

# LVL by Stora Enso



Laminated Veneer Lumber (LVL) is an advanced wood product developed for the demands of today's building and construction industry.

LVL is engineered to be relatively stronger than steel, yet lighter than concrete. While being also highly workable and durable, LVL has proven its value as the preferred choice for structural applications.

LVL is suitable for a wide range of structural applications, from new build to repair. It provides an ideal solution when strength, dimensional stability and high load-bearing capacity are essential. From industrial to residential, large-scale high-rise buildings to homes, components and structural elements to studs, joists and beams.

Consisting of 3 mm veneers glued together, this homogeneous massive wood product harnesses the power of Nordic spruce. LVL is powering a new wave of agile, renewable construction, and bringing home to us the everlasting wonder of wood.

#### Responsibly sourced wood

The wood supply chains to Stora Enso's Wood Products units are covered by a wood traceability system, which is third-party certified according to PEFC™ or FSC® Chain of Custody system, or according to both systems.



Twice as strong as steel proportionate to weight: light and highly portable.



Easy to drill, cut, fasten and fit.



Dimensionally stable, no warps, splinters or splits.



Easily blended and bundled with other wood products.

Pre-fabrication cuts construction time.



Contact your nearest Stora Enso sales person and ask for further information

[www.storaenso.com/lvl](http://www.storaenso.com/lvl)

## Design strength values

		Symbol	Unit	S grade 24–75 mm	X grade 24–75 mm	T grade 27–75 mm
Bending strength	edgewise, parallel to grain	$f_{m,0,edge,k}$	N/mm <sup>2</sup>	44	32	27
	flatwise, parallel to grain	$f_{m,0,flat,k}$	N/mm <sup>2</sup>	50	36	32
Size effect parameter		s	-	0,12	0,12	0,15
Tensile strength	parallel to grain	$f_{t,0,k}$	N/mm <sup>2</sup>	35	26	24
	perpendicular to grain, edgewise	$f_{t,90,edge,k}$	N/mm <sup>2</sup>	0,8	6	-
Compressive strength	parallel to grain	$f_{c,0,k}$	N/mm <sup>2</sup>	35	26	26
	perpendicular to grain, edgewise	$f_{c,90,edge,k}$	N/mm <sup>2</sup>	6	9	-
Shear strength	edgewise, parallel to grain	$f_{v,0,edge,k}$	N/mm <sup>2</sup>	4,2	4,5	-
	flatwise, parallel to grain	$f_{v,0,flat,k}$	N/mm <sup>2</sup>	2,3	2,2	-
Modulus of elasticity	parallel to grain	$E_{0,mean}$	N/mm <sup>2</sup>	13 800	10 500	10 000
	perpendicular to grain	$E_{0,k}$	N/mm <sup>2</sup>	11 600	8 800	8 800
Shear modulus	edgewise, parallel to grain	$G_{0,edge,mean}$	N/mm <sup>2</sup>	600	600	-
	edgewise, parallel to grain	$G_{0,edge,k}$	N/mm <sup>2</sup>	400	400	-
Density		$\rho_{mean}$	kg/m <sup>3</sup>	510	510	440
		$\rho_k$	kg/m <sup>3</sup>	480	480	410

LVL products are CE marked and produced and monitored according to the harmonised standard EN 14374 in Varkaus, Finland



### Three grades: S, X and T

#### S grade – precision beams

With S grade all the veneers run in the same direction enhancing the strength properties of the material. This feature, along with its light weight and ease of reworking, makes it the ideal choice for the construction industry in a wide range of applications – from framing to beams and roof components to formwork.



#### X grade – precision panels

Veneers regularly spaced crosswise through the element makes this ideal for construction panels and boards. The X grade has superior inherent dimensional stability which opens up a host of possibilities for how it can be used – especially where shear strength is a design driver.



#### T grade – precision studs

All the veneers in T grade run in the same direction, however these are lighter veneers. As such it has all the qualities exhibited by LVL in terms of dimensional accuracy, structural rigidity and lack of twisting. Therefore, the T grade is suitable for structures requiring dimensional stability and straightness as well as light weight. A typical application is wall studs for internal walls.

### Available dimensions (mm)\*

#### S grade

##### Thicknesses:

27/30/33/39/45/51/57/63/69/75

##### Widths:

200/220/240/250/260/ 300/350/ 360/400/450/500/600, up to 2500 available on request

**Lengths:** up to 24 000

#### X grade

##### Thicknesses:

27/30/33/39/45/51/57/63/69/75

##### Widths:

200/220/240/250/260/300/350/ 360/400/450/500/600

**Panels:** 1200–2500

**Lengths:** up to 24 000

#### T grade

39x66, lengths 2550–6000

39x92, length 6000

45x45, lengths 2550–6000

\*) Other dimensions on request.