

Test Report

Client: itaab Trading AB
Box 1211
70112 Örebro
Sweden

Order-No. (Client):

Order-No. (MPA): **901 3343 /Sc/Kf**

Test Item: **Ceiling element – safe against ball throwing**

Specification Applied: DIN 18032-3:1997-04, Testing against ball throwing
and EN 13964, annex D, Testing of the impact resistance

Date of Receipt of Test Item -

Date of Test: 02-07-2007

Date of Report: 04-04-2007

Page 1 of 3 text pages

Enclosures : 2

Supplements:

Total Number of Pages: 5

Number of Reports: 3

The test results relate only to the items tested.

Publication of this report in full or partly is only allowed with written authorization by MPA University of Stuttgart.

1 Purpose of investigation

Testing of the safety of an installation element against ball throwing according to DIN 18032-3: 1997-04 "Sports halls, halls for gymnastics and games and multipurpose use: Testing of the safety against ball throwing".

Testing of the impact resistance according to EN 13984, annex D.

2 Description of the installation element

The element to be tested was the ceiling element (safe against throwing balls)

"Itaab Ribblamell 2540".

with the following dimensions 2000 x 2000 cm.

The bottom side was made parallel placed, U-shaped steel profile panels (40 mm x 25 mm x 0,6 mm). These steel profile panels were fixed at a width of approx. 19 mm in "noses" (punched out and bended) of the supporting bars (32 mm x 22 mm 0,8 mm, distance o.c. 700 mm) placed rectangular on the backside. To keep the distance between the steel profile panels and to secure them clips made of aluminium (thickness 0,6 mm) were clamped to the supporting bars.

The ceiling construction was hang up using Nonius-hangers which had been placed on their bottom side in U-steel profile parts with a length of 120 mm (dimensions 32 mm x 25 mm x 1mm) in a strap and bended. The steel profile parts were screwed to the supporting bars using sheet metal screws. The distance of the hangers was 840 mm o.c.

3 Testing procedure

The tests were carried out according to DIN 18032-3:1997-03 "Sports halls, halls for gymnastics and games and multipurpose use: Testing of the safety against ball throwing" as well as EN 13964, annex D "Impact resistance".

The procedures applied are accredited according to DIN EN ISO/IEC 17025:2005 (DAR-registration-no. DAP-PL-2907.07, annex).

The testing was run at normal temperature in the lab.

4 Test results

Table 1: Test results safety against ball throwing / impact resistance ceiling element

Ball	Angle of impact	No. of impacts	Changes in the element
Handball	90 °	12	none
Handball	60 °	12	
Handball	60 °	12	

5 Evaluation

The tested element did not show signs of damage after the test. Therefore it is classified "safe against ball throwing according to DIN 18032-3:1997-04" regarding the field of application "ceiling" as well as "class 1A according to EN 13964, annex D" (impact velocity 16,5 +/- 0,8 m/s).

This test report is valid until 04-04-2009

A repetition test is only not necessary at that time if the client can prove that the tested construction has not been significantly changed and is installed without any changes. This has to be certified by the testing house.

