

# RISTEK

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## DECLARATION OF PERFORMANCE DoP

No: 11 / 2018-02-01

### 1 Product type

Ristek LL13 Connector plate

### 2 Product identification

LL13

### 3 Intended Use

Punched metal plate fasteners for structural timber products

### 4 Manufacturer

Ristek Oy, Teollisuustie 7, FIN-15540 Villähde, FINLAND e-mail: sales@ristek.fi

### 5 Authorized representative

- OÜ Teemu-E, Peterbuli mnt 71, EE 11415 Tallinn Estonia, e-mail: teemu@teemu.ee
- UAB Metalistas LT, Šermukšnių g. 19, LT-35113 Panevėžys Lietuva, e-mail: brone.tomkeviciene@metalistas.lt

### 6 Attestation of Conformity System

AVCP Class 2+

### 7 Technical specification -hEN

Initial assessment of FCP  
Certificate of factory production control (FPC)  
Harmonized Standard

0809 VTT Expert Services Oy  
0809 – CPR – 1134  
EN 14545: 2008

### 8 Technical specification –ETA

N/A

### 9 Declared performance

See table on page 2

- 10 The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and behalf of the manufacturer by: Ristek Oy

  
**RISTEK**  
Kimmo Kontti, Managing director  
Ristek Oy  
Askonkatu 11  
15100 Lahti  
FINLAND

Villähde 01.02.2018

## 9 Ilmoitetut suoritustasot

Essential characters	Performance	Harmonised technical specification
Steel	S350GD+Z275-M-A	EN 10346: 2009
Yield strength (min)	350 MPa	EN 14545: 2008
Ultimate elongation $A_{80}$	16 %	
Durability, corrosion protection	Hot-dip zinc coating Z275-M-A	
Thickness	1,3 mm	
Characteristic plate anchorage capacity for solid timber C24 and glued laminated timber GL30c Characteristic density C24 $\rho_k=350\text{kg/m}^3$ and GL30c $\rho_k=390\text{kg/m}^3$ Thickness $\geq 39$ mm	$f_{a,0,0,k}=3,68\text{ N/mm}^2$ $f_{a,90,90,k}=2,00\text{ N/mm}^2$ $k_1=-0,003$ $k_2=-0,040$ $\alpha_0=63^\circ$	EN 14545: 2008 VTT-S-02366-17  VTT certificate nro 184/03
Characteristic plate anchorage capacity for Kerto-S-LVL Characteristic density $\rho_k=480\text{kg/m}^3$ Thickness $\geq 39$ mm	$f_{a,0,0,k}=3,90\text{ N/mm}^2$ $f_{a,90,90,k}=2,07\text{ N/mm}^2$ $k_1=-0,018$ $k_2=-0,030$ $\alpha_0=45^\circ$	VTT-C-1781-21
Characteristic plate anchorage capacity for Kerto-T-LVL:ää Characteristic density $\rho_k=480\text{kg/m}^3$ Thickness $\geq 39$ mm	$f_{a,0,0,k}=3,59\text{ N/mm}^2$ $f_{a,90,90,k}=1,90\text{ N/mm}^2$ $k_1=-0,018$ $k_2=-0,030$ $\alpha_0=45^\circ$	
Characteristic plate tension, compression and shear capacity	$f_{t,0,k}=264\text{ N/mm}$ $f_{c,0,k}=111\text{ N/mm}$ $f_{v,0,k}=123\text{ N/mm}$ $f_{t,90,k}=192\text{ N/mm}$ $f_{c,90,k}=111\text{ N/mm}$ $f_{v,90,k}=97\text{ N/mm}$ $\gamma_0=25^\circ$ $k_v=0,53$	
Instantaneous rotational stiffness for solid timber and glued laminated timber (corresponding EN 14545:2008 slip modulus $k_{ser}$ , with timber density $\rho_m=430\text{kg/m}^3$ )	$K_{F,ser}=8,7\text{ N/mm}^3$	
Corresponding value for Kerto-S-LVL (EN 14374)	$K_{F,ser}=9,2\text{ N/mm}^3$	
Nail root ductility	Passed	
Service Class	2	EN 1995-1-1