



Test Report

Report No.: 849724

- Assignor:** Nordic Build A/S
Bjernermarksvej 54
DK-5700 Svendborg
- Subject:** 15 mm MAGPLY
8 pcs cut parallel to the length of the panel and 8 pcs. cut perpendicular to the length of the panel.
Dimension 450 x 900 mm
Magnesium Oxide Board with glass fibre mesh webbing.
One side smooth.
White
- Sampling:** The test material was sampled by the assignor. The samples were received at DTI 07-12-2018
- Method:** EN 789:2004 Timber structures - Test methods - Determination of mechanical properties of wood based panels.
Panel Shear properties only.
The test specimens were cut by DTI – see appendix 2
- Equipment** 20T HBM load cell C2, EQP 654
HBM DD1 extensometers, EQP 883
- Period:** December 2018 - January 2019
- Result:** The test results are given in:
Appendix 1: EN 789 Panel shear
- Storage:** The test material will be destroyed after 1 month, unless otherwise agreed.
- Terms:** Accredited testing was carried out in compliance with international requirements (EN/ISO/IEC 17025:2005) and in compliance with Danish Technological Institute's General Terms and Conditions regarding Commissioned Work accepted by Danish Technological Institute. The test results apply to the tested products only. This report may be quoted in extract only if the laboratory has granted its written consent.
- Date/place:** 10-01-2019, Danish Technological Institute, Wood and Biomaterials, Taastrup

