



Test documentation 2020-104

Experimental tests

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October 2020

1. General information

2. Experimental Sequence

Three different test series with two different positions of the clamps were carried out within the scope of the examination:

- 2.1 Examination of shear force of Position 1
- 2.2 Examination of tensile force of Position 1
- 2.3 Examination of pressure force of Position 1
- 2.4 Examination of shear force of Position 2
- 2.5 Examination of tensile force of Position 2
- 2.6 Examination of pressure force of Position 2

2.1. Examination of shear force



Figure 1 Assembly



Figure 2 Assembly at 0,4 kN

Experimental tests

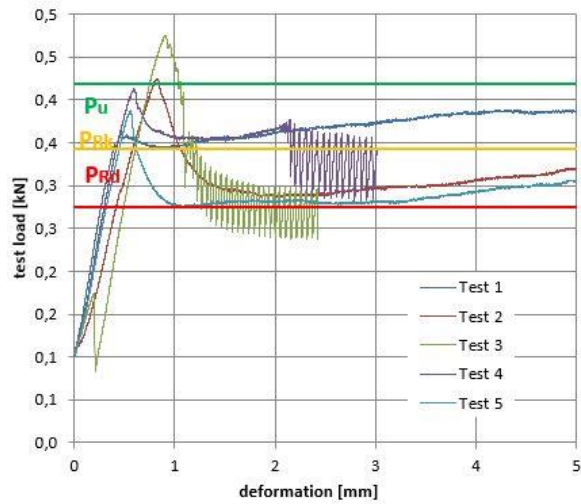


Figure 3 Measuring records of the shear tests

statistical evaluation according to DIN EN 1990 annex D

	x_i	$\ln x_i$	
S_1	= 0,39 kN	-0,94	0,004744984
S_2	= 0,43 kN	-0,86	0,000375872
S_3	= 0,48 kN	-0,74	0,017362837
S_4	= 0,41 kN	-0,88	7,91737E-05
S_5	= 0,39 kN	-0,95	0,005383704
average value	0,42 kN	sum	0,02794657

m_y	= -0,8747872	number of tests	5
s_y	= 0,08358614		
k_n	= 2,33	α_r	0,800
		β_s	4,700
P_{Rk}	= 0,34 kN	k	1,645
		v_y	0,084
P_{Rd}	= 0,27 kN	γ_M	1,250

