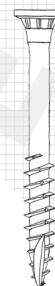


# PRODUCT DATA SHEET

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:

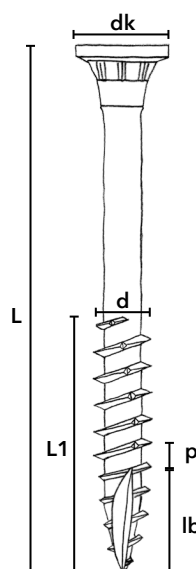
Hardened stainless steel is achieved by a special hardening process [heat treatment] this permits a 50% higher breaking torque than conventional austenitic stainless steel grades. The hardening process makes the stainless steel magnetic.

#### 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	
Stainless steel screw		Ø 4,5 mm	Ø 5,0 mm
	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	50 +/- 0,5
	34 +/- 0,5	60 +/- 1,0	60 +/- 1,0
	40 +/- 0,5	70 +/- 1,0	70 +/- 1,0
	44 +/- 0,5	80 +/- 1,0	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
<b>Mean Value</b>	<b>2,94</b>	<b>2,0</b>	<b>3,35</b>	<b>4,0</b>	<b>3,56</b>	<b>7,7</b>
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
<b>Mean Value</b>	<b>3,58</b>	<b>2,0</b>	<b>3,93</b>	<b>4,0</b>	<b>4,62</b>	<b>7,9</b>
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]

<b>ELITA 5,0</b>		Shear force effects [kN] S 2 mm			Shear force effects [kN] S 4 mm		
Larch 23 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%
<b>Mean Value</b>		<b>1,70</b>	<b>0,63</b>	<b>-60%</b>	<b>3,70</b>	<b>1,95</b>	<b>-47%</b>
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]

<b>ELITA 5,0</b>		Shear force effects [kN] S 2 mm			Shear force effects [kN] S 4 mm		
IPE 20 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%
<b>Mean Value</b>		<b>1,95</b>	<b>0,76</b>	<b>-59%</b>	<b>5,69</b>	<b>2,32</b>	<b>-59%</b>
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							

All information is based on our current knowledge and experience - a guarantee can not be derived from our information. The suitability of the product for a specific application can only be ensured by our own research and tests. The correct processing and installation of our products is beyond our control and therefore not within our area of responsibility. Errors, assortment and technical changes reserved. This is a translation - in case of doubt, please consult the original German version.