this valuable resource.

In that period, masonry construction methods spread. Although a variety of factors contributed to the popularity of this technique, including the shortage

Canada's role in wood construction, particularly timber-frame building, is being featured at Batimat 83, being held in Paris at the International Construction Exhibit, Parc des Expositions, Porte de Versailles, Paris, November 11 to 20, 1983.

For further information, please contact Commercial Division, Canadian Embassy, 35, avenue Montaigne, 75008 Paris, France.

Tel: (01) 723-0101

Telex: (destination code 42)
280806 (CANADA 280806F).



Timber-frame construction has been proved to be both cost effective and energy efficient.

of qualified carpenters and building timber, the difficulties in heating and insulating masonry houses did not discourage builders.

Times have changed. Energy conservation is now headline news. The small inconveniences of yesterday are today the most important problems facing public authorities, private enterprise and consumers in general.

In many European countries, new regulations are advocating a significant reduction in the energy consumed to heat private homes. In France, the reduction is expected to reach 60 per cent by 1984. This will undoubtedly require a re-evaluation of the art of building. Consequently, certain materials and techniques now used by masonry builders will no longer meet increasingly stringent standards.

This is not, however, the case with timber-frame construction. Wood insulates naturally, and this is a great advantage when it comes to reducing, or even eliminating, K linear losses (thermal tapings). But more important, timber-frame lends itself admirably to running in very thick layers of insulation in the various frame sections. This construction method reduces costs, at equal insulation performances, by 8 to 15 per cent as compared to masonry techniques.

Safe and sound

Materials in timber-frame houses more than meet fundamental fire safety standards. The chemical decomposition of wood, for example, is slow enough for the structure's mechanical characteristics to be maintained even at extremely high temperatures. Gyprock panels also offer the structure a great deal of protection. In addition, fibrous insulation contributes to the thermal protection of the structure.