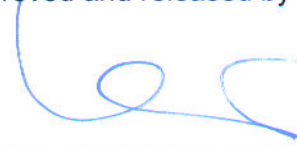
Prepared by



Johannes Schmid
Tester



Approved and released by



Dipl.-Ing. Hans-Peter Knauf
Section leader „Sports floors, sports facilities“

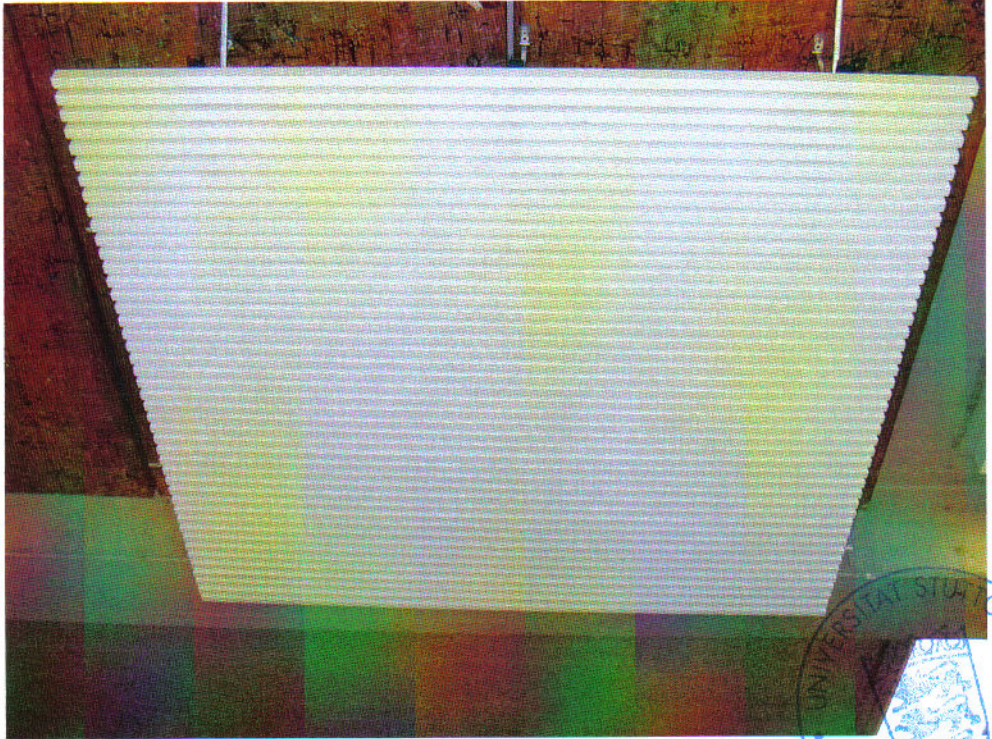


photo 1

Total view: bottom side of the ceiling element

„Itaab Ribblamell 2540“

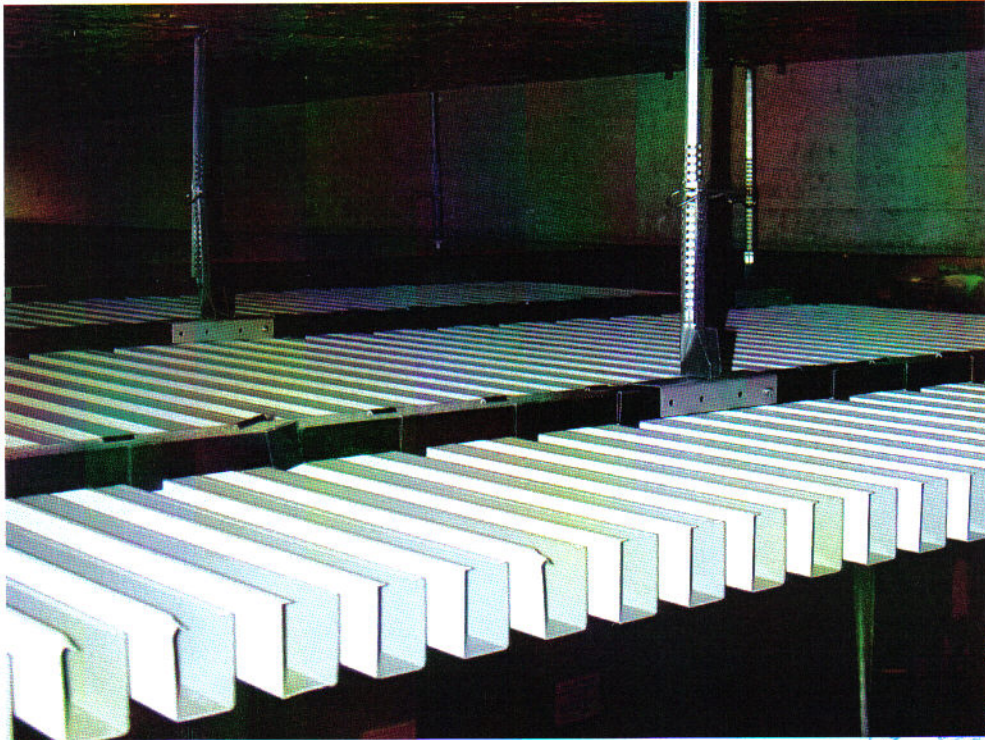


photo 2

Detail view: subconstruction of the ceiling element

„Itaab Ribblamell 2540“

