



PRODUCT DATASHEET

LIGO® Decking connector

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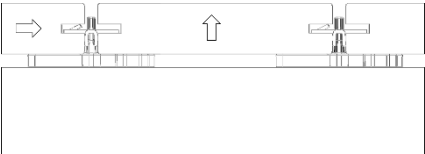
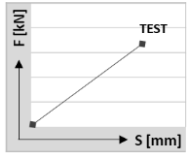


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1. Unique identification code of the product type	LIGO N Decking connector
	LIGO S Decking connector
	LIGO P Decking connector
	LIGO C Decking connector
2. Label for identification of the product	Type description: See product packaging
3. Intended purpose of use	Decking connector for side grooved boards
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 tables below

General information	
1.1. Fastening type	Side groove hidden mounting system Two integrated locking grips on the groove engagement plate on both sides, possible swelling or shrinking of the decking boards cannot be controlled by the fastener. This type of function is only suitable for decking boards with very high dimensional stability. Swelling and shrinkage movements can be compensated for up to 2.0 mm per board.
1.2 Material	<ul style="list-style-type: none"> - Distance spacer ABS plastic black UV stabilized - Groove plate LIGO N S P Stainless steel 1.4016 with black coating Mechanical and chemical wear of the black surface coating cannot be excluded - Groove plate LIGO C PP Polypropylen black UV stabilised - System screw UNIA Ø 4,8 mm - Revert to datasheet UNIA
1.3 Dimensions	According to the following illustrations
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	 

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

The suitability of the product for a specific application can only be guaranteed by our own tests and trials. The installation is according to the manufacturer's specifications, tips and tricks, installation instructions, technical rules, guidelines and country-specific regulations. If necessary, the compatibility of the decking connectors with the decking boards must be checked with the board manufacturer/supplier. The correct processing and installation of our products is beyond our control and therefore not our responsibility. We reserve the right to make errors, changes to the product range and technical modifications.



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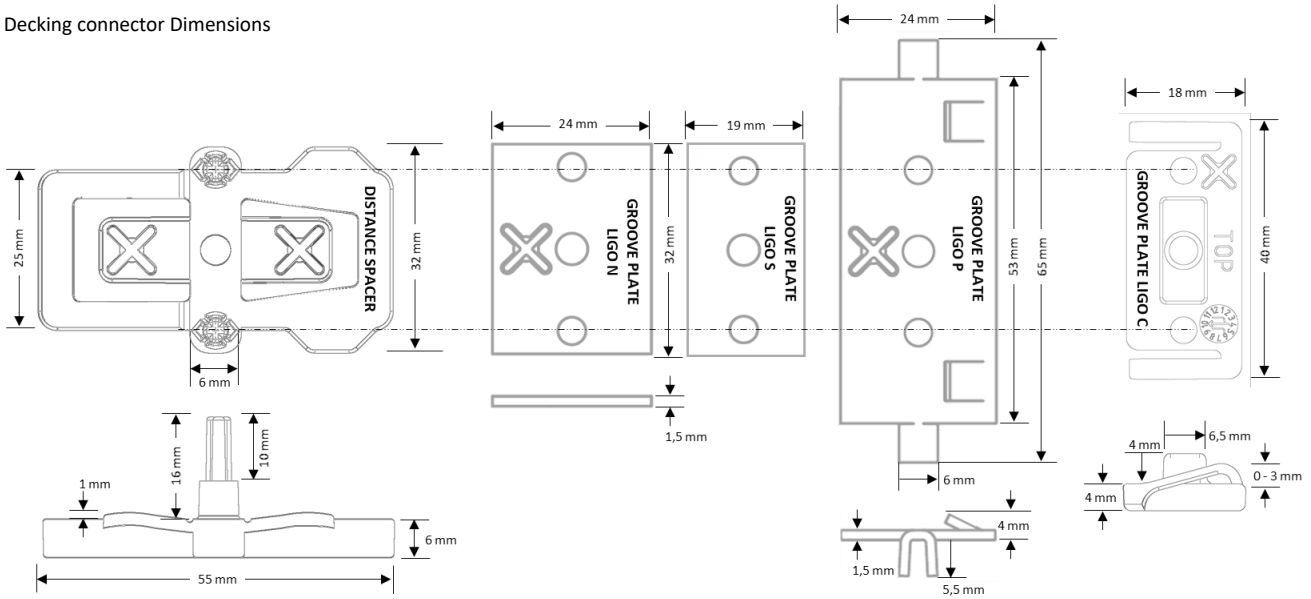
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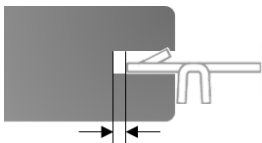


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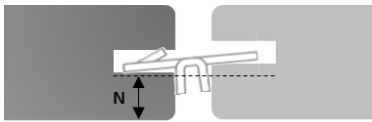
1.3 Decking connector Dimensions



1.3 Decking side groove dimensions



The groove depth must be sufficient to ensure that any swelling effects of the decking boards do not cause the back of the groove to touch the mounting plate.



