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Tyskland

Determination of air permeability and resistance to wind load according to EN 13241-1 (1 appendix)

Test object

Client: SOMMER Antriebs- und Funktechnik GmbH
Product name: Alkur Normtor
Type of door: Industrial, overhead, sectional door
Daylight size: Width 6040 mm, Height 3500 mm

The door was supplied and installed by the client in the opening of an airtight chamber, with its exterior facing inwards towards the chamber, see description and pictures in appendix 1.

The door was equipped with eight reinforcements, two on the bottom panel and one each on the other panels.

Summary of classification

Air permeability according to EN 12426: Class 2
Resistance to wind load according to EN 12424: Class 3

Test procedure

Air permeability

A positive air pressure was established in the chamber and the air leakage was measured at 50 Pa.

The tests were carried out in accordance with EN 12427.

Resistance to wind load

The door was tested in accordance with EN 12444 in an air pressure chamber. Before the test measures were taken to minimize air leakage in the door and its supporting construction. The air pressure in the test chamber was increased in steps in accordance with the different classes given in EN 12424.

The test was carried out in accordance with EN 12444.

Test results

Air permeability

Leakage at 50 Pa positive pressure: 7.7 m³/h,m²
Classification according to EN 12426: Class 2

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Resistance to wind load

The door collapsed at an inner pressure of about 1050 Pa. The panels folded at the middle.

No visible deformations were noted at pressure step, 963 Pa.

Classification according to EN 12424:

Class 3

Conditions of test

The test results refer only to the tested object.

Date of test: 2013-01-29
Place of test: SOMMER test site in Kirchheim/Teck, Germany
Equipment used: Measuring equipment no. 202429, 202733, 202214
Estimated error margin: Air pressure difference $\pm 2\%$, air flow $\pm 5\%$
Ambient climate: Air temperature 10 °C

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Performed by



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Examined by



Börje Gustavsson

Appendix: Description and pictures of the door

Appendix 1

Description of the door

Product name	Alkur Normtor
Daylight size (wxh)	6040 mm x 3500 mm
Type and producer of panels	Alkur-Industrial
Thickness of panel	40 mm
Type of tracks	FF 2V / ALK 2V
Type of rollers	FF 575-100
Type of slides	FF 447 DOUB
Type of side hinges	ALK 450 DOUB
Type of intermediate hinges	FF 450 HZ
Type of bottom bracket	FF 444 Cable break
Type of top sealing	FF 1036
Type of bottom sealing	FF 1035 SR
Type of side sealing	FF 1085
Type of handle	FF 642 BL
Type of reinforcement on the panel	FF 68 SC, eight struts, two on the bottom panel and one each on the other panels



Figure 2. Door type Alkur Normtor, mounted in the test rig, as seen from inside.

Appendix 1



Figure 3. Side hinge, slide and roller.

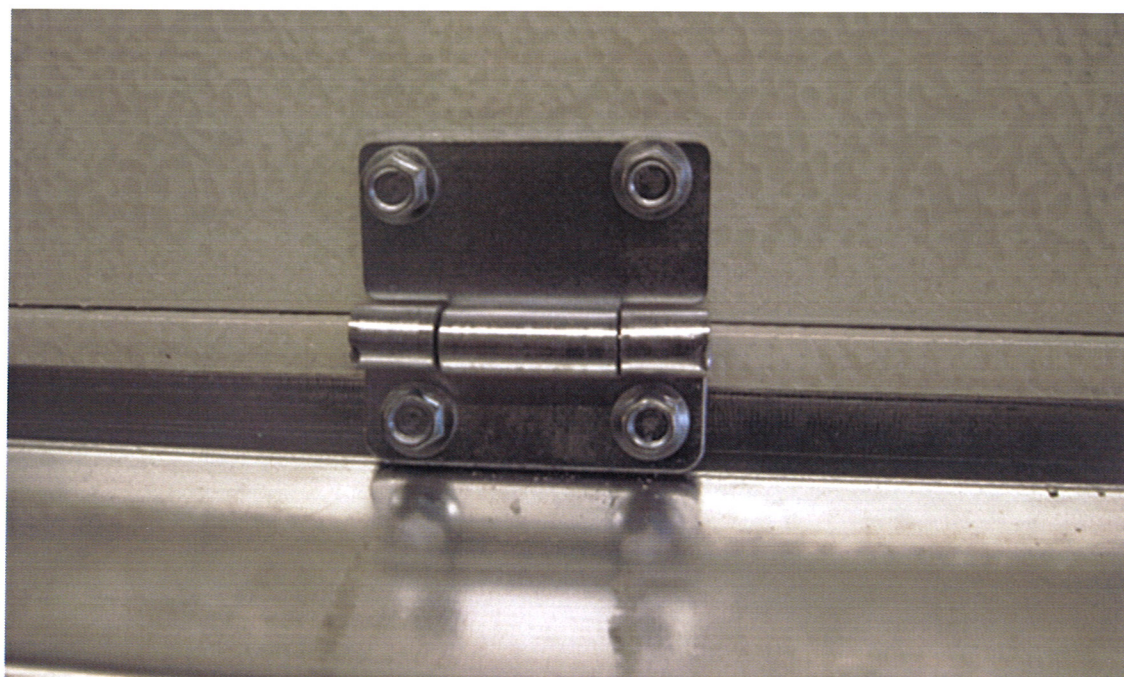


Figure 4. Intermediate hinges.

