Rapport
Report

Teknologisk Institutt

Oppdragsgiver *Client*	**Utførende enhet/lab.** *Department/laboratory responsible*
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Rapportnr. *Report no.*

94642-02-021852

Tittel *Title*

Load test of levelling screw

Dato *Date*	**Utarbeidet av** *Prepared by*	**Godkjent av** *Approved by*	**Innleveringsdato for prøve** *Date of receipt of test object*
06.10.2015	Petter Dyrnes Test Ing.	Martin Smestad Foss Gruppeleder	07.09.2015 **Prøvetaking utført av TI** *Sampling by TI*: Nei *No*
Revisjonsnr. *Revision no.*: A	**Konfig.kont.** *Config.contr.*	**Antall sider** *No. of pages*: 4	**Ant. vedlegg** *No. of append.*: -
Kopi nr. *Copy no.*	**Akkreditert test (ISO 17025)** *Accredited test (ISO 17025)*: Nei *No*	**Kundens ref.** *Client's ref.*	**Bestillingsnr.** *Order no.*: T_0002746

Fordeling *Distribution*

Kunde

Contents

1. Scope

Teknologisk Institutt (TI) received several screws of the type showed in Figure 1.

TI was assigned to perform a test that measured the relationship between the load on the screw head and the movement of the screw in wood. This test was performed on behalf of Würth.

In addition to this, the deformation of a window frame should be measured. See Figure 2.

In this revision A of the report, the report has been translated from Norwegian to English.

Figure 1: Levelling Screw.

2. Test method

Six screws was selected and tested.

The screws was screwed into wood of quality C24 all the way to the screw head. After this the screw was unscrewed until the distance between the screw head and wood was 35 mm. A new area of wood was used for each test. All in all three pieces of wood as shown in Figure 3 was used.

A piece of window frame (Norgesvinduet Bjørlo) was laid on the screw head. The piece of window frame was pressed against the screw head by use of a SATEC universal test machine. See Figure 2.

The load was measured when the movement was 1, 2 and 3 mm respectively. The results can be seen in the table on page 3.

Deformation of the window frame was measured by use of caliper.

3. Date and location for testing

14.09.2015. Teknologisk Institutt, Materials Technology, Oslo.

4. Results

Results of load test

	Load by movement [kN]		
Test nr.	1mm	2mm	3mm
1	6.3	7.3	8.3
2	6.2	7.7	8.7
3	6.4	7.6	8.6
4	5.8	7.3	8.3
5	5.7	7.0	7.9
6	5.5	6.9	7.9
Average value	6.0	7.3	8.3

Deformation of window frame.
In one case the deformation was measured to being 0.3 mm (See Figure 3). In the other five cases the deformation was measured to being less than 0.1 mm.

