



Zentrum für Konstruktionswerkstoffe
Staatliche Materialprüfungsanstalt Darmstadt
Fachgebiet und Institut für Werkstoffkunde
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Test Report K 10 1692.2

1st Copy

Client: nie wieder bohren ag
Güterbahnhofstraße 3-7

63450 Hanau

Date of order: 2010-11-03 Order No. or Reference: Winter

Subject: Testing of grab rails according to ASTM Designation: F 446-85 (Reapproved 1999),
„Standard Consumer Safety Specification for Grab Bars and Accessories Installed in
the Bathing Area“

Test specimens: See para. 1

Specimen sampling: The specimens were delivered by the client

Receipt of samples: 2010-10-13

Test date: 2010-11-02 to 2010-11-05

Specimen disposition: The specimens will be collected by the client after the test conclusion

Copies: 1st and 2nd Copy: Client

Staatliche Materialprüfungsanstalt Darmstadt

Kompetenzbereich Kunststoffe

Grafenstraße 2, 64283 Darmstadt

Pages: 3

Tables: - -

Annexes: 2

Report date: 2010-11-08

Reference: K/Ob

The Management

by order

Dipl.-Ing. A. Bockenheimer

Official in Charge

Dipl.-Ing. R. Oberitter

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The accreditation includes the in the accreditation certificate
listed areas of testing and test methods.



1. Test Material

Pos.	Number	Designation
1	3	Grab rails (see Figs. 1 and 2, Annex page 1), Material: 1 Grab rail: chrome 2 Grab rails: stainless steel, brushed Pipe diameter: 38 mm Height including adapter: 82 mm Center of the mounting flanges: 305 mm
2	18	Adapter (see Fig. 2, Annex page 1), Material: sintered metal Diameter of the adapter: 73 mm Thickness of the adapter: 4 mm
3	30	Adhesive tubes (see Fig 4, Annex page 2) with the labeling: 190112
4	30	Key for the adhesive tubes (see Fig. 4, Annex page 2)
5	ca. 50	Countersunk screws M 4 x 8 (see Fig. 3, Annex page 2)

2. Test Objective

The test objective was to verify:

- the conformity of the test specimen (see para.3 and 4) with the requirements of the test specification „ASTM Designation: F 446 – 85, paragraph 7 Test Methods“

3. Specimen

A test specimen consists of a grab rail (see Fig. 1, Annex page 1), that is bolted together to two adapters (see Fig. 2, Annex page 1), using the provided adhesive (see Fig. 4, Annex page 2) each glued to a flat bar.

4. Conducted Tests

The tests were performed according to the test specification "ASTM Designation: F 446 – 85, paragraph 7, Test Methods".

Number of grab rail types : 1

Number of specimens per grab rail type : 3

Test load in kg (kN) : 112 (1.1)

Duration of the test loading in minutes : 5

Each specimen was charged as follows with the above mentioned test load:

- Grab rail attached horizontally, load direction parallel to the wall
- Load relief
- Grab rail attached vertically, load direction 30 ± 5 degrees to the wall

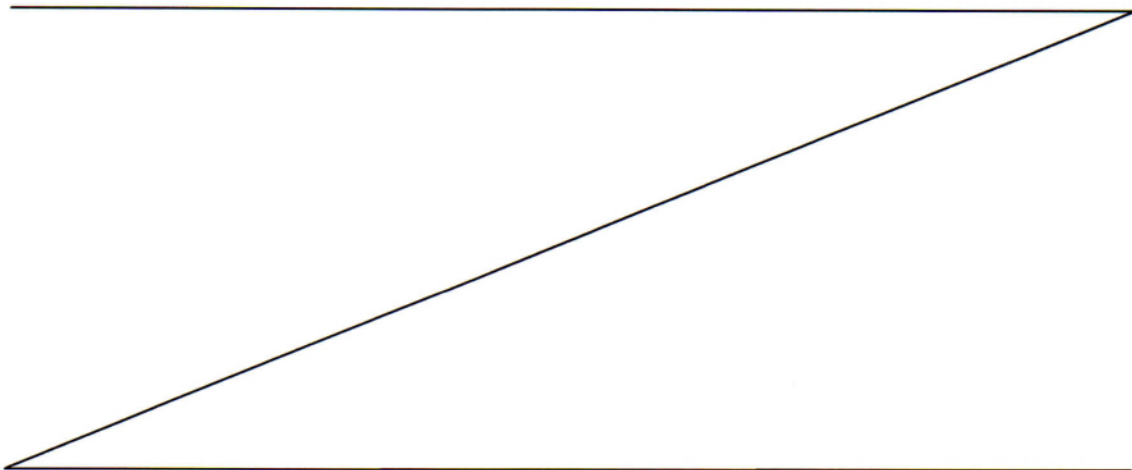
5. Test Results

a) Grab rail attached horizontally, load direction parallel to the wall

Requirements of ASTM Designation: F 446 – 85, paragraph 7 are fulfilled	yes
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b) Grab rail attached vertically, load direction 30 ± 5 degrees to the wall

