

# PRODUCT DATA SHEET

This issue dated 27.02.2018 is not subject to print or paper form.

# PROFILA

## PROFILE SELF TAPPING SCREW

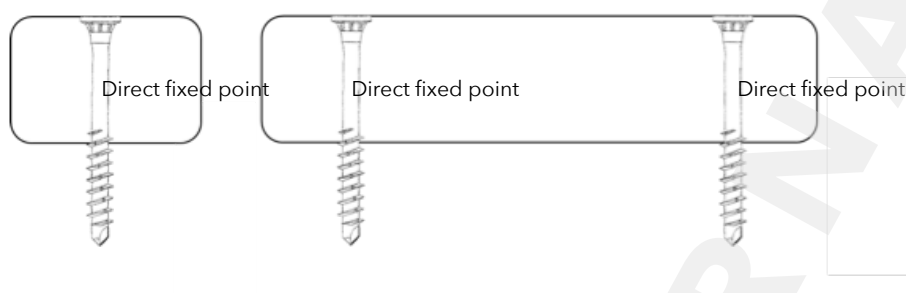


### DESCRIPTION

PROFILA is a universal selftapping stainless steel screw for wooden or wood like decking/ cladding materials mounted to a metal substructure.

Mounting type: Direct fixed point

One or two fixed points - depending on the dimension of the component to be mounted - counteract the deformation forces, shrinkage and swelling.



### APPLICATION

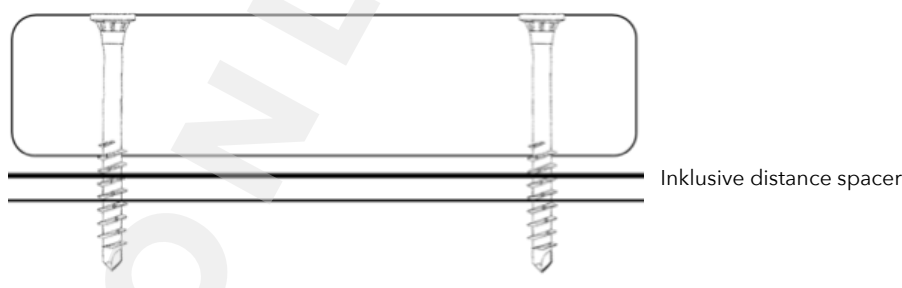
For direct fixings, eg cover profiles, rhombus boards, decking boards, etc. The component to be mounted must be pre-drilled with 5.5 mm.

Maximum drilling capacity in aluminum 5.0 mm / steel sections [HHS tubes] max. 2.5 mm.

Due to the different metal alloys, the maximum drilling performance must always be tested using test pieces.

Dimensioning and installation must be carried out according to 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 material and the metal sections may need to be determined by the material manufacturer / supplier.

For materials with higher dimensional changes [swelling and shrinkage], it is recommended to install them using GUMO D distance spacer band, BASO distance spacers or aluminum sections with a screw and ventilation channel, such as RELO P. where the shearing forces acting on the fastener are substantially reduced.



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## MATERIAL

Stainless steel 1.4006/X12Cr13/AISI 410



## Additional information

PROFILA stainless steel hardened stainless steel achieves a 50% higher breaking torque than conventional austenitic stainless steel grades through a special hardening process [heat treatment]. The hardening process makes the stainless steel magnetic.

## DIMENSIONS

PROFILA TX25						
L	L1	dk	d	p	lb	Torsion Nm
35 +/- 0,5	30 +/- 0,5	7,50 - 8,00	5,20 - 5,50	2,30 - 2,50	6,0 - 6,50	7,60
40 +/- 0,5						
45 +/- 0,5						
50 +/- 0,5						
55 +/- 1,0						
60 +/- 1,0						
65 +/- 1,0						
70 +/- 1,0						

