

# DECLARATION OF PERFORMANCE

NO. MW/LVL/311-001/CPR/DOP



**1. PRODUCT-TYPE:**

Kerto LVL S-beam  
Structural Laminated Veneer Lumber, only parallel veneers (LVL-P)

**2. INTENDED USES:**

Buildings and bridges

**3. MANUFACTURER:**

Metsäliitto Cooperative  
Metsä Wood  
P.O.Box 24  
FI-08101 Lohja, Finland  
Tel. +358 10 4605  
[metsagroup.com/metsawood/](http://metsagroup.com/metsawood/)

**5. SYSTEM OF ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE:**

AVCP System 1

**6a. HARMONISED STANDARD:**

EN 14374:2004

Notified body:

Eurofins Expert Services Oy, Notified product certification body No. 0809

Certificate of constancy of performance:

0809 – CPR – 1002

## 7. DECLARED PERFORMANCES

ESSENTIAL CHARACTERISTICS	SYMBOL	PERFORMANCE
		KERTO LVL S-beam LVL 48 P THICKNESS 21 - 90 mm
<b>Modulus of elasticity and shear modulus</b>		<b>N/mm<sup>2</sup> or kg/m<sup>3</sup></b>
<u>Modulus of elasticity, mean values</u>		
Parallel to grain, along	$E_{0,mean}^2$	13800
Parallel to grain, across	$E_{m,90,flat,mean}$	NPD
Perpendicular to grain, edgewise	$E_{c,90,edge,mean}^4$	NPD
Perpendicular to grain, flatwise	$E_{c,90,flat,mean}$	NPD
<u>Modulus of elasticity, fifth percentile value</u>		
Parallel to grain, along	$E_{0,k}^3$	11600
Parallel to grain, across	$E_{m,90,flat,k}$	NPD
Perpendicular to grain, edgewise	$E_{c,90,edge,k}^5$	NPD
Perpendicular to grain, flatwise	$E_{c,90,flat,k}$	NPD
<u>Shear modulus, mean values</u>		
Edgewise	$G_{0,edge,mean}$	600
Flatwise, parallel to grain	$G_{0,flat,mean}$	380
Flatwise, perpendicular to grain	$G_{90,flat,mean}$	NPD
<u>Shear modulus, fifth percentile value</u>		
Edgewise	$G_{0,edge,k}$	400
Flatwise, parallel to grain	$G_{0,flat,k}$	270
Flatwise, perpendicular to grain	$G_{90,flat,k}$	NPD
<b>Strength, fifth percentile values</b>		
<u>Bending strength</u>		
Edgewise (depth 300mm)	$f_{m,0,edge,k}$	44.0
Size effect parameter	$s$	0.12
Flatwise, parallel to grain	$f_{m,0,flat,k}$	50.0
Flatwise, perpendicular to grain	$f_{m,90,flat,k}$	NPD
<u>Compression strength</u>		
Parallel to grain	$f_{c,0,k}$	35.0 <sup>1</sup>
Perpendicular to grain, edgewise	$f_{c,90,edge,k}$	6.0
Perpendicular to grain, flatwise	$f_{c,90,flat,k}$	2.2
<u>Tension strength</u>		
Parallel to grain (length 3000mm)	$f_{t,0,k}$	35.0
Perpendicular to grain, edgewise	$f_{t,90,edge,k}$	0.8
Perpendicular to grain, flatwise	$f_{t,90,flat,k}$	NPD
<u>Shear strength</u>		
Edgewise	$f_{v,0,edge,k}$	4.2
Flatwise, parallel to grain	$f_{v,0,flat,k}$	2.3
Flatwise, perpendicular to grain	$f_{v,90,flat,k}$	NPD
<b>Density</b>		
Density, mean value	$\rho_{mean}$	510
Density, fifth percentile value	$\rho_k$	480

The material values in this DoP are to be used for structural calculations with EN 1995 (Eurocode 5).

<sup>1</sup> In service class 2 the value 35.0 N/mm<sup>2</sup> is recommended to be divided by 1.2

<sup>2</sup> Covering  $E_{m,0,edge,mean}$ ,  $E_{m,0,flat,mean}$ ,  $E_{t,0,mean}$ , and  $E_{c,0,mean}$

<sup>3</sup> Covering  $E_{m,0,edge,k}$ ,  $E_{m,0,flat,k}$ ,  $E_{t,0,k}$ , and  $E_{c,0,k}$

<sup>4</sup> Covering  $E_{t,90,edge,mean}$

<sup>5</sup> Covering  $E_{t,90,edge,k}$

ESSENTIAL CHARACTERISTICS	PERFORMANCE			
<b>Bonding quality</b>	requirement fulfilled			
<b>Reaction to fire</b>	<b>End use condition</b>	<b>Minimum thickness (mm)</b>	<b>Class (excluding floorings)</b>	<b>Class (floorings)</b>
	- any substrate or air gap behind the product	21	D-s2, d0	D <sub>fl</sub> -s1
	- with or without an air gap between the product and a substrate of class A1 or A2-s1,d0, thickness of at least 6 mm and density of at least 800 kg/m <sup>3</sup> - fixed mechanically to wooden or metallic frames	27	D-s1, d0	-
	- free standing applications	27	D-s1, d0	-
<b>Release of formaldehyde</b>	E1			
<b>Natural durability against biological attack (EN 350-2)</b>	Class 5 (includes sapwood)			

The material values in this DoP are to be used for structural calculations with EN 1995 (Eurocode 5).

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

At Espoo on 10.7.2023

Sakari Kainumaa  
 Director, Product Management  
 Metsä Wood



Juha Kasslin  
 SVP, Supply Chain Management  
 Metsä Wood