Signature: Test responsible

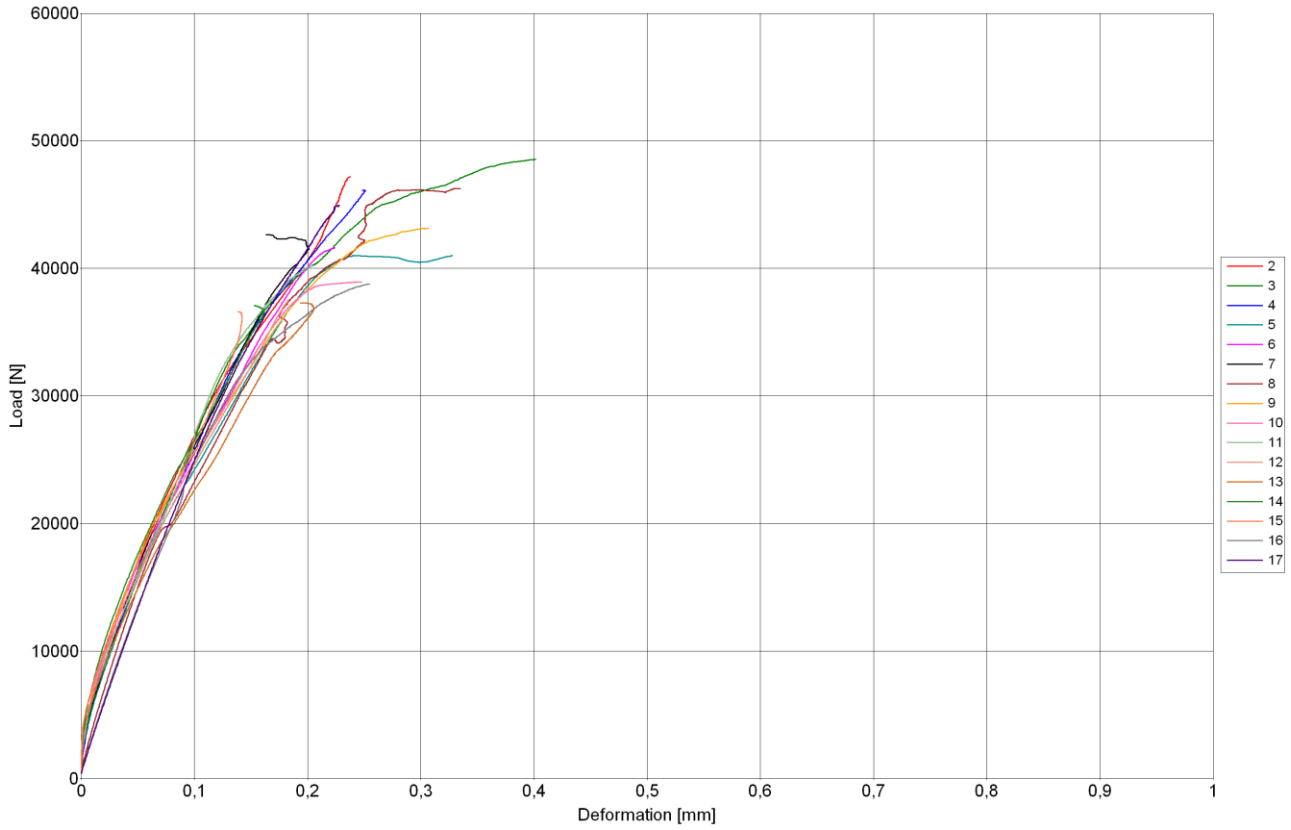
Co-signatory



EN 789 Panel Shear Test results


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Order no.: 849724 - Sample mark: MAGPLY - Test series: Statisk trykprøvning

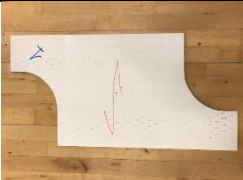


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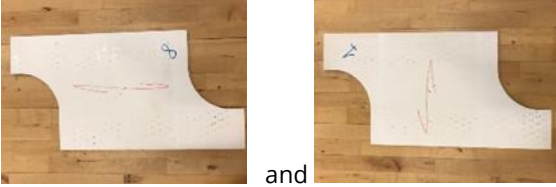
		Test results for specimens cut parallel to the length direction of the panels/test specimens.						
Test No	Specimen	Height [mm]	Thickness [mm]	Maximum load [N]	Shear strength [MPa]	Modulus of elasticity Gv [Mpa]	Deflection at max load [mm]	Time to failure [s]
2	Para1	549	16	47179	5,37	2284	0,237	212
3	Para2	550	15,1	48550	5,85	2279	0,402	228
4	Para3	547	14,7	46136	5,74	2334	0,248	204
5	Para4	548	14,8	41031	5,06	2389	0,328	194
6	Para5	548	15	41627	5,06	2531	0,224	165
7	Para6	547	15,2	42669	5,13	2436	0,163	118
8	Para7	548	15,1	46259	5,59	2371	0,335	523
9	Para8	550	15,1	43137	5,19	2538	0,308	216
Mean		548,4	15,1	44574	5,37	2395	0,281	232,5
Std deviation		1,2	0,4	2798	0,31	101	0,076	122,5
COV [%]		0,2	2,6	6,3	5,8	4,2	27,2	52,7

Test # 1 was a test of the test set-up and computer programme.

		Test results for specimens cut perpendicular to the length direction of the panels/test specimens.						
Test No	Specimen	Height [mm]	Thickness [mm]	Maximum load [N]	Shear strength [MPa]	Modulus of elasticity Gv [Mpa]	Deflection at max load [mm]	Time to failure [s]
10	Perp1	550	15,4	38933	4,60	2304	0,248	287
11	Perp2	550	15	40183	4,87	2351	0,204	474
12	Perp3	550	15,4	37563	4,43	2306	0,183	330
13	Perp4	550	15,5	37313	4,38	2067	0,193	336
14	Perp5	550	15,7	37069	4,29	2769	0,153	313
15	Perp6	551	14,7	36599	4,52	2690	0,139	306
16	Perp7	550	15	38758	4,70	2249	0,255	386
17	Perp8	550	14,9	44936	5,48	2285	0,228	383
Mean		550,1	15,2	38919	4,66	2378	0,200	351,9
Std deviation		0,4	0,3	2701	0,38	234	0,042	60,5
COV [%]		0,1	2,3	6,9	8,2	9,8	21,0	17,2

**EN 789 Panel Shear
Test results**

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17	Perp8	550	14,9	44936	5,48	2285	0,228	383	
Mean		549,3	15,2	41746	5,02	2386	0,241	292,2	
Std deviation		1,2	0,4	3948	0,50	174	0,073	111,9	
COV [%]		0,2	2,4	9,5	10,0	7,3	30,2	38,3	

Characteristic values (calculated in accordance with EN 14358):

$$f_{v,k} = 4,1 \text{ N/mm}^2$$

$$G_{v,k} = 2065 \text{ N/mm}^2$$

Test set up

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Test specimens cut for testing of panel shear according to EN 789.