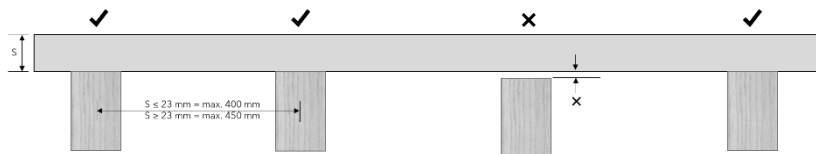
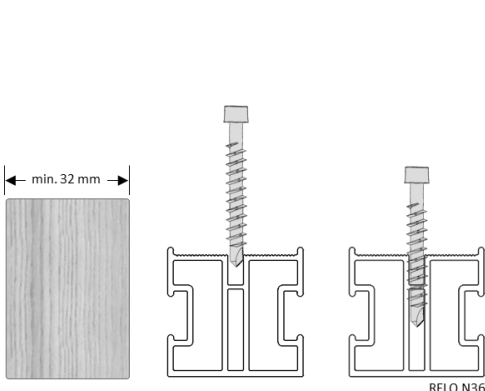
The groove height [N] can range from 6 - 12 mm depending on the type of material - different groove heights must not be installed in combination.

Prior to mass production, installation tests must be carried out to check the accuracy of fit, functionality and ease of installation.

The maximum deformation force of the decking boards must not exceed the tested limit values of the connectors.

LIGO N	min. 11 mm min. 2,0 mm
LIGO S	min. 8,5 mm min. 2,0 mm
LIGO P	min. 11 mm 3,8 - 4,0 mm
LIGO C	min. 7,5 mm min. 4 mm

1.3 Substructure dimensions



Compatible wooden substructure:

Preferably softwoods such as e.g. larch, Douglas fir, thermo-pine, thermo-spruce or species with similar density.

Compatible aluminium substructure joist:

RELO N36 system substructure with integrated screw channel



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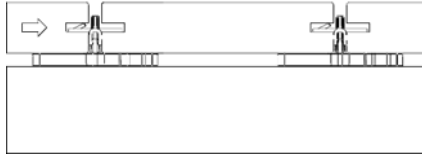
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LIGO N S P Shearing Values		Thermo-Pine		Substructure RELO N			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample Thermo-Pine	TEST 1	0,81	2,0	1,51	4,0	3,66	10,0
	TEST 2	0,83	2,0	1,49	4,0	3,72	10,0
	TEST 3	0,79	2,0	1,53	4,0	3,54	10,0
	Mean Value	0,81	2,0	1,51	4,0	3,64	10,0
	Minimum	0,79	2,0	1,49	4,0	3,54	10,0
	Maximum	0,83	2,0	1,53	4,0	3,72	10,0
max. load_Breakage of the board + connector deformation Decking 26 x 125 mm							

LIGO N S P Shearing Values		Thermo-Pine		Substructure Softwood			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample Thermo-Pine	TEST 1	0,89	2,0	1,66	4,0	3,86	10,0
	TEST 2	0,80	2,0	1,60	4,0	3,74	10,0
	TEST 3	0,95	2,0	1,72	4,0	3,98	10,0
	Mean Values	0,88	2,0	1,66	4,0	3,86	10,0
	Minimum	0,80	2,0	1,60	4,0	3,74	10,0
	Maximum	0,95	2,0	1,72	4,0	3,98	10,0
max. load_Breakage of the board + connector deformation Substructure Larch Decking 26 x 125 mm							

LIGO N S P Shearing Values		IPE		Substructure RELO N			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,07	2,0	1,76	4,0	5,76	10,0
	TEST 2	1,01	2,0	1,76	4,0	6,56	10,0
	TEST 3	1,22	2,0	1,97	4,0	6,29	10,0
	Mean Value	1,10	2,0	1,83	4,0	6,20	10,0
	Minimum	1,01	2,0	1,76	4,0	5,76	10,0
	Maximum	1,22	2,0	1,97	4,0	6,56	10,0
max. load_Breakage of the systemscrew + connector deformation Decking 20 x 95 mm							

