

Natural.

Timber is the perfect natural building material.

TIMBER CONSTRUCTION

Timber is a far superior insulator than brick, concrete, aluminium and steel. It is renewable and economical.

All ARKit buildings use Western Red Cedar – the best external cladding material - capable of withstanding harsh climatic environments.

ARKit insists on using sustainable managed and harvested timbers both inside and out, reflecting on its commitment to environmental principles

Embodied Energy

Timber uses less embodied energy than other common building materials.

Embodied energy is the energy consumed during the production of building components, from acquisition of natural resources to product delivery.

Embodied energy is a significant component of the lifecycle impact of a home. Research by CSIRO has found that the average household contains about 1,000 GJ of energy embodied in the materials used in its construction. This is equivalent to about 15 years of operational energy use.

Table 1 represents the indicative Embodied Energy values for common building materials, in four different construction areas; floors, walls, windows and roofs;

Carbon Storage

Whilst embodied energy considers the energy consumed during the production of building components, consideration must be made to the amount of carbon released in the manufacture of building materials compared to the amount stored in the material itself. Demonstration of these comparisons and environmental advantages of wood over other synthetics are recorded in Table 2.

Table 1

FLOORS (INCLUDING FLOORING, FRAMING, FOOTING ETC.)	
Timber suspended, timber sub-floor enclosure	740 MJ/m ²
Timber suspended, brick sub-floor wall	1050 MJ/m ²
Concrete slab on ground	1235 MJ/m ²
WALLS (INCLUDING FRAMING, INTERNAL LINING, INSULATION ETC.)	
Weather board, timber frame	410 MJ/m ²
Brick veneer, timber frame	1060 MJ/m ²
Double brick	1975 MJ/m ²
WINDOWS (INCLUDING 3MM GLASS)	
Timber frame	880 MJ/m ²
Aluminum frame	1595 MJ/m ²
ROOFS (INCLUDING PLASTERBOARD CEILING, R2.5 INSULATION, GUTTERS ETC.)	
Concrete tile, timber frame	755 MJ/m ²
Concrete tile, steel frame	870 MJ/m ²
Metal cladding, timber frame	1080 MJ/m ²
Clay tile, timber frame	1465 MJ/m ²

(Table sourced from National Timber Development Council, 2001, Environmentally Friendly Housing using Timber – Principles, p10)

Table 2

MATERIAL	CARBON RELEASED (KG/M3)	CARBON STORED (KG/M3)
Sawn timber	15	250
Steel	5320	0
Concrete	120	0
Aluminum	22000	0

(Sourced from Forests & Wood Products Research and Development Corporation, (1997) Environmental Properties of Timber, p5)

Western red cedar offers the perfect choice for conscientious consumers.