



# PRODUCT DATASHEET

## SOLIDA® Stainless steel self-tapping screw

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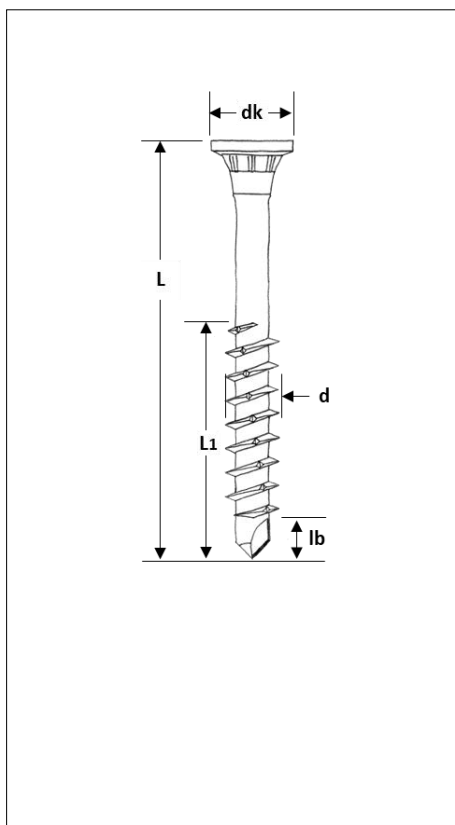
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1. Unique identification code of the product type	SOLIDA Stainless steel self-tapping screw
2. Label for identification of the product	Type description: See product packaging
3. Intended purpose of use	Screw fixation for wood or wood like materials in exterior applications
4. Manufacturer	FIXINGGROUP GmbH
5. Test method for evaluating and monitoring performance	Tensile and shearing tests Determination of limit values and deformation behaviour
6. Harmonized standard - CE declaration of conformity mark	Not subject to declaration of conformity
7. Declared performance	According to the table below

General information	
1.1. Fastening type	Direct fixing to a substructure made of wood or wood-like materials
1.2 Material	- SOLIDA1 Hardened stainless steel 1.4006 - SOLIDA4 Stainless steel A4 1.4401 - revert to CE declaration of conformity
1.3 Dimensions	According to the table below
1.4 Tensile and shearing tests The limit values are determined by tensile and shear stress loading. The mechanical properties of the load-bearing capacity and the deformation behaviour were determined via a nodal point. Feed speed 4.00 mm/min	



	SOLIDA					
	Stainless steel self-tapping screw		Dimensions			
	SOLIDA1 Ø 3,2 mm	SOLIDA1 Ø 4,0 mm	SOLIDA1 Ø 4,5 mm	SOLIDA1 Ø 5,0 mm	SOLIDA4 Ø 5,5 mm	SOLIDA1 Ø 6,0 mm
<b>d</b>	3,1 - 3,2	3,7 - 4,0	4,3 - 4,5	4,7 - 5,0	5,2 - 5,5	5,7 - 6,0
<b>dk</b>	5,0 - 5,3	6,0 - 6,5	6,5 - 7,0	7,5 - 8,0	7,5 - 8,0	9,5 - 10,0
<b>lb</b>	2,5 - 3,0	2,5 - 3,0	2,5 - 3,0	3,5 - 4,0	3,5 - 4,0	4,0 - 4,5
<b>Drive</b>	TX10	TX20	TX20	TX25	TX25	TX25
<b>Torsion</b> $f_{tor,k}$ Nm	2,30	3,50	4,30	7,20	6,40	11,00
<b>L</b> Total length	<b>L 25</b> +/- 0,5	16 +/- 0,5				
	<b>L 30</b> +/- 0,5	18 +/- 0,5	18 +/- 0,5			
	<b>L 30</b> +/- 0,5		24 +/- 0,5			
	<b>L 35</b> +/- 0,5	21 +/- 0,5	21 +/- 0,5			
	<b>L 40</b> +/- 0,5	24 +/- 0,5	24 +/- 0,5	24 +/- 0,5	24 +/- 0,5	
	<b>L 45</b> +/- 0,5		26 +/- 0,5	26 +/- 0,5	26 +/- 0,5	26 +/- 0,5
	<b>L 50</b> +/- 0,5	28 +/- 0,5	28 +/- 0,5	28 +/- 0,5	28 +/- 0,5	28 +/- 0,5
	<b>L 60</b> +/- 1,0	34 +/- 0,5	34 +/- 0,5	34 +/- 0,5	34 +/- 0,5	34 +/- 0,5
	<b>L 70</b> +/- 1,0			40 +/- 0,5	40 +/- 0,5	40 +/- 0,5
	<b>L 80</b> +/- 1,0				44 +/- 0,5	44 +/- 0,5
	<b>L 90</b> +/- 1,0				50 +/- 0,5	50 +/- 0,5
	<b>L 100</b> +/- 1,0				55 +/- 0,5	55 +/- 0,5
<b>L 120</b> +/- 1,0					60 +/- 0,5	