Test set up

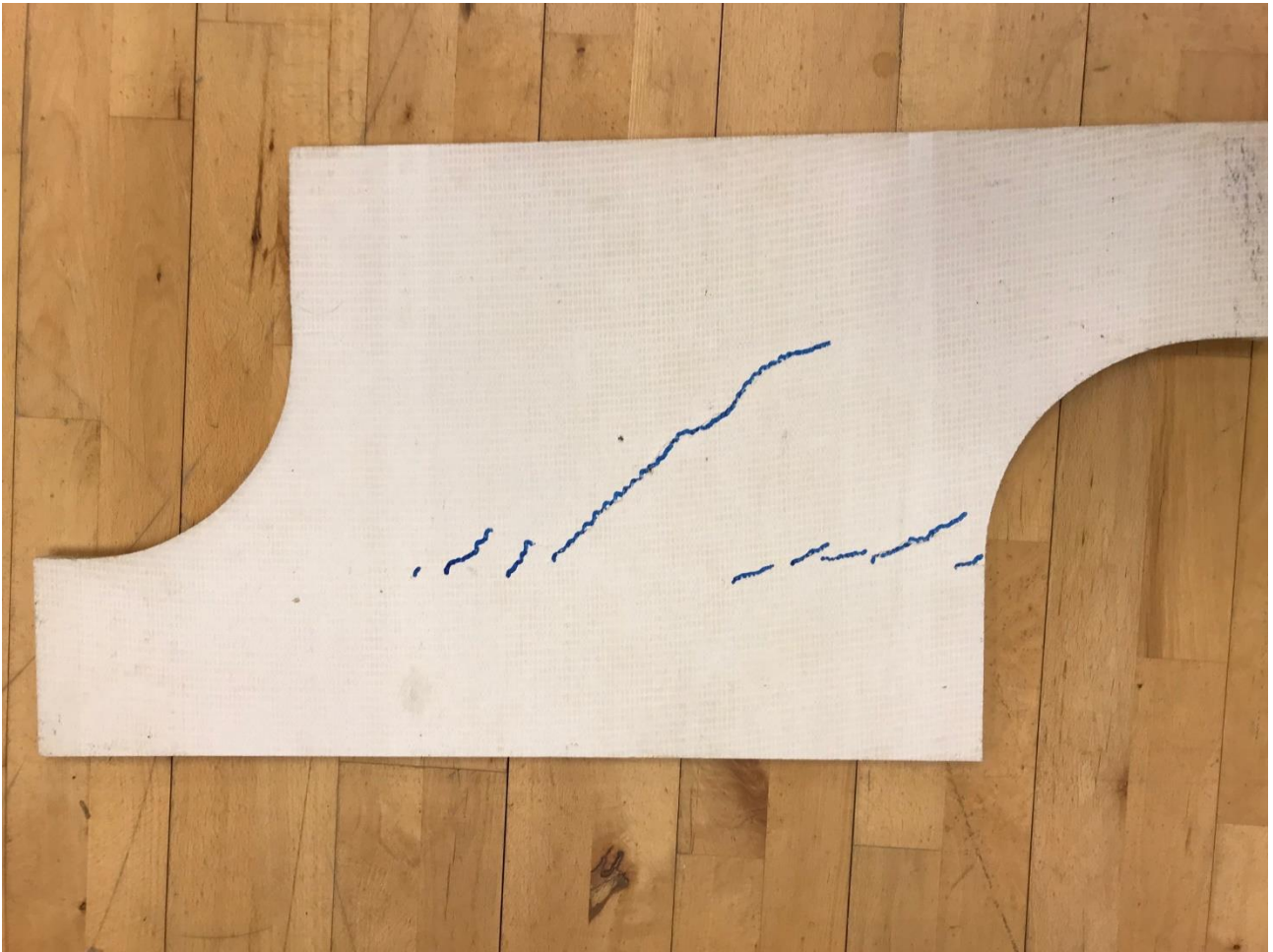
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Test specimen in test apparatus. Hydraulic grips with steel floor plates and four hydraulic cylinders. One hydraulic cylinder for the application of load via an electronic load cell.

