



# Test Report

Report No.: 887037

- Assignor:** Nordic Build A/S  
Bjernermarksvej 54  
DK-5700 Svendborg
- Subject:** **10 pcs. Test specimens of Rolled hot dip galvanised steel plates.  
Test specimens according to Appendix 1.**
- Sampling:** The test material was sampled, and test specimens were prepared by the assignor and received at the Danish Technological Institute in Taastrup on 29-08-2019.
- Method:** Friction/Shear test of joints between rolled steel plates.  
Test according to the principle of NB-1 (NB-1 Bestemmelse af korttidsforskydningsstyrken af limede samlinger mellem kropplade og flanger i et I-profil :2018 (Determination of short time shear strength of glued joints between board material and metal plate flanges of an I-profile))  
Test set-up – see appendix 1.  
  
The tests were carried at lab temperature 23 °C.  
Speed of test: 10 mm/minute
- Equipment:** Load cell: 5 kN Instron, IDD 80579
- Period:** August – September 2019
- Result:** Appendix 2: Summary of test results, Appendix 3: Individual test results.
- Note:** -
- Storage:** The test material will be destroyed after 1 month, unless otherwise agreed.
- Terms:** The test has been performed according the general terms and conditions of The Danish Technological Institute. The results from DTI's work in this report, i.e. analyses, assessments and instructions may only be used or reported in their entirety. The customer may not mention or refer to DTI or DTI's employees for advertising or marketing purposes unless the DTI has granted its written consent in each case.
- Date/place:** 03-09-2019, Danish Technological Institute, Wood and Biomaterials, Taastrup

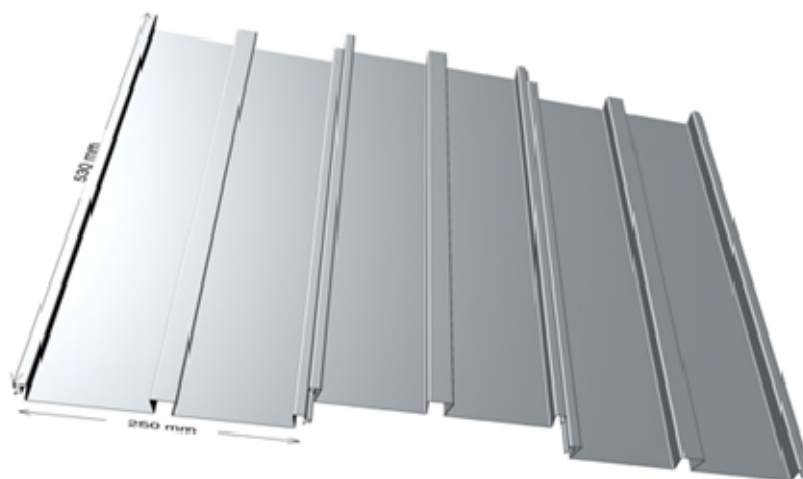
**Signature:** Test responsible

Co-signatory

**Materials,  
test specimens  
and test set-up**

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Material	Description
Steel plate Swallow tail profile	0,9 mm DX51 D + AZ 150 AS  DX51 D = Standard steel, with tension strength 500 MPa AZ 150 AS = Surface treatment, AluZink minimum 150 g/m <sup>2</sup> , Normal appearance (A), Anti Fingerprint surface (S)
	All descriptions are given by the assignor



Test specimens

## Materials, test specimens and test set-up

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Test set-up - Test specimen in test machine



Test specimen in test machine, supplied with fixture to hold the test specimen straight, and prevent it from "un-zipping" during test.

