

DOUBLE THREADED SCREW FOR INSULATION

CONTINUOUS INSULATION

Allows continuous, uninterrupted fastening of roof insulation package. Prevents thermal bridges in compliance with energy saving regulations.

CERTIFICATION

Connector for hard, soft and façade insulation, CE certified according to ETA 11/0030, Available in two diameters (0.28" and 0.36") to optimize the number of fasteners.

MYPROJECT

Free MyProject software for customized fastening calculation, accompanied by a calculation report.

CYLINDRICAL HEAD

Cylindrical head countersunk in the joist. Also certified in versions with flange head (DGT) and countersunk head (DGS).

CHARACTERISTICS

FOCUS	insulation package fasteners
HEAD	cylindrical, countersunk
DIAMETER	0.28" 0.36"
LENGTH	from 8 5/8" to 20 1/2"



MATERIAL

Carbon steel with bright zinc plated.

FIELDS OF USE

- wood based panels
 - solid timber
 - glulam (Glued Laminated Timber)
 - CLT, LVL
 - high density woods
- Service classes 1 and 2.



THERMAL BRIDGES

Thanks to the double thread, the roof insulation package can be fixed to the supporting structure without any interruptions, thus preventing thermal bridges. Certification specific for fastening on both hard and soft insulation.

VENTILATED FAÇADES

Also tested, certified and calculated on façade joists and with high density woods such as Microllam® LVL.

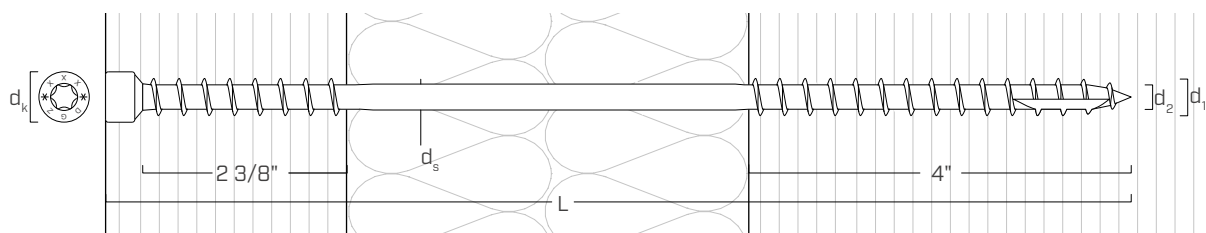


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Fastening of hard insulation on a flat roof.

Ideal for fastening hard insulation, even of great thickness. >



■ GEOMETRY AND MECHANICAL CHARACTERISTICS



Nominal diameter	d_1	[in.]	0.28	0.36
Head diameter	d_k	[in.]	0.374	0.453
Tip diameter	d_2	[in.]	0.181	0.232
Shank diameter	d_s	[in.]	0.197	0.256

CODES AND DIMENSIONS

d ₁ [in.]	CODE	L [in.]	pcs
0.28 TX 30	DGZ7220	8 5/8	50
	DGZ7260	10 1/4	50
	DGZ7300	11 3/4	50
	DGZ7340	13 3/8	50
	DGZ7380	15	50

d ₁ [in.]	CODE	L [in.]	pcs
0.36 TX 40	DGZ9240	9 1/2	50
	DGZ9280	11	50
	DGZ9320	12 5/8	50
	DGZ9360	14 1/4	50
	DGZ9400	15 3/4	50
	DGZ9440	17 1/4	50
	DGZ9480	19	50
	DGZ9520	20 1/2	50

NOTES: upon request, EVO version is available.