L1 Thread length



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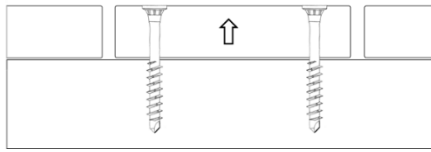
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<b>SOLIDA 3,2 mm</b>		<b>Substructure - Larch</b>					
<b>Tensile values</b>							
<b>F Force [kN]   S Def. [mm]</b>		<b>F</b>	<b>S</b>	<b>F</b>	<b>S</b>	<b>Fmax</b>	<b>Smax</b>
Larch wood	TEST 1	2,40	2,0	2,57	4,0	2,62	9,1
	TEST 2	2,23	2,0	2,53	4,0	2,54	5,6
	TEST 3	2,20	2,0	2,47	4,0	2,54	7,0
	<b>Mean value</b>	<b>2,28</b>	<b>2,0</b>	<b>2,52</b>	<b>4,0</b>	<b>2,56</b>	<b>7,2</b>
	Minimum	2,20	2,0	2,47	4,0	2,54	5,6
	Maximum	2,40	2,0	2,57	4,0	2,62	9,1
max. Load_head pull through resistance [node point / 2 pcs. 3,2 x 60 mm]							

<b>SOLIDA 4,0 mm</b>		<b>Substructure - Larch</b>					
<b>Tensile values</b>							
<b>F Force [kN]   S Def. [mm]</b>		<b>F</b>	<b>S</b>	<b>F</b>	<b>S</b>	<b>Fmax</b>	<b>Smax</b>
Larch wood	TEST 1	3,10	2,0	2,87	4,0	3,03	8,5
	TEST 2	2,90	2,0	2,53	4,0	3,08	7,3
	TEST 3	2,87	2,0	2,50	4,0	3,40	7,1
	<b>Mean value</b>	<b>2,95</b>	<b>2,0</b>	<b>2,63</b>	<b>4,0</b>	<b>3,17</b>	<b>7,6</b>
	Minimum	2,87	2,0	2,50	4,0	3,03	7,1
	Maximum	3,10	2,0	2,87	4,0	3,40	8,5
max. Load_head pull through resistance [node point / 2 pcs. 4,0 x 50 mm]							

<b>SOLIDA 4,5 mm</b>		<b>Substructure - Larch</b>					
<b>Tensile values</b>							
<b>F Force [kN]   S Def. [mm]</b>		<b>F</b>	<b>S</b>	<b>F</b>	<b>S</b>	<b>Fmax</b>	<b>Smax</b>
Larch wood	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]							

<b>SOLIDA 5,0 mm</b>		<b>Substructure - Larch</b>					
<b>Tensile values</b>							
<b>F Force [kN]   S Def. [mm]</b>		<b>F</b>	<b>S</b>	<b>F</b>	<b>S</b>	<b>Fmax</b>	<b>Smax</b>
Larch wood	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]							



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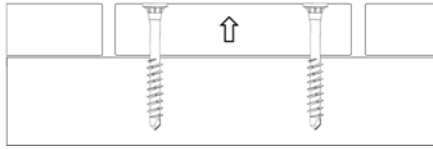
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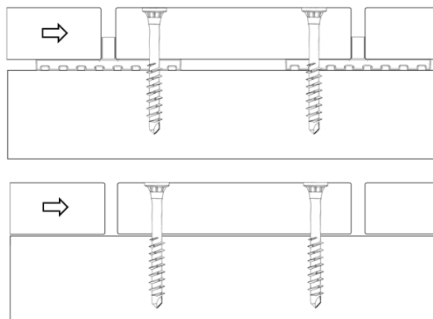
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SOLIDA 5,5 mm Tensile values		Substructure - Larch					
F Force [kN]   S Def. [mm]		F	S	F	S	Fmax	Smax
Larch wood	TEST 1	3,90	2,0	4,50	4,0	5,11	8,6
	TEST 2	3,60	2,0	4,25	4,0	4,69	10,0
	TEST 3	3,60	2,0	4,10	4,0	4,94	6,9
	<b>Mean value</b>	<b>3,70</b>	<b>2,0</b>	<b>4,28</b>	<b>4,0</b>	<b>4,91</b>	<b>8,5</b>
	Minimum	3,60	2,0	4,10	4,0	4,69	6,9
	Maximum	3,90	2,0	4,50	4,0	5,11	10,0
max. Load_head pull through resistance [node point / 2 pcs. 5,5 x 60 mm]							