LIGO N S P Shearing Values		IPE		Substructure Softwood			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,05	2,0	2,01	4,0	6,25	10,0
	TEST 2	0,97	2,0	1,78	4,0	6,04	10,0
	TEST 3	1,15	2,0	1,89	4,0	6,38	10,0
	Mean Value	1,06	2,0	1,89	4,0	6,22	10,0
	Minimum	0,97	2,0	1,78	4,0	6,04	10,0
	Maximum	1,15	2,0	2,01	4,0	6,38	10,0
max. load_Breakage of the systemscrew + connector deformation Substructure Larch Decking 20 x 95 mm							



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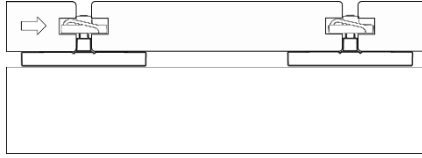
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LIGO C Shearing Values		Thermo-Pine		Substructure RELO N				
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax	
Decking test sample	Thermo-Pine	TEST 1	0,79	2,0	1,38	4,0	3,45	10,0
	TEST 2	0,83	2,0	1,39	4,0	3,66	10,0	
	TEST 3	0,84	2,0	1,44	4,0	3,44	10,0	
	Mean Value	0,82	2,0	1,40	4,0	3,52	10,0	
	Minimum	0,79	2,0	1,38	4,0	3,44	10,0	
	Maximum	0,84	2,0	1,44	4,0	3,66	10,0	
max. load_Screw pull-through at connector + connector deformation Decking 26 x 125 mm								

LIGO C Shearing Values		Thermo-Pine		Substructure Softwood				
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax	
Decking test sample	Thermo-Pine	TEST 1	0,81	2,0	1,45	4,0	3,55	10,0
	TEST 2	0,94	2,0	1,46	4,0	3,65	10,0	
	TEST 3	0,91	2,0	1,69	4,0	3,78	10,0	
	Mean Value	0,89	2,0	1,53	4,0	3,66	10,0	
	Minimum	0,81	2,0	1,45	4,0	3,55	10,0	
	Maximum	0,94	2,0	1,69	4,0	3,78	10,0	
max. load_Screw pull-through at connector + connector deformation Substructure Larch Decking 26 x 125 mm								

LIGO C Shearing Values		IPE		Substructure RELO N				
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax	
Decking test sample	IPE	TEST 1	0,81	2,0	1,55	4,0	4,05	10,0
	TEST 2	0,96	2,0	1,56	4,0	4,08	10,0	
	TEST 3	1,04	2,0	1,66	4,0	4,09	10,0	
	Mean Value	0,94	2,0	1,59	4,0	4,07	10,0	
	Minimum	0,81	2,0	1,55	4,0	4,05	10,0	
	Maximum	1,04	2,0	1,66	4,0	4,09	10,0	
max. load_Screw pull-through at connector + connector deformation Decking 20 x 95 mm								

LIGO C Shearing Values		IPE		Substructure Softwood				
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax	
Decking test sample	IPE	TEST 1	0,91	2,0	1,63	4,0	3,95	10,0
	TEST 2	1,04	2,0	1,55	4,0	4,15	10,0	
	TEST 3	1,01	2,0	1,71	4,0	4,01	10,0	
	Mean Value	0,99	2,0	1,63	4,0	4,04	10,0	
	Minimum	0,91	2,0	1,55	4,0	3,95	10,0	
	Maximum	1,04	2,0	1,71	4,0	4,15	10,0	
max. load_Screw pull-through at connector + connector deformation Substructure Larch Decking 20 x 95 mm								



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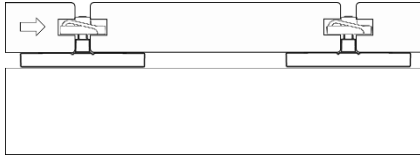
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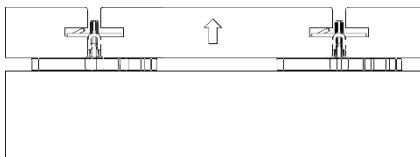
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LIGO C - A4		IPE		Substructure RELO N			
Shearing Values		F	S	F	S	Fmax	Smax
F Force [kN] S Def. [mm]							
Decking test sample IPE	TEST 1	0,76	2,0	1,45	4,0	4,11	10,0
	TEST 2	0,91	2,0	1,48	4,0	4,07	10,0
	TEST 3	0,97	2,0	1,54	4,0	4,05	10,0
	Mean Value	0,88	2,0	1,49	4,0	4,08	10,0
	Minimum	0,76	2,0	1,45	4,0	4,05	10,0
	Maximum	0,97	2,0	1,54	4,0	4,11	10,0
max. load_Screw pull-through at connector + connector deformation Decking 20 x 95 mm							