SCREW SELECTION

MINIMUM SCREW LENGTH DGZ Ø0.28

insulation + wooden planking thickness [in.]	batten thickness* [in.]									
	s = 1 1/4		s = 1 1/2		s = 2		s = 2 3/8		s = 3 1/8	
	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°
	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]
2 3/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	10 1/4	8 5/8
3 1/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	8 5/8	10 1/4	8 5/8	10 1/4	8 5/8
4	8 5/8	8 5/8	10 1/4	8 5/8	10 1/4	8 5/8	10 1/4	8 5/8	11 3/4	10 1/4
4 3/4	10 1/4	8 5/8	10 1/4	8 5/8	10 1/4	10 1/4	11 3/4	10 1/4	11 3/4	10 1/4
5 1/2	10 1/4	10 1/4	11 3/4	10 1/4	11 3/4	10 1/4	11 3/4	10 1/4	13 3/8	11 3/4
6 1/4	11 3/4	10 1/4	11 3/4	10 1/4	13 3/8	11 3/4	13 3/8	11 3/4	13 3/8	11 3/4
7 1/8	13 3/8	11 3/4	13 3/8	11 3/4	13 3/8	11 3/4	13 3/8	11 3/4	15	13 3/8
8	13 3/8	11 3/4	13 3/8	11 3/4	15	13 3/8	15	13 3/8	-	13 3/8
8 5/8	15	13 3/8	15	13 3/8	15	13 3/8	15	13 3/8	-	15
9 1/2	15	13 3/8	15	13 3/8	-	15	-	15	-	15
10 1/4	-	15	-	15	-	15	-	15	-	-
11	-	15	-	15	-	-	-	-	-	-

* Minimum batten thicknesses: DGZ Ø0.28": base | height = 2" | 1 3/16"

MINIMUM SCREW LENGTH DGZ Ø0.36

insulation + wooden planking thickness [in.]	batten thickness* [in.]									
	s = 1 1/4		s = 1 1/2		s = 2		s = 2 3/8		s = 3 1/8	
	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°	A DGZ at 60°	B DGZ at 90°
	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]	L _{min} [in.]
2 3/8	-	-	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2
3 1/8	-	-	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	9 1/2	11	9 1/2
4	-	-	9 1/2	9 1/2	9 1/2	9 1/2	11	9 1/2	11	9 1/2
4 3/4	-	-	11	9 1/2	11	9 1/2	11	9 1/2	12 5/8	11
5 1/2	-	-	11	9 1/2	12 5/8	11	12 5/8	11	12 5/8	11
6 1/4	-	-	12 5/8	11	12 5/8	11	12 5/8	11	14 1/4	12 5/8
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8	-	-	14 1/4	12 5/8	14 1/4	12 5/8	15 3/4	12 5/8	15 3/4	14 1/4
8 5/8	-	-	15 3/4	12 5/8	15 3/4	14 1/4	15 3/4	14 1/4	17 1/4	14 1/4
9 1/2	-	-	15 3/4	14 1/4	15 3/4	14 1/4	17 1/4	14 1/4	17 1/4	15 3/4
10 1/4	-	-	17 1/4	14 1/4	17 1/4	15 3/4	17 1/4	15 3/4	19	15 3/4
11	-	-	17 1/4	15 3/4	19	15 3/4	19	15 3/4	19	17 1/4
11 3/4	-	-	19	15 3/4	19	17 1/4	19	17 1/4	20 1/2	17 1/4
12 5/8	-	-	20 1/2	17 1/4	20 1/2	17 1/4	20 1/2	19	20 1/2	19
13 3/8	-	-	20 1/2	19	20 1/2	19	-	-	-	-

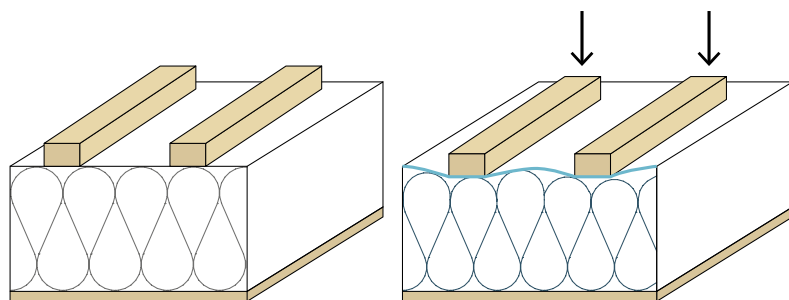
* Minimum batten thicknesses: DGZ Ø0.36": base | height = 2 3/8" | 1 9/16"

NOTE: Check that the screw tip does not stick out from the rafter.