## STANDARD - CE MARK

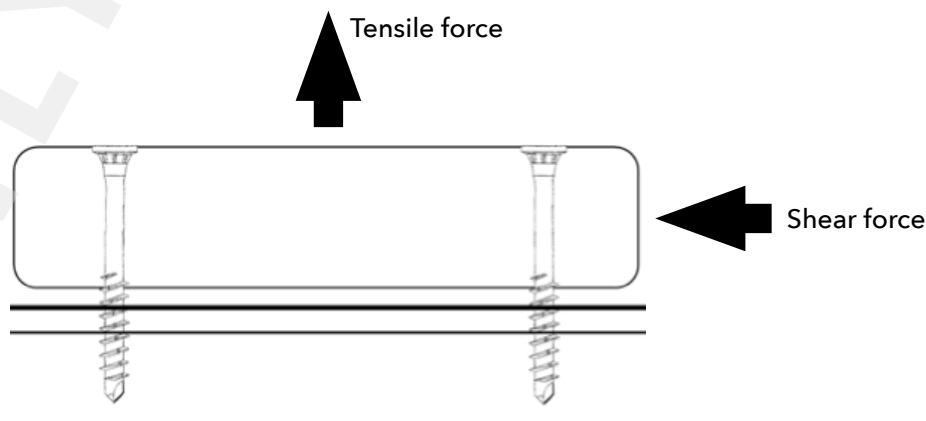
The scope of application is not subject to approvals, certificates, etc. due to the lack of standard conformity requirements.

## 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



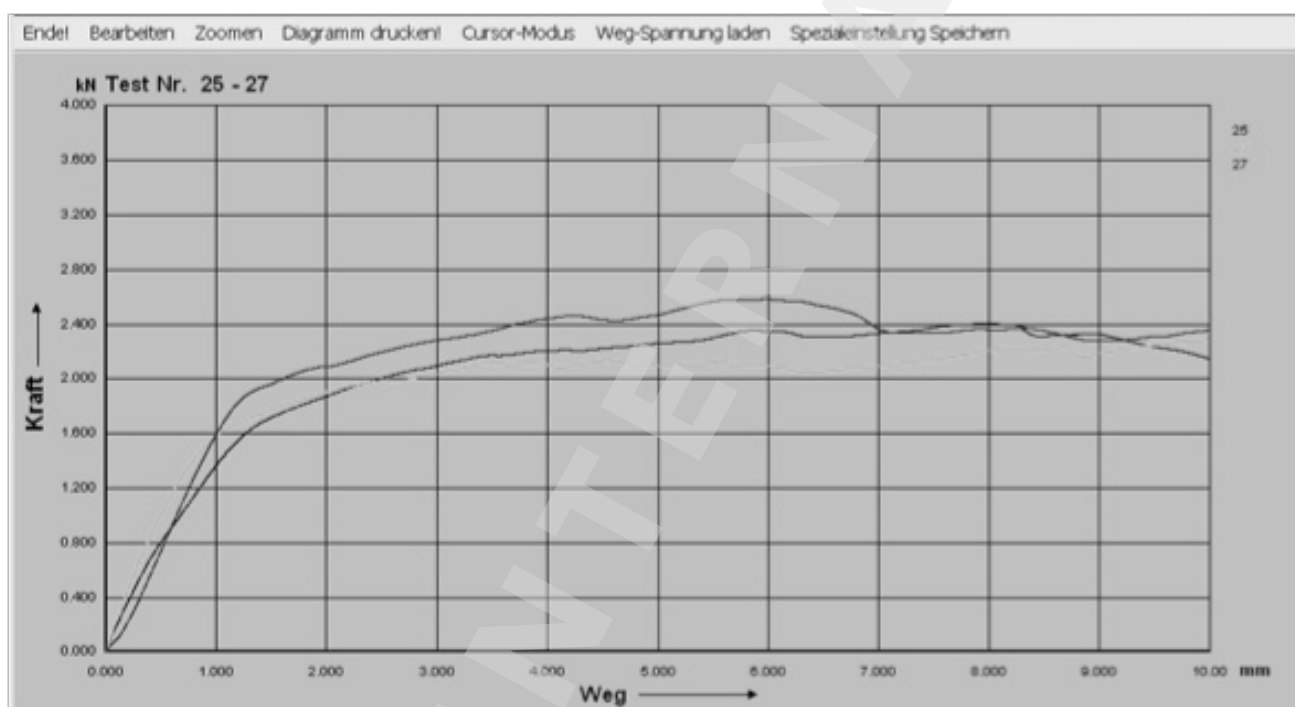
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## TENSILE TEST - Larch with RELO P

