
TEST REPORT NR: 3300-5539-2012 A eng
(translated report No.: 3300-5539-2012 A)

Report on load test of a barrier construction

1. General Informations:

- 1.1. System / Object of inspection: **„Nordic Plastic Barriers“**
- 1.2. Operator: Nordic Rentals A/S
Helge Nielsen Allé 5
8723 Løsning
Denmark
- 1.3. Manufacturer: Dan Hill Plast A/S
Hornsyld Industrivej 37
8783 Hornsyld
Denmark
- 1.4. Static Calculation: none
- 1.5. Year of construction: 2011
- 1.6. Identification: none
- 1.7. Testing place: Løsning, Denmark
- 1.8. Testing date: February 21-22, 2012
- 1.9. Testing scope: constructional part
- 1.10. Testing basic rules: - EN 13814 (06/2005) Fairground and amusement park
machinery and structures - Safety
- VdTÜV Instruction Sheet 1507 (06/1997)

**„Plastic Barriers“ are not Temporary Structure acc. to the definition in German Building Law.
But they will be loaded here as well under application of the relevant norms.**



2. Submitted Documents:

none

3. Testing results:

3.1. Manufacturing check:

For manufacturing check, 5 barrier-elements were present single and ready assembled as well.

3.2. Loading tests:

In the course of the acceptance inspection, the barrier elements were subjected to a test series, in which maximum loads, in part clearly exceeding the standards taken as a base (see point 1.10.), were applied to the completely mounted barrier elements. In this test, the reaction of the framework was observed and conclusions were drawn concerning to their future use.

Participants of load test procedure, February 22, 2012:

Mr Holger Nowald

Nordic Rentals A/S

Mr Müller

TÜV Thüringen e.V.

For this procedure 5 present barriers elements are tested. Putting test loads as crane weights on the upper surface of the barriers (2 x 750 kg), the maximum live load required in the standard EN 13814, point 5.3.3.1.3.1. could be exceeded for the respective surface. Horizontal live loads onto the handrails were simulated with a forklifter and load belts. A measuring instrument gave possibility for controlling the loads (see figure 1, load test assembly).

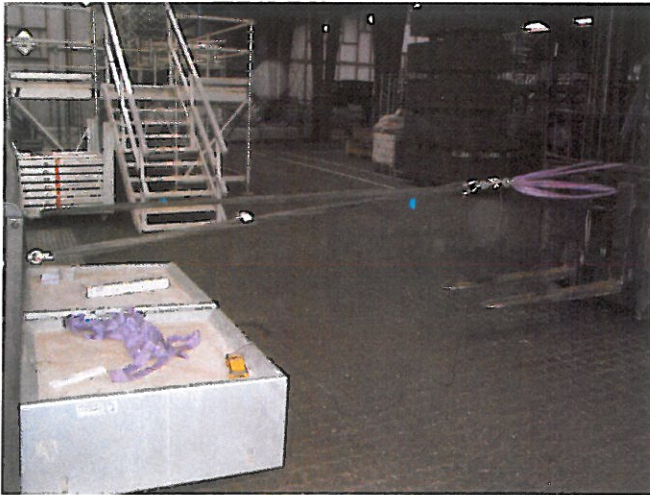


figure 1: test assembly

Test No.	Barriers connected in row	total vertical load	total horizontal load	remarks / failure
1	3	2 x 7,5 kN	2,6 kN	none
2	3	2 x 7,5 kN	3,0 kN	none
3	1	1 x 7,5 kN	1,3 kN	none
4	1	1 x 7,5 kN	1,1 kN	none
5	5	2 x 7,5 kN	4,2 kN	only 2 barriers on edge loaded
6	5	2 x 7,5 kN	2,3 kN	

3.3. Conclusion:

For this testing series present barriers resist far into exceeded loads according to the based norms.

4. Requirements:

- 4.1. When mounting the structure, it must always be guaranteed that all temporary connections (screws between bottom frame and barrier frame) will be installed immediately.
- 4.2. The bottom frame should stand always full supported onto underground. If this is not possible, for example crossing railways, curbstones etc. the regarding element must be underpinned.
- 4.3. It is recommended, make a tensile-fixed connection also between the top-bars of barrier elements, to certain avoid the risk of any injuries.
- 4.4. All advises and terms of mounting should summarize in a short and clear operators instruction in the language of final operator.

Load test is closed.

**TÜV Thüringen e.V.
Inspecting Office for Stress Analysis
and Temporary Structures**

Place, Date

Expert

Jena, March 2, 2012



Dipl.-Ing. Christian Müller

This is a translation of check report no. 3300-5539-2012 A.
In any case of doubt, this German original report is valid.