## Summary of test results

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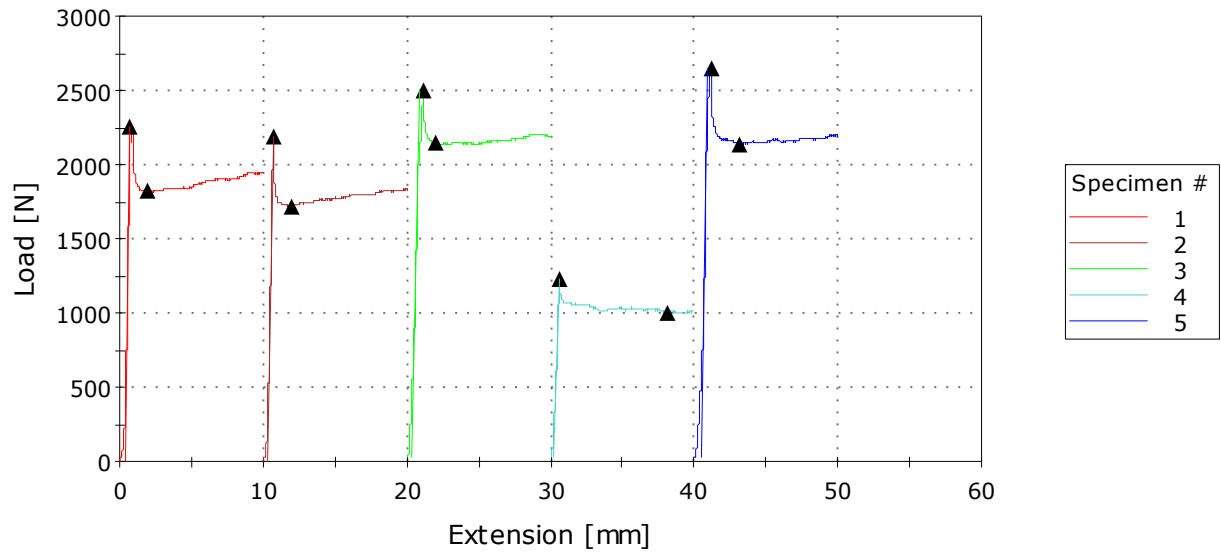
	<b>Static</b>	<b>Dynamic</b>
	<b>Shear strength</b>	<b>Shear strength</b>
Mean value [N/mm]	2,308	1,922
Standard deviation [N/mm]	0,425	0,406
Coefficient of variation [%]	18	21
Characteristic value [N/mm]		
5 %-tile fraction according to EN 14358	1,40	1,11

## Individual test results

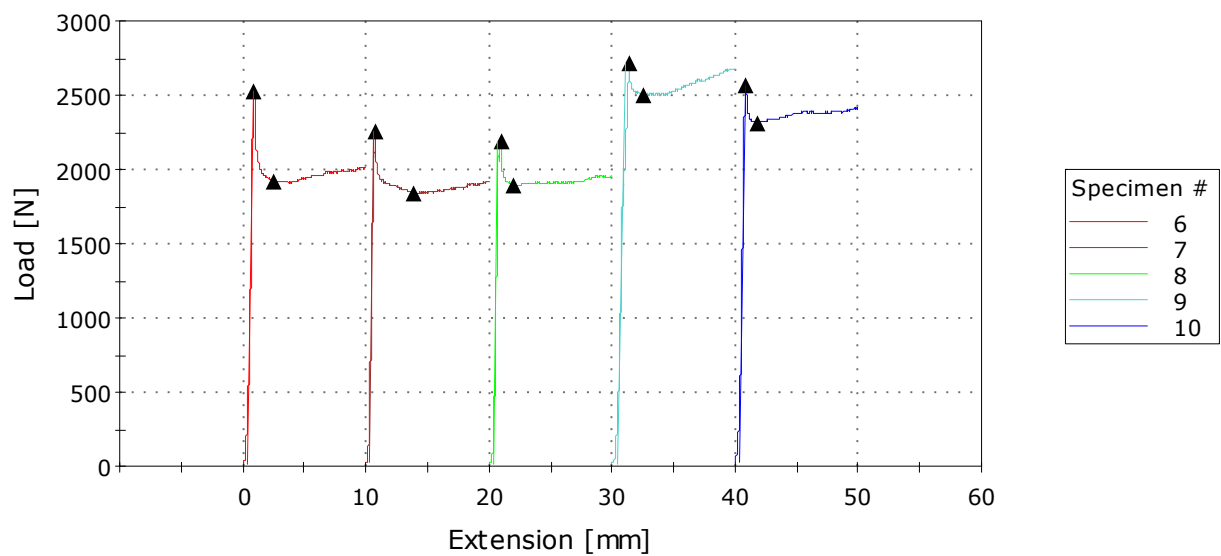
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Nordic Build - Friction/Shear test of metal plate/metal plate connection

### Specimen 1 to 5



### Specimen 6 to 10



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## Individual test results

	Shear length side 1 [mm]	Shear length side 2 [mm]	Maximum Load [N]	Time at Maximum Load [s]	Shear strength Static [N/mm]	Maximum Slope (Automatic Young's) [N/mm]	Load at Minimum (Cursor) [N]	Shear strength Dynamic [N/mm]
1	500	500	2250	5	2,25	6017	1821	1,814
2	500	500	2187	4	2,187	5880	1722	1,715
3	500	500	2502	7	2,502	4231	2143	2,135
4	500	500	1232	4	1,232	3318	1002	0,998
5	500	500	2654	7	2,654	6095	2139	2,130
6	500	500	2530	5	2,53	6279	1920	1,912
7	500	500	2260	5	2,26	5954	1832	1,825
8	500	500	2189	6	2,189	5411	1894	1,886
9	500	500	2711	9	2,711	4751	2503	2,493
10	500	500	2565	5	2,565	6244	2316	2,307
Mean	500	500	2308	6	2,308	5418	1929	1,922
Standard deviation	0	0	425	1	0,425	1000	407	0,406
Coefficient of variation	0,0	0	18	26	18,423	18	21	21,119