Figure 4 Statistical evaluation of the test series

2.2. Examination of tensile force

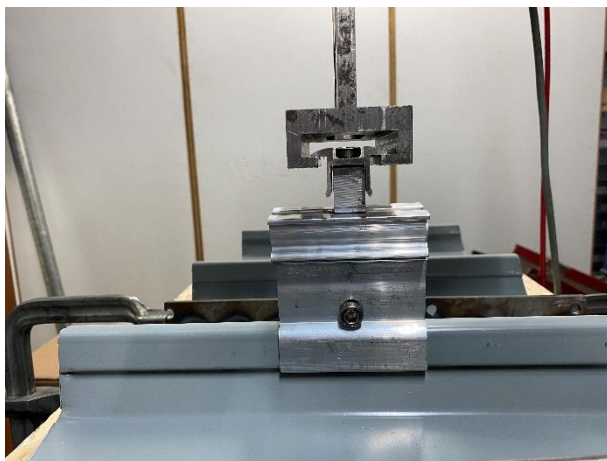


Figure 5 Assembly

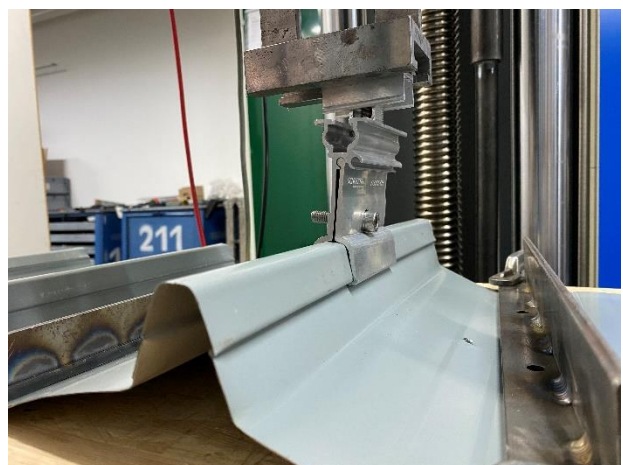


Figure 6 Assembly at 1 kN

Experimental tests

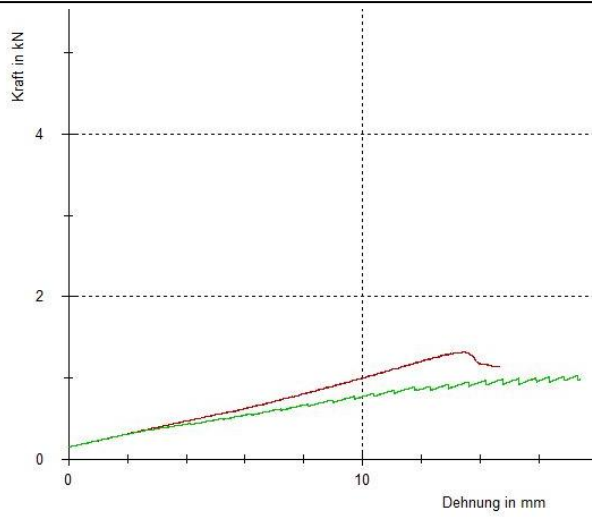


Figure 7 Measuring records of the tensile tests

2.3. Examination of pressure force

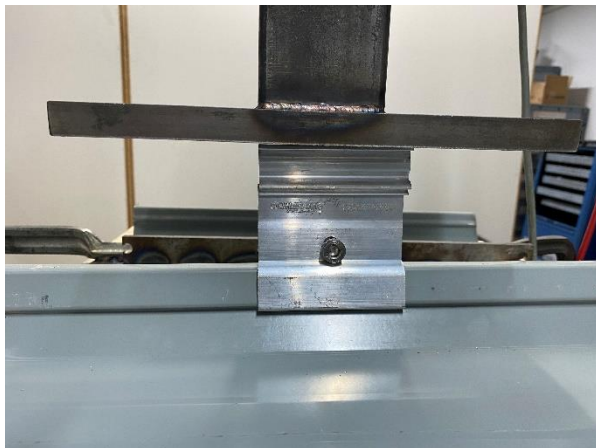


Figure 8 Assembly

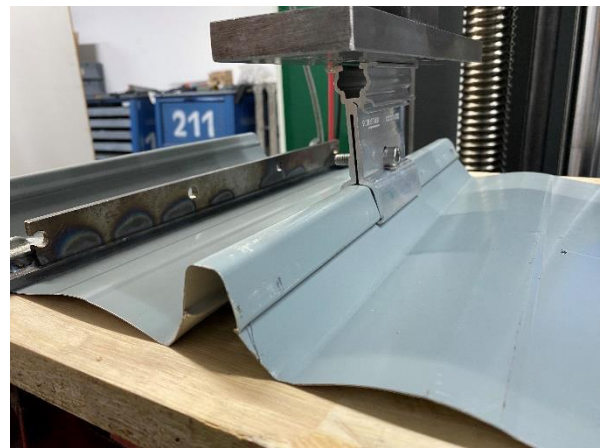


Figure 9 Assembly at 3 kN

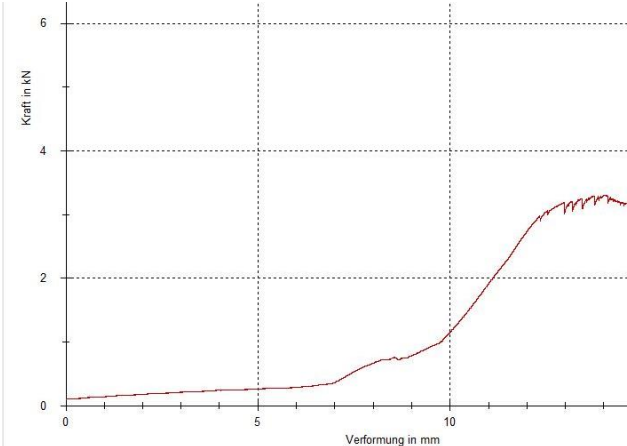


Figure 10 Measuring records of the pressure tests

2.4. Examination of shear force



Figure 11 Assembly



Figure 12 Assembly at 0,6 kN

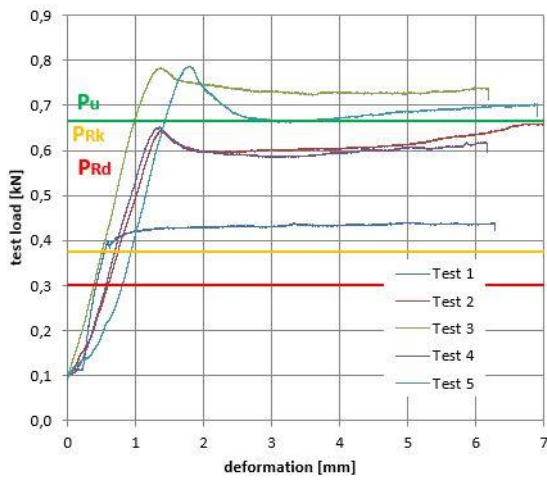


Figure 13 Measuring records of the shear tests

statistical evaluation according to DIN EN 1990 annex D

	x_i	$\ln x_i$
S_1	= 0,44 kN	-0,82 0,15249827
S_2	= 0,66 kN	-0,42 0,00018498
S_3	= 0,78 kN	-0,24 0,034099771
S_4	= 0,65 kN	-0,43 1,87871E-06
S_5	= 0,79 kN	-0,24 0,036434269
average value	0,66 kN	sum 0,22321917

m_y	= -0,4294273	number of tests	5
s_y	= 0,23623038	α_r	0,800
k_n	= 2,33	β_s	4,700
P_{Rk}	= 0,38 kN	k	1,645
P_{Rd}	= 0,30 kN	v_y	0,240
		γ_M	1,250

