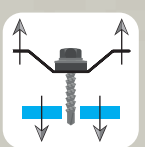
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Material	AISI 304 stainless steel	Diameter (mm)		4,9
Heat treatment	Austenitising + quenching + tempering	Drilling capacity		-
Corrosion protection	A2 stainless steel	Hardness	Surface	-
Lengths (mm)	35		Core	-
Shear failure load	6.300 N	Tensile failure load		8.000 N



Maximum pull-out force (N)*

Thickness (mm)	20	25	30
Force (N)	1.700	2.300	2.260

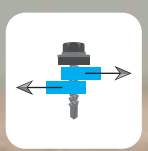
*. Mean test value.



Maximum pull-over force (N)*

Thickness (mm)	0,50	0,60	0,70	0,80	1,00
Without washer (N)	840	1.008	1.176	1.344	1.680
P 16 washer (N)	1.120	1.344	1.568	1.792	2.240
P 18 washer (N)	1.260	1.512	1.764	2.016	2.520

*. Values obtained from the Spanish structural steel code for an ST37 sheet (350 N/mm2)



Maximum shear force (N)

Thickness (mm)	0,63	0,77	0,88
Section (mm)	Timber	Timber	Timber
Force (N)	1.500	2.000	2.300

*. Values obtained from the Spanish structural steel code for an ST37 sheet (350 N/mm2)





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The values in table 1 are mean test values (ẋ). The following factors are recommended according to CEN/TS 17659:

Table 2 - Recommended material partial (safety) factors for fastening in structural decks of different marterials

Material of structural deck	Nominal thickness	Characteristics [a]	γM
Steel according to EN 10346	0,50 ≤ t < 0,70 mm	yield strength ≥ 280 N/mm^2	2,0
	t ≥ 0,70 mm	yield strength ≥ 280 N/mm^2	1,8
Aluminium according to EN 485	t ≥ 0,70 mm	yield strength ≥ 195 N/mm^2	2,0 [b]
Concrete according to EN 206		Minimum C12/15	2,1 [c]
Light weight concrete according to EN 12602		≥ 500 kg/m^3	3,0 [b]

Material of structural deck	Nominal thickness	Characteristics [a]	γM
Wood - soft wood according to EN 338	t ≥ 20 mm	Minimum C24	1,86 [d]
OSB according to EN 300	t ≥ 18 mm	Minimum OSC/3	1,86 [d]
Plywood according to EN 636	t ≥ 18 mm	Minimum Service class 2 (EN 1995-1-1) Intended application = Structural S	1,86 [d]

a. Recommended for new structural decks.
b. This recommended value is based on hnowledge / experience.
c. This value is based on γ_{inst} = 1,4.
d. γM is the total safety based on κ_{mod} = 0,7 according EC 5.

Example of fastener strength calculation:

Data: Timber 25 mm / Sheet 0,5 mm / with screw Bi-FYT DK1 4,9 Timber with washer 18

1. Tensile strength:

- From the data sheet values:
  - Wtest = 2.300 N/fastener
- Apply 90% reduction factor:
  - Wchar = 2.070 N/fastener
- Apply safety factor:
  - Wadm = 1.113 N/fastener

2. Pull-over resistance:

- From the data sheet values:
  - Wadm = 1.260 N/fastener

The lower of these values is used



Design value of the fasteners: Wadm = 1.113 N/fastener.



Fire protection



AISI 304


Sheet stitching


Screw Self-drilling



Head Hexagonal





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