SOLIDA 6,0 mm Tensile values		Substructure - Larch					
F Force [kN]   S Def. [mm]		F	S	F	S	Fmax	Smax
Larch wood	TEST 1	6,17	2,0	8,00	4,0	9,89	6,7
	TEST 2	5,74	2,0	7,33	4,0	8,40	8,8
	TEST 3	5,66	2,0	6,66	4,0	9,59	10,2
	<b>Mean value</b>	<b>5,86</b>	<b>2,0</b>	<b>7,33</b>	<b>4,0</b>	<b>9,29</b>	<b>8,6</b>
	Minimum	5,66	2,0	6,66	4,0	8,40	6,7
	Maximum	6,17	2,0	8,00	4,0	9,89	10,2
max. Load_head pull through resistance [node point / 2 pcs. 6,0 x 100 mm]							



SOLIDA 5,0 mm Shear force effects		Substructure - Larch [S = 2 mm]				
Comparison		with BASO		without BASO		Reduction of shear force
F Force [kN]   S Def. [mm]		F	S	F	S	%
Decking test sample Larch 23 mm	TEST 1	0,66	2	1,24	2	-47%
	TEST 2	0,53	2	1,63	2	-67%
	TEST 3	0,70	2	1,56	2	-55%
	<b>Mittelwert</b>	<b>0,63</b>	<b>2</b>	<b>1,48</b>	<b>2</b>	<b>-56%</b>
	Minimum	0,53	2	1,24	2	-67%
	Maximum	0,70	2	1,63	2	-47%
5,0 x 70 mm with BASO   5,0 x 60 mm without BASO						

SOLIDA 5,0 mm Shear force effects		Substructure - Larch [S = 4 mm]				
Comparison		with BASO		without BASO		Reduction of shear force
F Force [kN]   S Def. [mm]		F	S	F	S	%
Decking test sample Larch 23 mm	TEST 1	2,18	4	4,40	4	-50%
	TEST 2	1,76	4	4,94	4	-64%
	TEST 3	1,91	4	3,76	4	-49%
	<b>Mean value</b>	<b>1,95</b>	<b>4</b>	<b>4,37</b>	<b>4</b>	<b>-55%</b>
	Minimum	1,76	4	3,76	4	-64%
	Maximum	2,18	4	4,94	4	-49%
5,0 x 70 mm with BASO   5,0 x 60 mm without BASO						



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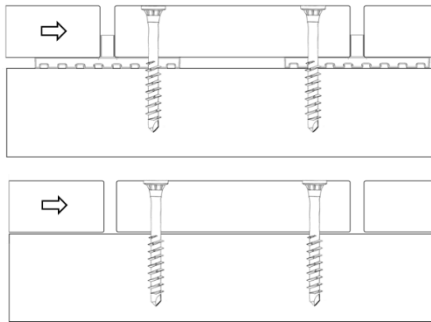
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SOLIDA 5,0 mm Shear force effects		Substructure - Hardwood [S = 2 mm]				
		with BASO		without BASO		Reduction of shear force
Comparison		F	S	F	S	%
F Force [kN]   S Def. [mm]		F	S	F	S	%
Decking test sample IPE 20 mm	TEST 1	0,77	2	2,57	2	-70%
	TEST 2	0,77	2	1,62	2	-52%
	TEST 3	0,75	2	1,67	2	-55%
	<b>Mean value</b>	<b>0,76</b>	<b>2</b>	<b>1,95</b>	<b>2</b>	<b>-59%</b>
	Minimum	0,75	2	1,62	2	-70%
	Maximum	0,77	2	2,57	2	-52%
5,0 x 60 mm with BASO   5,0 x 50 mm without BASO						

SOLIDA 5,0 mm Shear force effects		Substructure - Hardwood [S = 4 mm]				
		with BASO		without BASO		Reduction of shear force
Comparison		F	S	F	S	%
F Force [kN]   S Def. [mm]		F	S	F	S	%
Decking test sample IPE 20 mm	TEST 1	2,81	4	7,09	4	-60%
	TEST 2	2,17	4	5,10	4	-57%
	TEST 3	1,97	4	4,88	4	-60%
	<b>Mean value</b>	<b>2,32</b>	<b>4</b>	<b>5,69</b>	<b>4</b>	<b>-59%</b>
	Minimum	1,97	4	4,88	4	-60%
	Maximum	2,81	4	7,09	4	-57%
5,0 x 60 mm with BASO   5,0 x 50 mm without BASO						

### FOR INTERNAL USE ONLY

All statements are based on our current knowledge and experience - no guarantee can be derived from our statements.

The suitability of the product for a specific application can only be guaranteed by our own tests and trials. Installation is in accordance with the manufacturer's specifications, Tips and tricks, installation instructions, technical rules, guidelines and country-specific regulations. The correct processing and installation of our products is beyond our control and therefore not our responsibility. Errors, modifications of the product range and technical changes are reserved.