Test set up

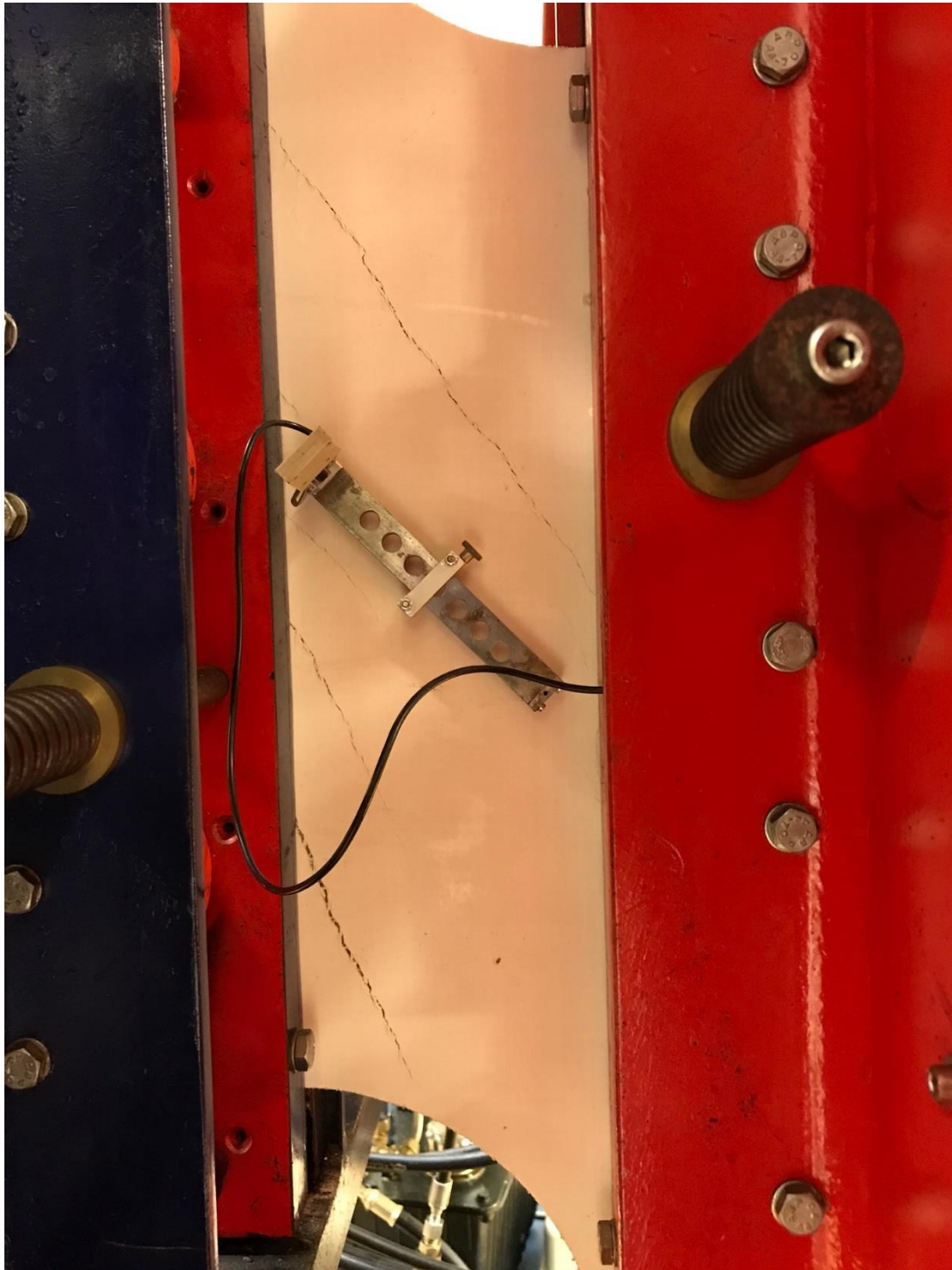
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Typical failure mode, fracture lines enhanced with a permanent marker

Test set up

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Test specimen in test apparatus, showing extensometers and fracture lines.