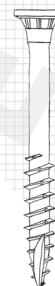


PRODUCT DATA SHEET

This issue dated 17.12.2018 is not subject to print or paper form.

ELITA

STAINLESS STEEL SCREW



DESCRIPTION

ELITA stainless steel screws are used for fastening wood or wood-like materials in outdoor applications

APPLICATION

For direct mounting, for example, cover profiles, rhombus boards, tongue and groove elements, decking boards, etc.

Direct fixation of wood or wood-like materials mounted to the substructure without pre-drilling [Pre-drilling optional]. Dimensioning and installation must be carried out in accordance with the manufacturer's instructions, tips and tricks for the construction of terraces and façades, specialist rules, guidelines and country-specific regulations. The suitability and compatibility with the wood-based material may need to be determined by the material manufacturer / supplier.

For materials with higher dimensional fluctuations [swelling and shrinkage] - especially in the decking area - a distance spacer e.g. GUMO D spacer band or BASO distance spacer is recommended. In this case the shear forces acting on the fixture are substantially reduced.

MATERIAL

Hardened stainless steel 1.4006 /X12Cr13/AISI 410



Additional information:

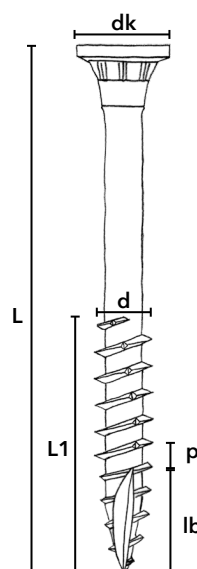
Hardened stainless steel is achieved by a special hardening process [heat treatment] this permits a 50% higher breaking torque than conventional austenitic stainless steel grades. The hardening process makes the stainless steel magnetic.

STANDARD - CE MARK

The scope of application is not subject to approvals, certificates, etc. due to the lack of standard conformity requirements.

DIMENSIONS

ELITA	Dimensions	
	Ø 4,5 mm	Ø 5,0 mm
Stainless steel screw		
d	4,40 - 4,70	4,90 - 5,20
dk	6,50 - 7,00	7,50 - 8,00
p	1,90 - 2,20	2,10 - 2,50
lb	6,00 - 8,00	8,00 - 10,00
TX	TX20	TX25
Torsion Nm	4,20	5,60
L1 thread length	28 +/- 0,5	50 +/- 0,5
	34 +/- 0,5	60 +/- 1,0
	40 +/- 0,5	70 +/- 1,0
	44 +/- 0,5	80 +/- 1,0



PRODUCT DATA SHEET - ELITA

QUALITY ASSURANCE

Continuous quality assurance with regard to material and geometry.

TEST PROCEDURE

The calculation of limit values were determined by tensile and shear loading. The mechanical property of the load capacity and the deformation behavior were determined via a node feed rate 4.00 mm / min

TENSILE TEST RESULTS - Larch

Force absorption F [kN] / deformation displacement S [mm]

ELITA 4,5	Table Tensile values					
Larch wood	F	S	F	S	Fmax	Smax
TEST 1	2,97	2,0	3,46	4,0	3,29	5,8
TEST 2	2,97	2,0	3,33	4,0	3,46	7,4
TEST 3	2,90	2,0	3,27	4,0	3,92	10,0
Mean Value	2,94	2,0	3,35	4,0	3,56	7,7
Minimum	2,90	2,0	3,27	4,0	3,29	5,8
Maximum	2,97	2,0	3,46	4,0	3,92	10,0

Max. load_head pull through resistance [node point 2 pcs. 4,5 x 70 mm]

TENSILE TEST RESULTS - Larch

Force absorption F [kN] / deformation displacement S [mm]

ELITA 5,0	Table Tensile values					
Larch wood	F	S	F	S	Fmax	Smax
TEST 1	3,85	2,0	4,20	4,0	4,39	6,3
TEST 2	3,55	2,0	3,95	4,0	4,18	7,4
TEST 3	3,35	2,0	3,65	4,0	5,30	9,9
Mean Value	3,58	2,0	3,93	4,0	4,62	7,9
Minimum	3,35	2,0	3,65	4,0	4,18	6,3
Maximum	3,85	2,0	4,20	4,0	5,30	9,9

Max. load_head pull through resistance [node point 2 pcs. 5,0 x 80 mm]

PRODUCT DATA SHEET - ELITA

SHEAR FORCE DIFFERENCE - Larch compared with and without distance to the substructure
Force absorption F [kN] / deformation displacement S [mm]

ELITA 5,0 Larch 23 mm	Shear force effects [kN] S 2 mm			Shear force effects [kN] S 4 mm		
	without distance	including distance	Reduction	without distance	including distance	Reduction
TEST 1	1,24	0,66	-47%	3,40	2,18	-36%
TEST 2	2,31	0,53	-77%	4,94	1,76	-64%
TEST 3	1,56	0,70	-55%	2,76	1,91	-31%
Mean Value	1,70	0,63	-60%	3,70	1,95	-47%
Minimum	1,24	0,53	-77%	2,76	1,76	-36%
Maximum	2,31	0,70	-47%	4,94	2,18	-56%

ELITA 5,0 x 60 mm without spacer | ELITA 5,0 x 70 mm with spacer 6.0 mm

SHEAR FORCE DIFFERENCE - IPE compared with and without distance to the substructure Force
absorption F [kN] / deformation displacement S [mm]

ELITA 5,0 IPE 20 mm	Shear force effects [kN] S 2 mm			Shear force effects [kN] S 4 mm		
	without distance	including distance	Reduction	without distance	including distance	Reduction
TEST 1	2,57	0,77	-70%	7,09	2,81	-60%
TEST 2	1,62	0,77	-52%	5,10	2,17	-57%
TEST 3	1,67	0,75	-55%	4,88	1,97	-60%
Mean Value	1,95	0,76	-59%	5,69	2,32	-59%
Minimum	1,62	0,75	-70%	4,88	1,97	-60%
Maximum	2,57	0,77	-52%	7,09	2,81	-60%

ELITA 5,0 x 50 mm without spacer | ELITA 5,0 x 60 mm with spacer 6.0 mm

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