Figure 14 Statistical evaluation of the test series

2.5. Examination of tensile force

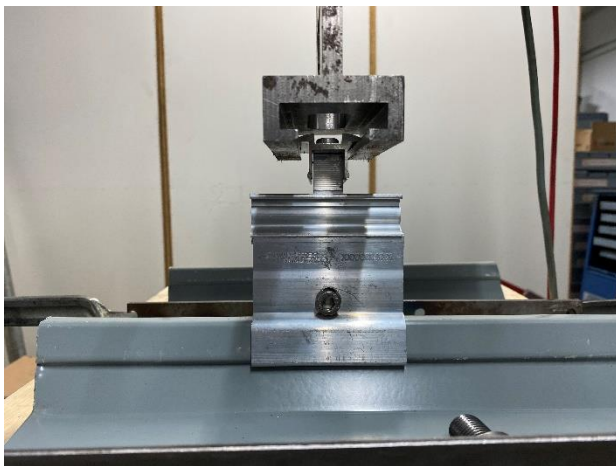


Figure 15 Assembly



Figure 16 Assembly



Figure 17 Assembly at 1 kN

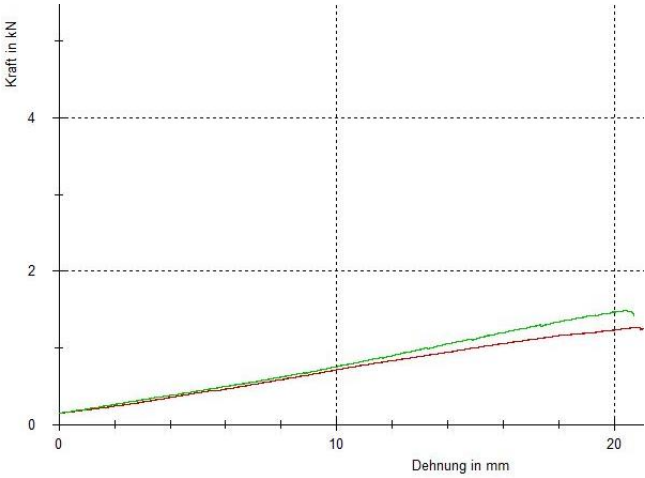


Figure 18 Measuring records of the tensile tests

2.6. Examination of pressure force



Figure 19 Assembly

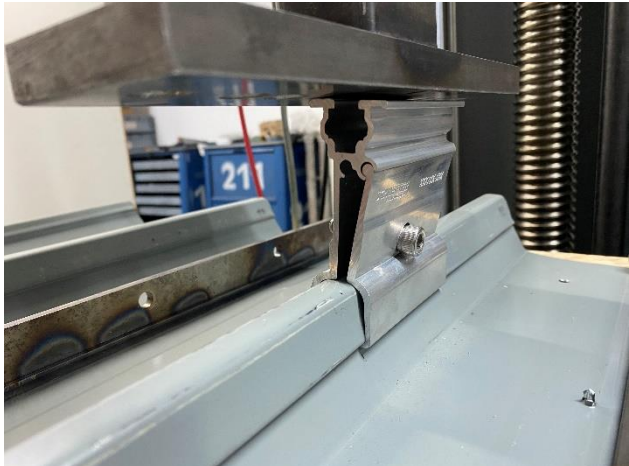


Figure 20 Assembly



Figure 21 Assembly at 3 kN

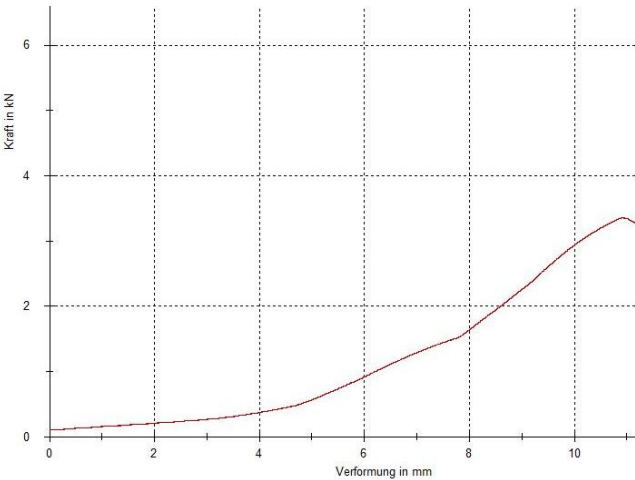
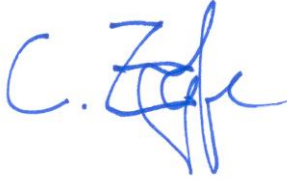


Figure 22 Measuring records of the pressure test

3. Summary



Kirchdorf, Oct/13/20