

## DECLARATION OF PERFORMANCE

LVL by Stora Enso, X grade, product thicknesses (24-75) mm

1. Construction product  
LVL by Stora Enso, X grade, product thicknesses (24-75) mm. Structural laminated veneer lumber which fulfills the requirements according to EN 14374:2004. For further or more detailed information on the delivered product, in addition to what is given below, see information on the packaging or in possible accompanying commercial document.
2. Intended use of the construction product  
Structural laminated veneer lumber
3. Producer

|            |   |
|------------|---|
| Company:   | Stora Enso Wood Products Oy Ltd, Varkaus LVL – mill |
| Address:   | Taipaleentie 15<br>78201 Varkaus<br>Finland         |
| Telephone: | +358 2046 111                                       |
| E-mail:    | jarkko.nevalainen@storaenso.com                     |
| Web site:  | www.storaenso.com                                   |
4. System of assessment and verification of constancy of performance of the construction product  
System 1
5. Certification  
The notified body VTT Expert Services Oy (identification number 0809) has performed an initial inspection of the manufacturing plant and of the factory production control and performs continuous surveillance, assessment and evaluation of our factory production control. VTT Expert Services has issued **CE Certificate of constancy of performance 0809-CPR-1214**.

6. Declared performance

Performance for LVL in conformity with the harmonized European standard EN 14374:2004 Timber Structures – Structural laminated veneer lumber – Requirements.

| Property  | Performance              |               |
|---|--------------------------|---------------|
| <b>Thickness</b>  | 24–75 mm                 | EN 14374:2004 |
| <b>Strength</b>   |                          |               |
| Bending strength  |                          |               |
| Edgewise, parallel to grain                             | 32 N/mm <sup>2</sup>     |               |
| Size effect parameter                                   | 0,15                     |               |
| Flatwise, parallel to grain                             | 36 N/mm <sup>2</sup>     |               |
| Flatwise, perpendicular to grain                        | 8 N/mm <sup>2</sup>      |               |
| Tension strength,                                       |                          |               |
| Parallel  | 26 N/mm <sup>2</sup>     |               |
| Perpendicular, edgewise                                 | 6 N/mm <sup>2</sup>      |               |
| Compression strength,                                   |                          |               |
| Parallel  | 26 N/mm <sup>2</sup>     |               |
| Perpendicular, edgewise                                 | 9 N/mm <sup>2</sup>      |               |
| Perpendicular, flatwise                                 | 2,2 N/mm <sup>2</sup>    |               |
| Shear strength,   |                          |               |
| edgewise, parallel to grain                             | 4,5 N/mm <sup>2</sup>    |               |
| flatwise, parallel to grain                             | 1,3 N/mm <sup>2</sup>    |               |
| flatwise, perpendicular to grain                        | 0,6 N/mm <sup>2</sup>    |               |
| Modulus of elasticity                                   |                          |               |
| Parallel to grain, <b>mean</b>                          | 10 500 N/mm <sup>2</sup> |               |
| Parallel to grain, 5 % - <b>fractile</b>                | 8 800 N/mm <sup>2</sup>  |               |
| perpendicular to grain, edgewise, <b>mean</b>           | 2 400 N/mm <sup>2</sup>  |               |
| perpendicular to grain, edgewise, 5 %- <b>fractile</b>  | 2 000 N/mm <sup>2</sup>  |               |
| perpendicular to grain, flatwise, <b>mean</b>           | 2 000 N/mm <sup>2</sup>  |               |
| perpendicular to grain, flatwise, 5 % - <b>fractile</b> | 1 700 N/mm <sup>2</sup>  |               |
| Shear modulus,  |                          |               |
| edgewise, <b>mean</b>                                   | 600 N/mm <sup>2</sup>    |               |
| edgewise, 5 % - <b>fractile</b>                         | 400 N/mm <sup>2</sup>    |               |
| flatwise, <b>mean</b>                                   | 120 N/mm <sup>2</sup>    |               |
| flatwise, 5 % - <b>fractile</b>                         | 100 N/mm <sup>2</sup>    |               |
| <b>Density</b>  |                          |               |
| Mean  | 510 kg/m <sup>3</sup>    |               |
| 5 % - fractile  | 480 kg/m <sup>3</sup>    |               |
| <b>Reaction to fire</b>                                 | D-s1, d0                 |               |
| <b>Release of formaldehyde</b>                          | E1                       |               |
| <b>Natural durability against biological attack</b>     | 4                        |               |

7. That the performance for our construction product LVL by Stora Enso, X grade, product thicknesses (24-69) mm, is in accordance with the declared performance given above is certified:

Varkaus 12.10.2017

Varkaus LVL-mill



Jarkko Nevalainen  
 Project director, Varkaus Unit Wood Products