FASTENINGS FOR CONTINUOUS INSULATION

Installation of a continuous layer of insulation guarantees excellent energy performance, eliminating thermal bridges. Efficacy is limited by the proper use of appropriate fastening systems, calculated correctly.

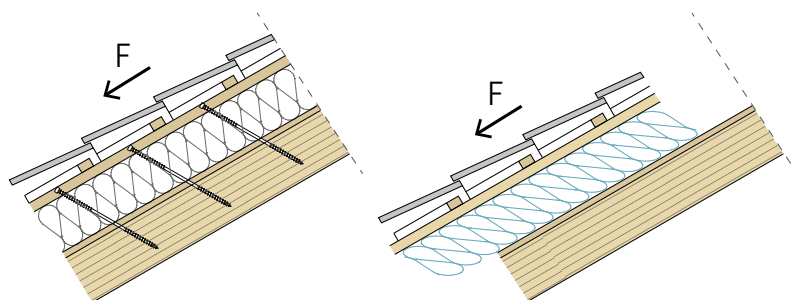
CRUSHING OF THE INSULATION



Crushing of the insulation (for very heavy loads) leads to a reduction in the ventilation chamber. As a result, aeration in the hollow space, and thus its efficacy, is reduced.

Additionally, it is possible that the insulating power of the package is diminished, with the thickness being reduced after the crushing. To prevent this problem, it is necessary to verify that the compression resistance of the insulation σ (10%) is sufficient to resist the stresses in question. Alternatively, it is possible to place screws tilted in the two directions so that the load is entirely transferred by the connectors and does not deform the layer of insulation in any way.

SLIP OF THE INSULATION AND THE COATING



The load applied to the structure has a component parallel to the layer/façade which leads, if not restrained (for example through "type A" screws), to a possible shift in the external layers, causing probable damage to the cover surface and the insulating power. Clear thermal, aesthetic and waterproofing problems then result.

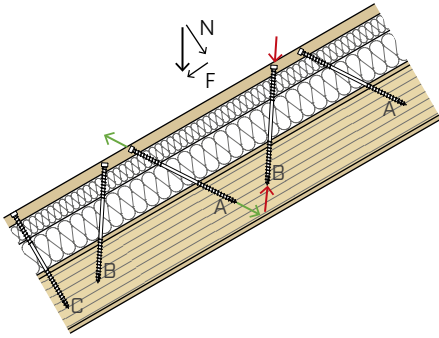
THERMAL BRIDGES



It is important that the insulation be continuous, without breaks or cracks, to optimise performance and minimise thermal bridges. Thermal bridges due to over frequent anchoring or those placed erroneously are also to be avoided.

COVER

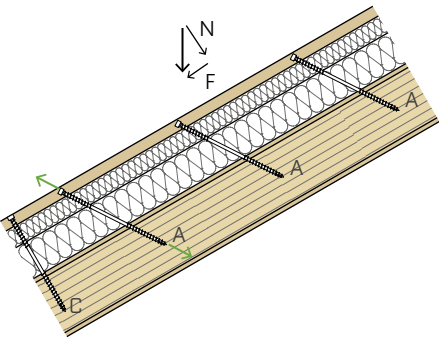
SOFT INSULATION



Low compression resistance

- the insulation does not support the load component perpendicular to the layer (N);
- screws are subject to tensile (A) and compression (B) stresses;
- for very high negative wind pressure loads, additional screws are inserted (C);
- adequate batten thickness makes it possible to optimise the number of fastenings.