LIGO C - A4		IPE		Substructure Softwood			
Shearing Values		F	S	F	S	Fmax	Smax
F Force [kN] S Def. [mm]							
Decking test sample IPE	TEST 1	0,86	2,0	1,53	4,0	3,71	10,0
	TEST 2	0,99	2,0	1,47	4,0	3,94	10,0
	TEST 3	0,94	2,0	1,59	4,0	3,73	10,0
	Mean Value	0,93	2,0	1,53	4,0	3,79	10,0
	Minimum	0,86	2,0	1,47	4,0	3,71	10,0
	Maximum	0,99	2,0	1,59	4,0	3,94	10,0
max. load_Screw pull-through at connector + connector deformation Substructure Larch Decking 20 x 95 mm							



LIGO		Substructure - Larch		Substructure - Thermopine		Substructure - RELO N	
Tensile Values		F	S	F	S	F	S
F Force [kN] S Def. [mm]							
Decking test sample Thermo-Pine	TEST 1	1,01	0,7	0,89	0,9	0,86	0,8
	TEST 2	0,90	0,7	0,86	0,8	0,93	0,7
	TEST 3	0,98	0,9	0,93	0,9	0,92	0,8
	Mean Value	0,96	0,8	0,89	0,9	0,90	0,8
	Minimum	0,90	0,7	0,86	0,8	0,86	0,7
	Maximum	1,01	0,9	0,93	0,9	0,93	0,8
max. load_Breakage of side groove Decking 26 x 125 mm							



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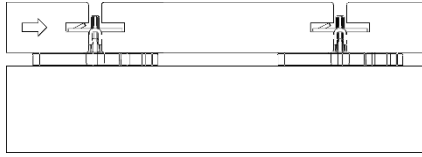
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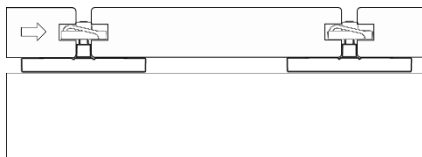
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LIGO N S P Shearing Values		IPE		Substructure RELO K			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,45	2,0	2,97	4,0	7,97	10,0
	TEST 2	1,64	2,0	2,71	4,0	7,44	10,0
	TEST 3	1,33	2,0	2,66	4,0	8,19	10,0
	Mean Value	1,47	2,0	2,78	4,0	7,87	10,0
	Minimum	1,33	2,0	2,66	4,0	7,44	10,0
	Maximum	1,64	2,0	2,97	4,0	8,19	10,0
max. load_Breakage of the systemscrew + connector deformation Decking 20 x 95 mm							

LIGO N S P Shearing Values		IPE		Substructure Hardwood			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,30	2,0	2,47	4,0	5,99	10,0
	TEST 2	1,37	2,0	2,66	4,0	6,00	10,0
	TEST 3	1,48	2,0	2,73	4,0	5,67	10,0
	Mean Value	1,38	2,0	2,62	4,0	5,89	10,0
	Minimum	1,30	2,0	2,47	4,0	5,67	10,0
	Maximum	1,48	2,0	2,73	4,0	6,00	10,0
max. load_Breakage of the systemscrew + connector deformation Substructure Angelim Pedra Decking 20 x 95 mm							



LIGO C Shearing Values		IPE		Substructure RELO K			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,20	2,0	2,36	4,0	4,21	10,0
	TEST 2	1,22	2,0	2,29	4,0	4,45	10,0
	TEST 3	1,34	2,0	2,28	4,0	4,17	10,0
	Mean Value	1,25	2,0	2,31	4,0	4,28	10,0
	Minimum	1,20	2,0	2,28	4,0	4,17	10,0
	Maximum	1,34	2,0	2,36	4,0	4,45	10,0
max. load_Screw pull-through at connector + connector deformation Decking 20 x 95 mm							

LIGO C Shearing Values		IPE		Substructure Hardwood			
F Force [kN] S Def. [mm]		F	S	F	S	Fmax	Smax
Decking test sample IPE	TEST 1	1,18	2,0	2,02	4,0	4,14	10,0
	TEST 2	1,12	2,0	1,95	4,0	4,09	10,0
	TEST 3	1,26	2,0	2,12	4,0	4,92	10,0
	Mean Value	1,19	2,0	2,03	4,0	4,38	10,0
	Minimum	1,12	2,0	1,95	4,0	4,09	10,0
	Maximum	1,26	2,0	2,12	4,0	4,92	10,0
max. load_Screw pull-through at connector + connector deformation Substructure Angelim Pedra Decking 20 x 95 mm							