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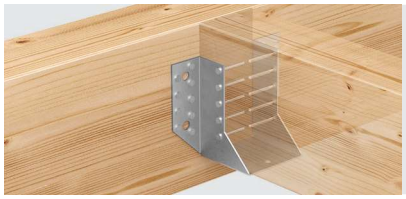
JOIST HANGERS

APPLICATIONS

Application:
Connection of a secondary beam made of timber or timber materials on the main beam

Materials: 250 GD Z275 | A4 1.4571

Material thicknesses:
1.5 / 2.0/ 2.5 mm
More on request.



90° connection

MB / SB

OSB only

MB / SB

Intermediate layer with OSB

MB / SB

Concrete wall

MB / SB

column connection

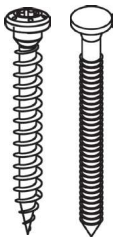
MB / SB

Concrete ring anchor

MB / SB

For use in usage classes

NKL 1 | NKL 2 | NKL 3



Connecting element:

Timber/timber
Main and secondary beam
GH threaded nails 4.0 x 35 / 40 / 50 / 60 / 75 / 100 mm
GH screws 5.0 x 25 / 35 / 40 / 50 / 60 / 70 mm

Timber/concrete-steel
Main beam
Bolts, dowels or concrete anchors M8, M10, M12 - washers in accordance with EN ISO 7094 must be fitted at least under the 2 upper bolt heads or nuts.

Connecting elements from page 274

User video
To our TOP M joist hangers

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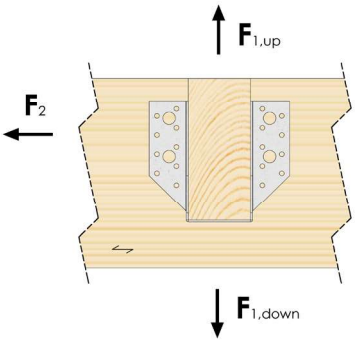
JOIST HANGERS

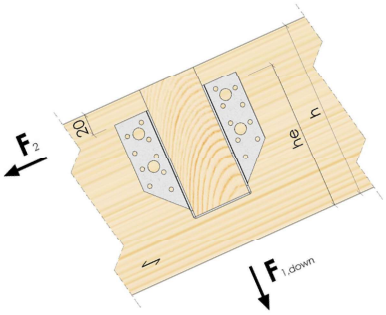
LOAD DIRECTIONS



Two-axis stress

If the load components FZ and FY act simultaneously, the proof of interaction must also be provided in the following form:

$$\left(\frac{F_{Z,Ed}}{F_{Z,Rd}}\right)^2 + \left(\frac{F_{Y,Ed}}{F_{Y,Rd}}\right)^2 \leq 1$$

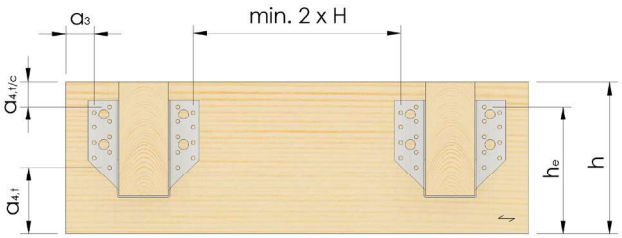


Connection over intermediate layers

If there is an intermediate layer between the joist hangers and the main beam, the length of the connecting centre must be selected so that the fastener is anchored to the main beam at the lengths given above.

Minimum and edge spacing

The regulations according to EN1995-1-1 apply for edge spacing parallel and vertical to the grain. In accordance with DIN 1052:2008-12 it is recommended that the clear distance between the outer connecting element groups of two joist hangers corresponds to 2 times the main beam height. If this is not achieved, the load capacity should be reduced.



		GH threaded nails Ø 4 mm	GH screws Ø 5 mm
$a_{3,t}$	End grain with stress	60 mm	75 mm
$a_{3,c}$	End grain without stress	40 mm	50 mm
$a_{4,t}$	Loaded edge	28 mm	50 mm
$a_{4,c}$	Unloaded edge	20 mm	25 mm

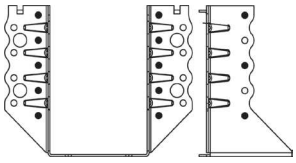
Minimum spacing according to EN 1996-1-1, without pilot drilling, $\rho_k \leq 420$ kg/m³

JOIST HANGERS

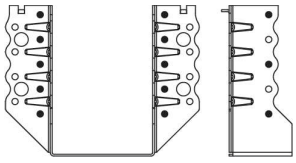
HOLE PATTERNS

Timber/timber connection
Partial and full nail fitting or partial and full screw fitting

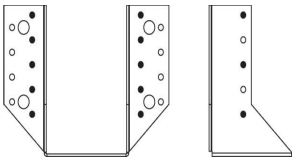
Type Top M / TOP



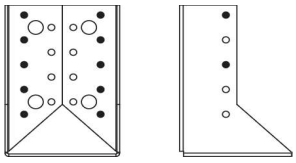
Type TOPK



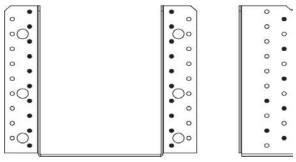
Type 04 1,5 + 2,0



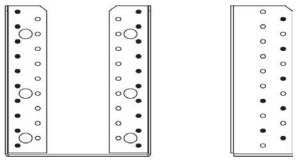
Type 04 I 1,5 + 2,0



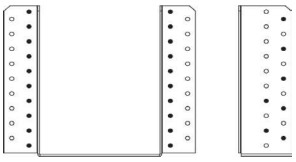
Type 05/2,5 Combi



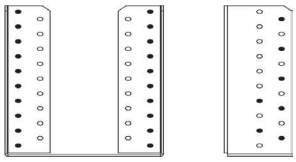
Type 05/2,5 I Combi



Type 05/2,0



Type 05/2,0 I



- **Partial nail fitting/partial screw fitting**

General information on design
The main beam must be mounted torsionally rigid. In the case of a one-sided joist hanger connection or a difference in opposing support forces of more than 20 %, proof of torsion is required (also for connections to concrete or masonry). These support forces on the main beam each generate an offset moment (torsion) of :

$$M_{ec} = F_{Z,E} \cdot \left(\frac{b_{header}}{2} + e_{J,0} \right)$$

b_{header} Width of the main beam

$e_{J,0}$ Spacing of the centre of gravity of the nail pattern in the secondary beam from the shear surface

Proof of the cross-tensile failure in the main and/or secondary beam must be provided separately. For cross-connections with $h_e/h > 0.7$, proof is not required.

For the load-bearing capacity of load component F2, it is assumed in the table values that the position of the line of action is 20 mm below the upper edge of the joist hangers. As the spacing between the line of action of the load and the centre of gravity of the connection on the main beam increases, the load-bearing capacity decreases.