Requirements of ASTM Designation: F 446 – 85, paragraph 7 are fulfilled	Yes
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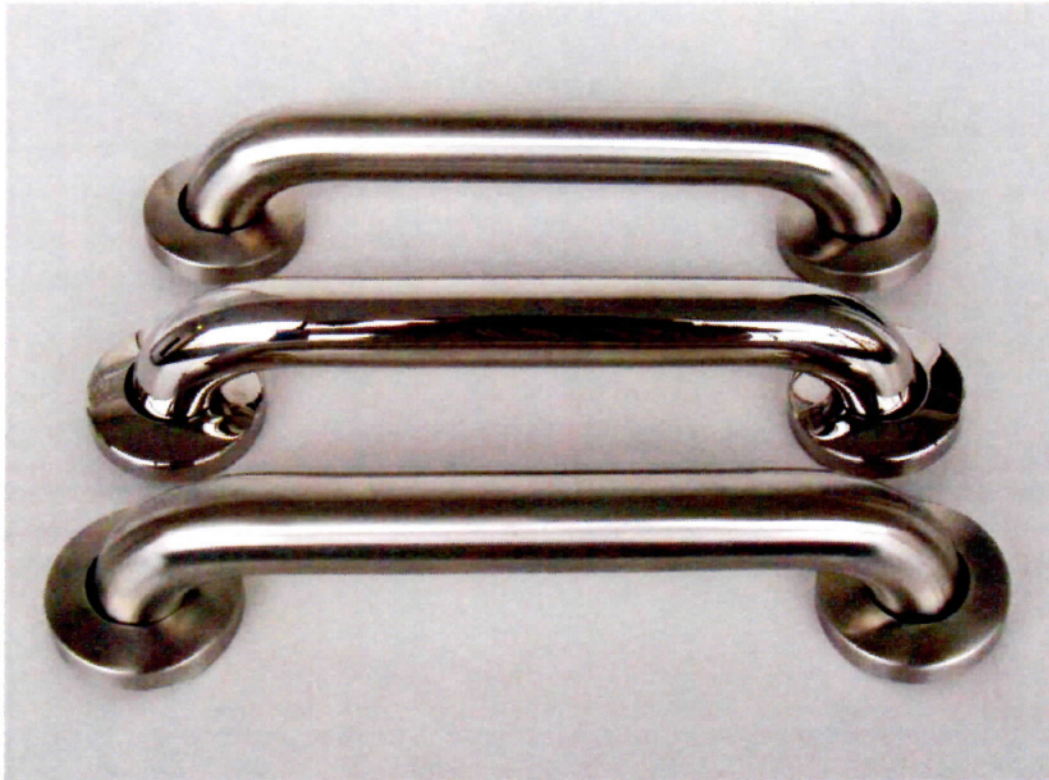


Fig. 1: Grab rail upon delivery

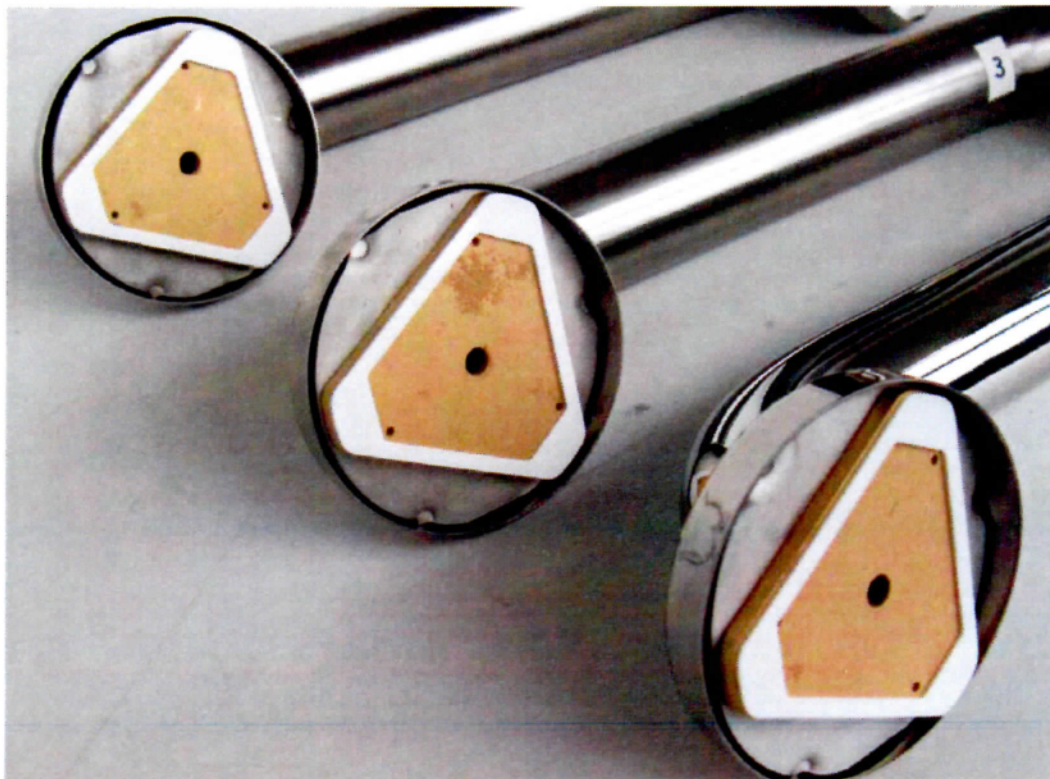


Fig. 2: Grab rail, flanges and mounted adapter



Fig. 3: Countersunk screws



Fig. 4: Adhesive tube (top) and key for the adhesive tube (bottom)