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

PROFILA	Table Tensile values					
RELO P Larch	F	S	F	S	Fmax	Smax
TEST 1	2,10	2,0	2,47	4,0	2,41	8,0
TEST 2	1,90	2,0	2,26	4,0	2,30	10,1
TEST 3	1,86	2,0	2,10	4,0	2,58	6,0
<b>Mean Value</b>	<b>1,95</b>	<b>2,0</b>	<b>2,28</b>	<b>4,0</b>	<b>2,43</b>	<b>8,0</b>
Minimum	1,86	2,0	2,10	4,0	2,30	6,0
Maximum	2,10	2,0	2,47	4,0	2,58	10,1

Max. load\_head pull through resistance / decking board pre-drilled 5,5 mm



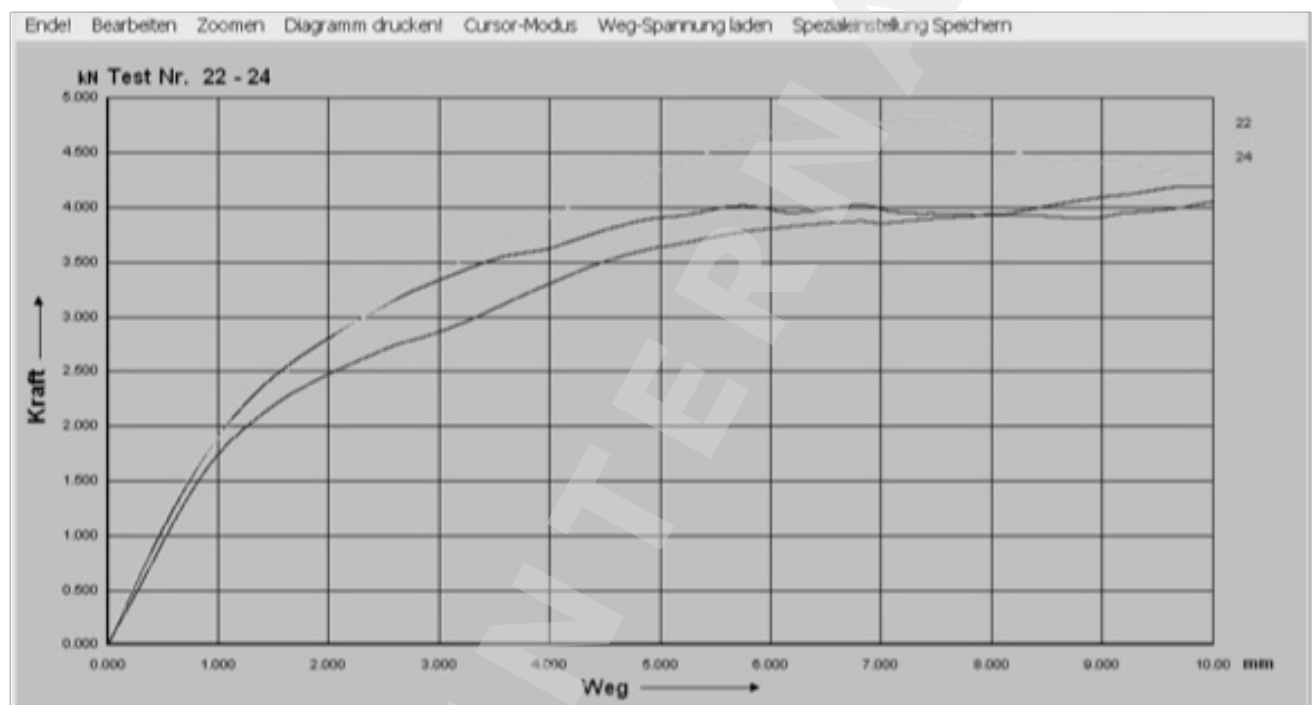
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## TENSILE TEST - Oak with RELO P

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

PROFILA	Table Tensile values					
RELO P Oak	F	S	F	S	Fmax	Smax
TEST 1	2,79	2,0	3,92	4,0	4,19	9,8
TEST 2	2,77	2,0	3,63	4,0	4,82	6,6
TEST 3	2,48	2,0	3,29	4,0	4,06	10,1
<b>Mean Value</b>	<b>2,68</b>	<b>2,0</b>	<b>3,61</b>	<b>4,0</b>	<b>4,36</b>	<b>8,8</b>
Minimum	2,48	2,0	3,29	4,0	4,06	6,6
Maximum	2,79	2,0	3,92	4,0	4,82	10,1

