

Glued laminated timber (Glulam) - versatile, strong, beautiful and sustainable



Beautiful to look at, comparable in strength to steel, versatile and easy to work with, glued laminated timber (Glulam) is a product of stature.

Originating in Germany in the early 1900's, Glulam is one of the oldest engineered wood products and one of the most resource-efficient.

Like many engineered wood products, Glulam has a high strength to weight ratio meaning it is strong but light, making it easy to transport and work with on-site. It has low variability in properties, it is available in almost any length (limited only by manufacturing, handling and transport requirements), and it has the additional element of a high aesthetic finish if needed.

Glulam is used widely in residential construction for high strength structural beams, such as: exposed roof support beams, lintels over wall openings, in-plane floor bearing beams, garage door opening beams, roof beams, roof truss members; and in large span commercial and industrial portal frame and post and beam columns and rafters.

The beauty of exposed Glulam makes it the perfect material for buildings where the structural framework is part of the overall aesthetic. This dual quality - beauty and strength - makes Glulam a timber product with limitless potential for innovative architecture, design and building projects.

Size, shape and length - it's up to you

Glulam consists of graded, kiln-dried laminations face bonded and finger-jointed together with adhesives. Elements can be manufactured to practically any length, size or shape; beams are often manufactured with a built in camber to accommodate dead load deflection or curved for aesthetic appeal.

A range of GL Grades are produced or imported depending on the different species of timbers used in manufacture: GL10 (cypress), GL13 (radiata pine, Oregon), GL17 (slash pine, merbau), GL18 (Tas oak, Vic ash), GL21 (spotted gum) – the GL descriptor refers to the element's modulus of elasticity (E) e.g. GL10 describes a Glulam member that has an E-value of 10GPa.

A wide range of depths are available in increments from 90mm to over 1000mm; and widths from 40mm to 135mm, with 65mm and 85mm being two commonly used. Lengths up to 18m are available in 0.3m increments from traditional suppliers and up to 27m in length from specialist manufacturers.

As a mass-timber material, Glulam also has an inherent fire resistance. As timber burns, a layer of charcoal forms enclosing a core of solid unaffected timber whose structural capacity remains intact. In general, it is significantly cheaper to increase the dimensions of Glulam slightly in order to provide the required fire rating if needed, than to enclose the member in fire resistant material.

Cost-effective, aesthetic and sustainable

It is universally accepted that an exposed Glulam structure adds warmth and beauty to a building. Glulam is commonly used as the finished product, whereas other structural building materials are generally enclosed or hidden. As a finished, in-place structural material, Glulam is cost competitive with structural steel. However, like all timber products, the benefits to the environment of using Glulam are significant - it stores carbon and reduces CO₂ emissions, it is naturally insulating, renewable and recyclable.

The Glulam sector is represented by the Glued Laminated Timber Association of Australia (GLTAA).

Further information on manufacturers and products visit the GLTAA website, gltaa.com.au or woodsolutions.com.au.

Versatile, strong, beautiful and sustainable, Glulam provides structural capacity, visual appeal and environmental responsibility in the one product – a perfect choice in any building from a home to a large commercial project.