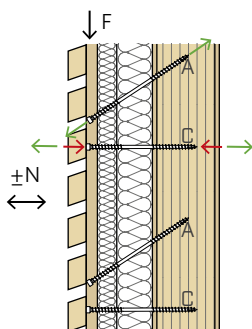
HARD INSULATION



High compression resistance

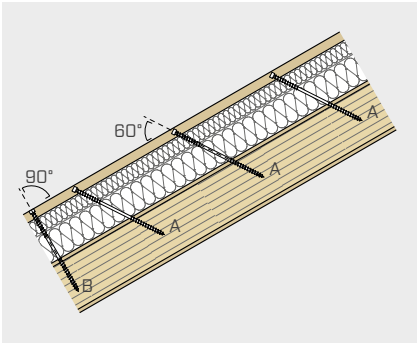
- the insulation supports the load component perpendicular to the layer (N);
- the screws are subject only to tensile stress (A);
- for very high negative wind pressure loads, additional screws are inserted (C);
- adequate batten thickness makes it possible to optimise the number of fastenings.

FAÇADE

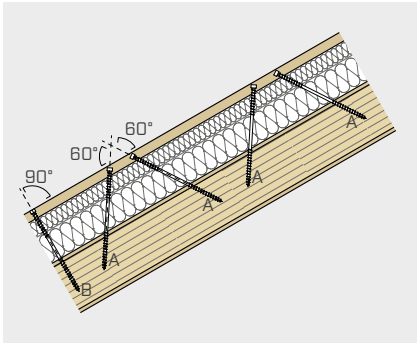


- the screws must support both positive and negative wind pressure loads ($\pm N$) and vertical forces (F);
- installation: one screw in tension (A) and one perpendicular to the façade (C), tense or compressed as a function of N, or screws inclined in the 2 directions;
- the screws (C) must support both the positive and negative wind pressure loads ($\pm N$) and are alternatively subjected to compression and tensile stresses.

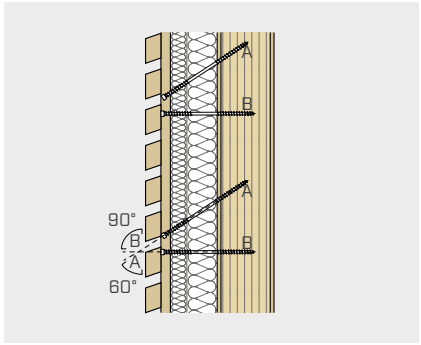
POSSIBLE CONFIGURATIONS



RIGID ROOF INSULATION



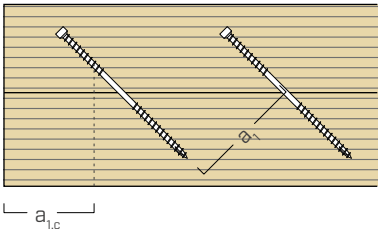
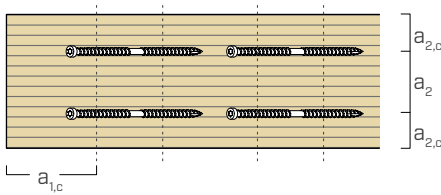
SOFT ROOF INSULATION



FACADE INSULATION

NOTE: The number and placement of the fastenings depends on the geometry of the surfaces, the type of insulation and the loads acting on them.

MINIMUM DISTANCES FOR AXIAL STRESSES ^[1]



SCREWS INSERTED WITH AND WITHOUT PRE-DRILLING HOLE

		0.28	0.36
a_1	[in.]	5·d	1.378
a_2	[in.]	5·d	1.378
$a_{1,cg}$	[in.]	10·d	2.756
$a_{2,cg}$	[in.]	4·d	1.102

d = nominal screw diameter

NOTES:

^[1] The minimum distances for connectors stressed axially are independent of the insertion angle of the connector and the angle of the force with respect to the grain, in accordance with ETA-11/0030.

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