Max. load\_head pull through resistance / decking board pre-drilled 5,5 mm



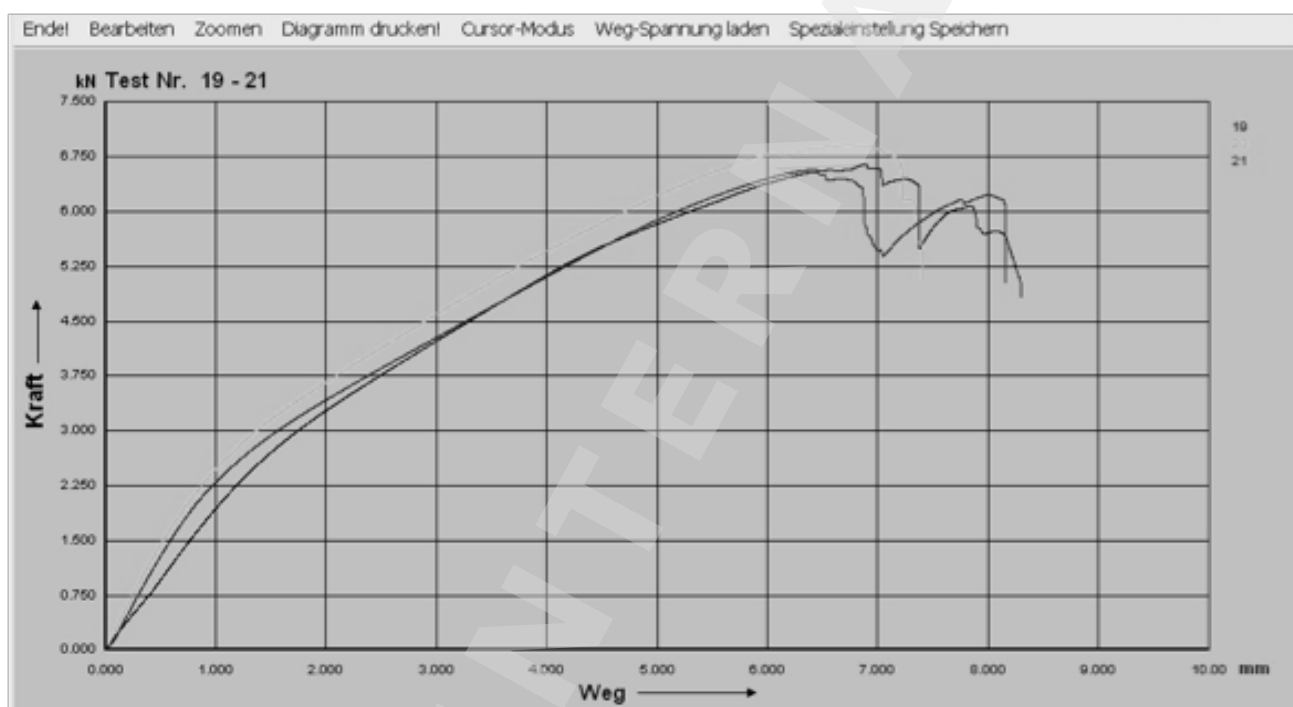
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## TENSILE TEST - IPE with RELO P

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

PROFILA RELO P IPE	Table Tensile values					
	F	S	F	S	Fmax	Smax
TEST 1	3,69	2,0	5,50	4,0	6,64	6,9
TEST 2	3,44	2,0	5,13	4,0	6,91	6,7
TEST 3	3,25	2,0	5,13	4,0	6,56	6,4
<b>Mean Value</b>	<b>3,46</b>	<b>2,0</b>	<b>5,25</b>	<b>4,0</b>	<b>6,71</b>	<b>6,7</b>
Minimum	3,25	2,0	5,13	4,0	6,56	6,4
Maximum	3,69	2,0	5,50	4,0	6,91	6,9