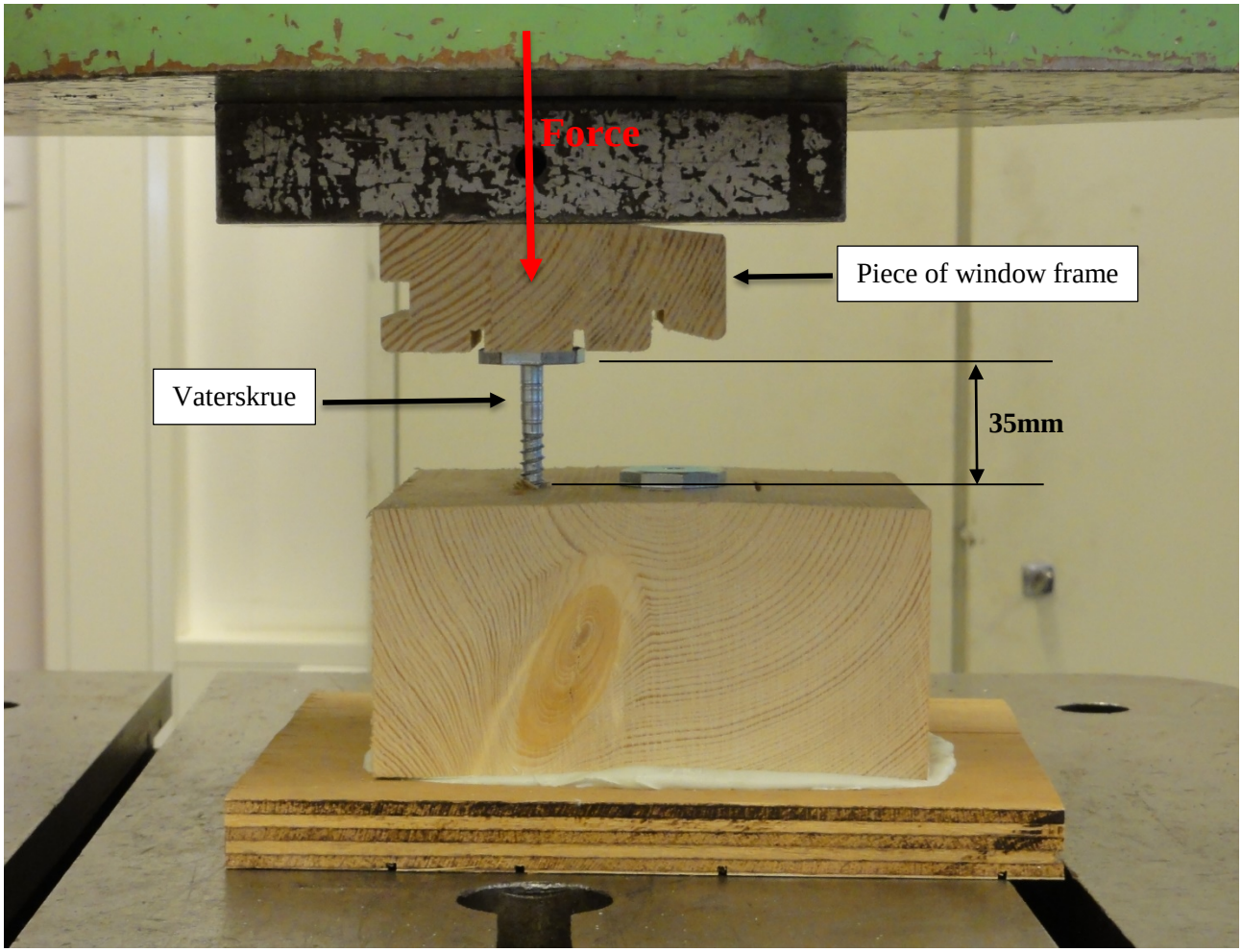

Figure 2: Load test of levelling screw.

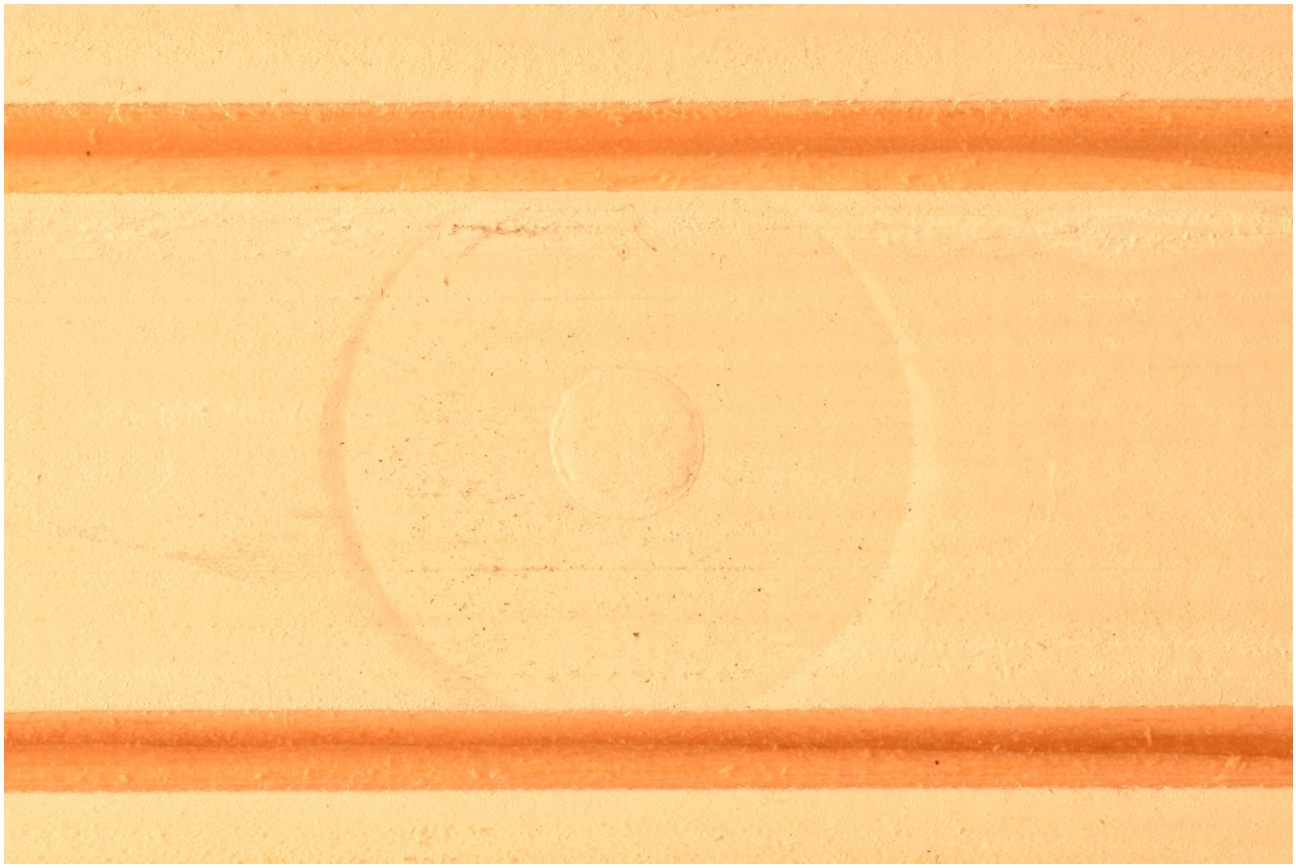

Figure 3. Maximum deformation of window frame