Appendix 1

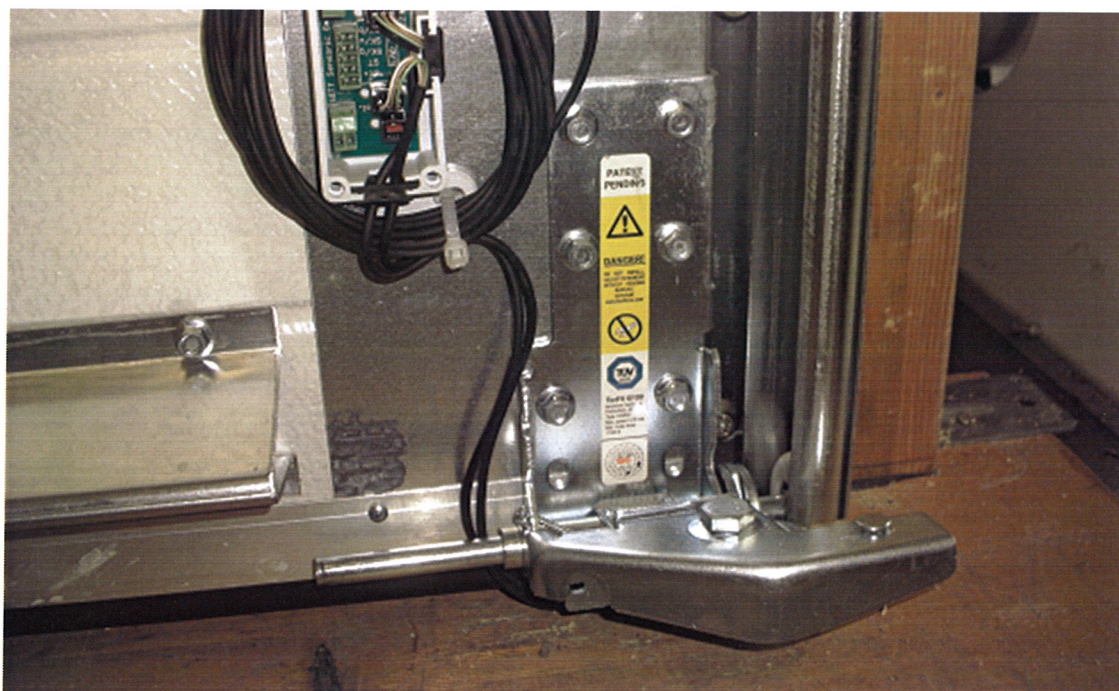


Figure 5. Bottom bracket.

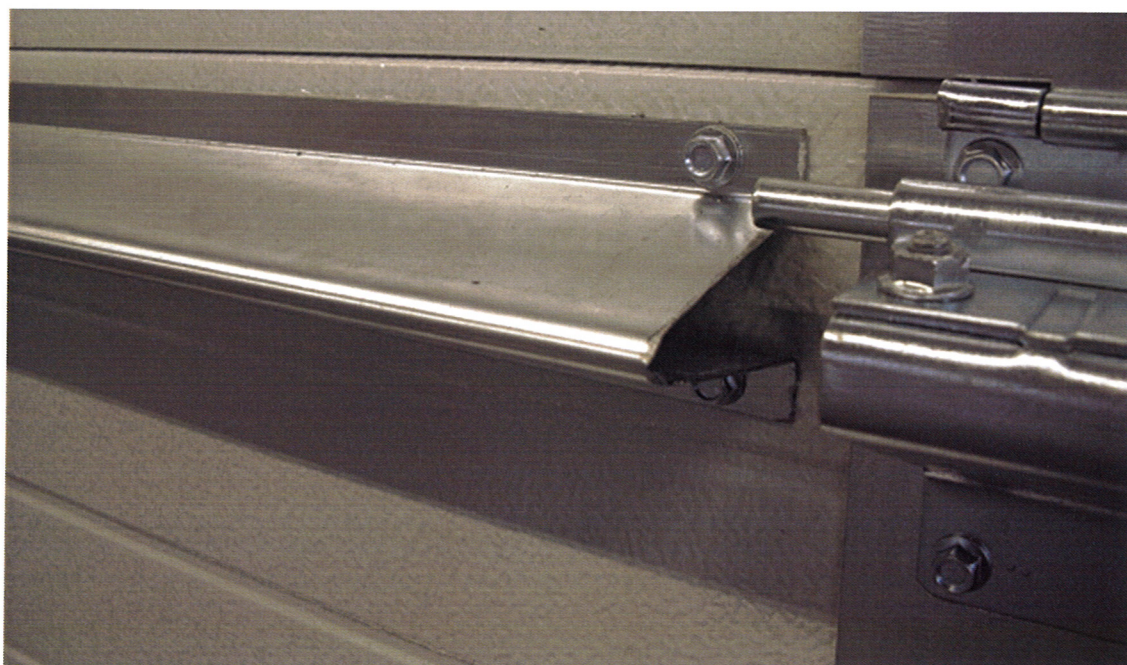


Figure 6. Reinforcement on the door.