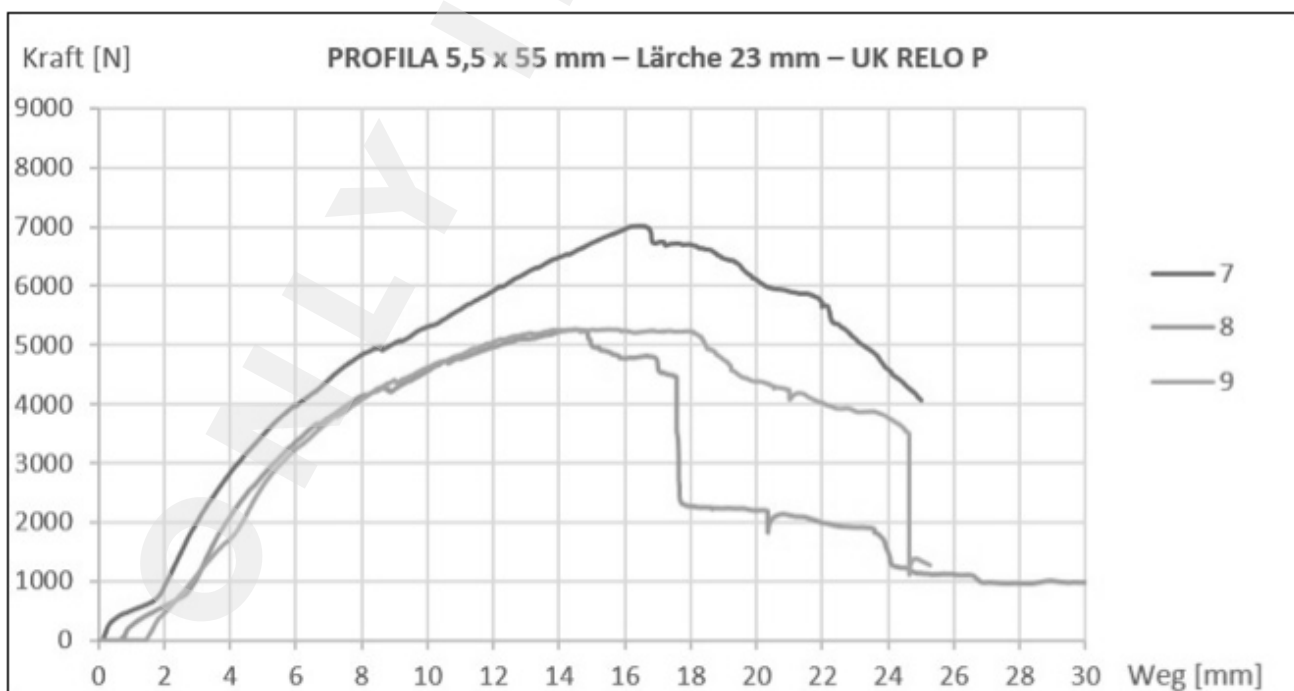
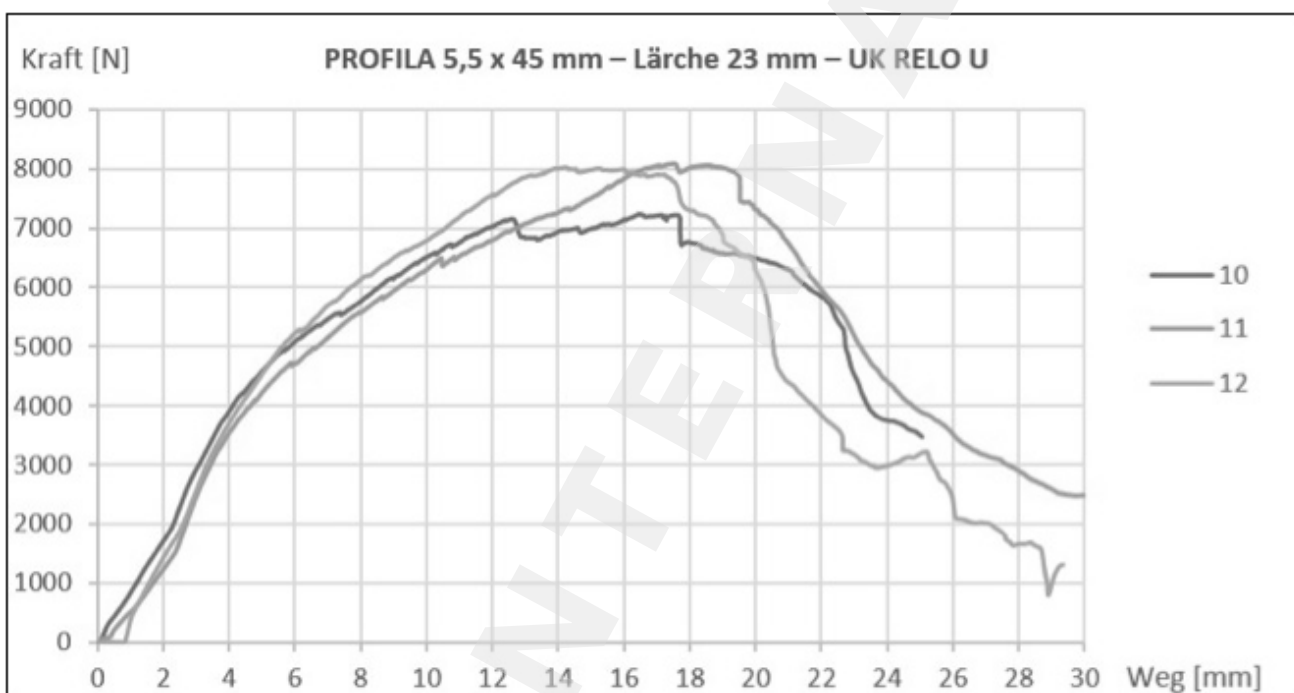
Max. load\_head pull through resistance / decking board pre-drilled 5,5 mm



# PRODUCT DATA SHEET - PROFILA

**SHEAR FORCE DIFFERENCE** - Larch with RELO U compared with RELO P  
Force absorption F [kJ] / deformation displacement S [mm]

PROFILA		Shear force effects [kJ] S 2 mm			Shear force effects [kJ] S 4 mm		
Substructure		RELO U	RELO P	Reduction	RELO U	RELO P	Reduction
TESTSERIE Lärche 23 mm	TEST 1	1,71	0,91	-47%	3,90	2,83	-27%
	TEST 2	1,23	0,57	-54%	3,53	2,09	-41%
	TEST 3	1,43	0,46	-68%	3,70	1,71	-54%
	<b>Mittelwert</b>	<b>1,46</b>	<b>0,65</b>	<b>-56%</b>	<b>3,71</b>	<b>2,21</b>	<b>-40%</b>
	Minimum	1,23	0,46	-68%	3,53	1,71	-52%
	Maximum	1,71	0,91	-47%	3,90	2,83	-27%
PROFILA 5,5 x 45 mounted to RELO U   PROFILA 5,5 x 55 mm mounted to RELO P							



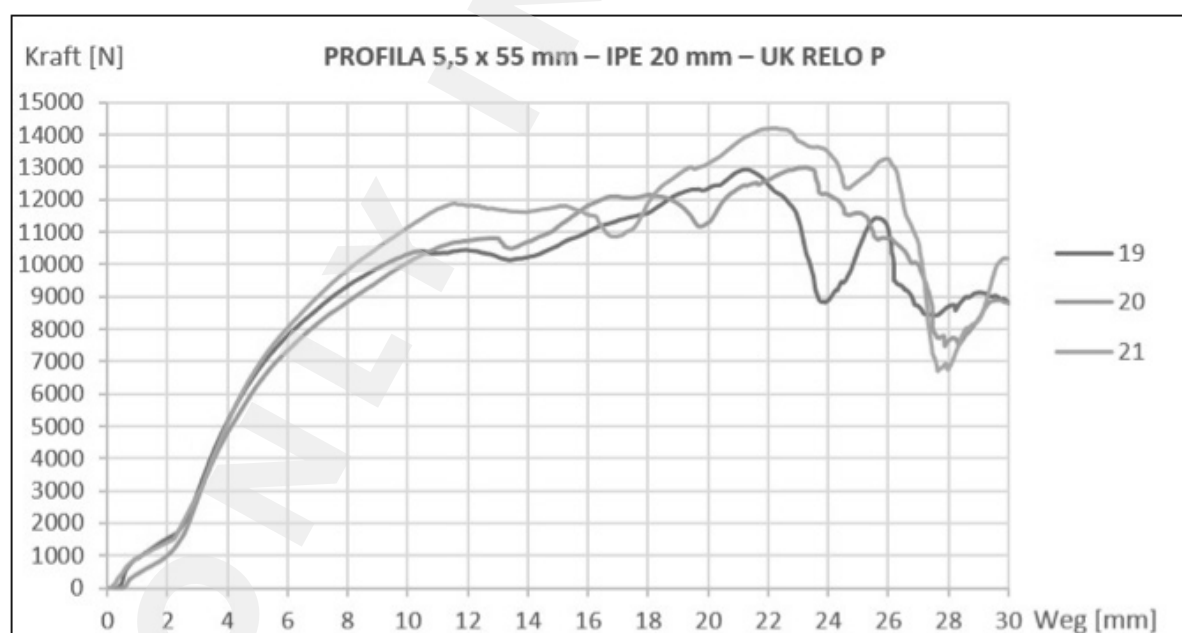
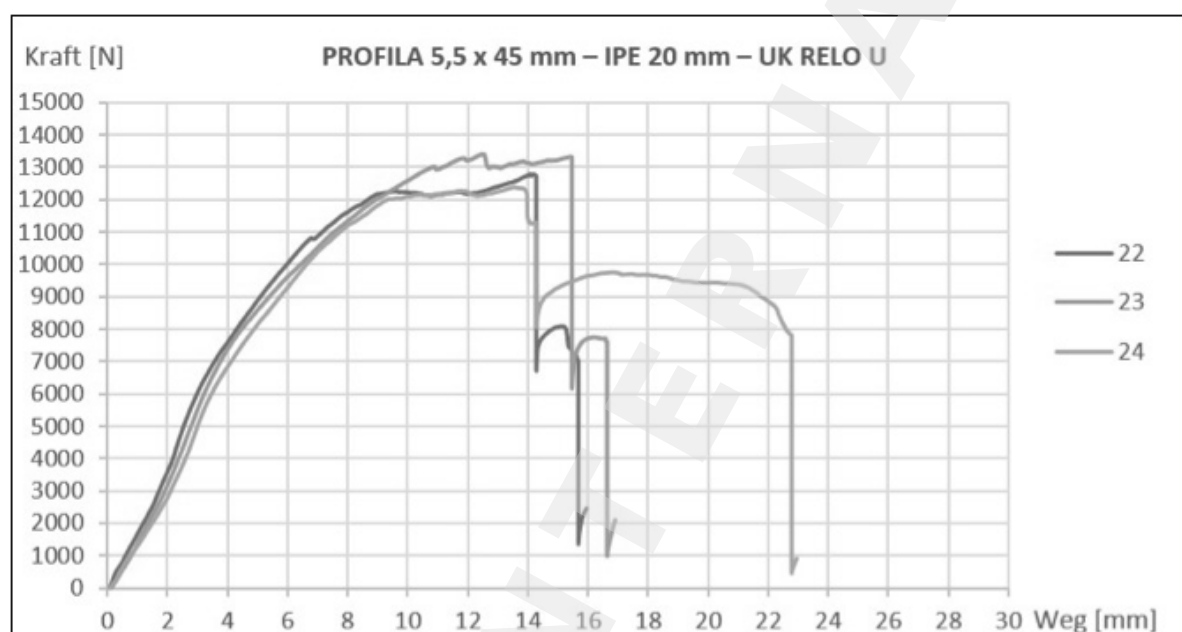
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## SHEAR FORCE DIFFERENCE - IPE with RELO U compared with RELO P

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

PROFILA		Shear force effects [kN] S 2 mm			Shear force effects [kN] S 4 mm		
Substructure		RELO U	RELO P	Reduction	RELO U	RELO P	Reduction
TESTSERIE IPE 20 mm	TEST 1	3,59	1,53	-57%	7,59	5,15	-32%
	TEST 2	3,18	1,00	-69%	7,37	4,80	-35%
	TEST 3	2,79	1,41	-49%	6,85	5,10	-26%
	<b>Mittelwert</b>	<b>3,19</b>	<b>1,31</b>	<b>-58%</b>	<b>7,27</b>	<b>5,02</b>	<b>-31%</b>
	Minimum	2,79	1,00	-69%	6,85	4,80	-30%
	Maximum	3,59	1,53	-49%	7,59	5,15	-32%

PROFILA 5,5 x 45 mounted to RELO U | PROFILA 5,5 x 55 mm mounted to RELO P



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