Materials Testing Institute
University of Stuttgart
P.O. Box 80 11 40 · 70511 Stuttgart · Germany

Materials Testing Institute
University of Stuttgart

DAkkS
Deutsche
Akkreditierungsstelle
D-PL-11027-04-00

# Test Report

Testing of impact-resistance

| | |
|---|---|
| Report-No.: | 903 8981/Sgm |
| Client: | Knaufdanoline<br>Kløvermarksvej 6<br>9500 Hobro<br>Dänemark |
| Order-No. (Client): | - |
| **Order-No. (MPA):** | 903 8981 000 |
| **Test Item:** | **Ceiling element "Contrapanel Globe G1F"** |
| Specification Applied: | [1] DIN EN 13964:2014-08<br>Suspended ceilings – Requirements and test methods |

| | |
|---|---|
| Date of Receipt of Test Item | 2020-09-02 |
| Date of Test: | 2020-09-02 |
| Date of Report: | 2020-09-21 |
| Page 1 of | 3 text pages |
| Enclosures : | 4 |
| Supplements: | |
| Total Number of Pages: | 7 |
| Number of Reports: | 2 |

The test results relate only to the items tested.

## 1 Purpose of Investigation

With writing of 2020-08-14 you ordered the Materials Testing Institute University of Stuttgart with the testing of the impact-resistance according to DIN EN 13964 [1] on a ceiling element.

## 2 Tests and Analyses Performed

### 2.1 Description of the test item

The element investigated was the ceiling element,

**"Contrapanel Globe G1F"**

The tested ceiling had the dimensions of approx. 2400 mm x 2100 mm and consisted of 8 ceiling elements with dimensions of 1200 mm x 600 mm x 15 mm in suspended installation.

The tested ceiling construction consisted on its underside of 12,5 mm thick perforated gypsum plasterboards (GKB type A) with dimensions of 1200 mm x 600 mm. The visible side of the boards was laminated with pre-impregnanted white paper foil (60 g/m²). The perforation was 10.2% (Globe, Circles Ø 6 mm, c/c 15 mm) of the panel surface.The reverse side was laminated with kraft paper with polypropylene and an additional cellulose fleece.
These boards were screwed to CD profiles (supporting profile, 60/27), which ran at right angles to the back with an axial dimension of 200 mm, alternately with two or four screws (White screws WS25S). By means of cross connectors the CD profiles were connected with CD profiles running at right angles behind them (basic profile, 60/27).
The wall connection was made using UD profiles 28/27, which were screwed to the wall at max. 400 mm intervals.
The suspension of the ceiling construction was done with vernier hangers in a grid of 900 mm x 900 mm.

### 2.2 Execution of the tests and analyses

The test was performed according to DIN EN 13964 [1], Annex D (accredited test method according to DIN EN ISO / IEC 17025, see DAkkS-certificate D-PL-11027-04-07). For the assessment of conformity, the uncertainty of measurement results shall not be taken into account.

The tests were performed in a laboratory at room temperature with an impact speed of 8,0 ±0,5 m/s (Class 2A) according to DIN EN 13964 [1].

## 3 Results of Investigation

Table 1: Results of determination of impact resistance according to DIN EN 13964 [1] on the ceiling element **"Contrapanel Globe G1F"**

| Ball | Impact angle in degree | Number of tests | Impact speed | Deterioration of test item |
|---|---|---|---|---|
| Handball | 90 | 12 | 8,0 ±0,5 m/s (Class 2A) | none |
| Handball | 60 | 12 | | |
| Handball | 60 | 12 | | |

The tested ceiling element passed the test without damage.

Therefore the element can be evaluated as impact-resistant according to DIN EN 13964 [1], Annex D, for the Class 2A (impact speed 8,0 ± 0,5 m/s).

The test report is valid for an indefinite period of time, provided that no changes are made to the components produced and marketed in comparison to the tested installation element. Any change in the installation element in comparison to the tested variant will invalidate the test report and necessitate a new inspection of the installation element.

Prepared by

**N. Schulz**
**Testing Engineer**

UNIVERSITÄT STUTTGART
MATERIALPRÜFUNGSANSTALT (12)

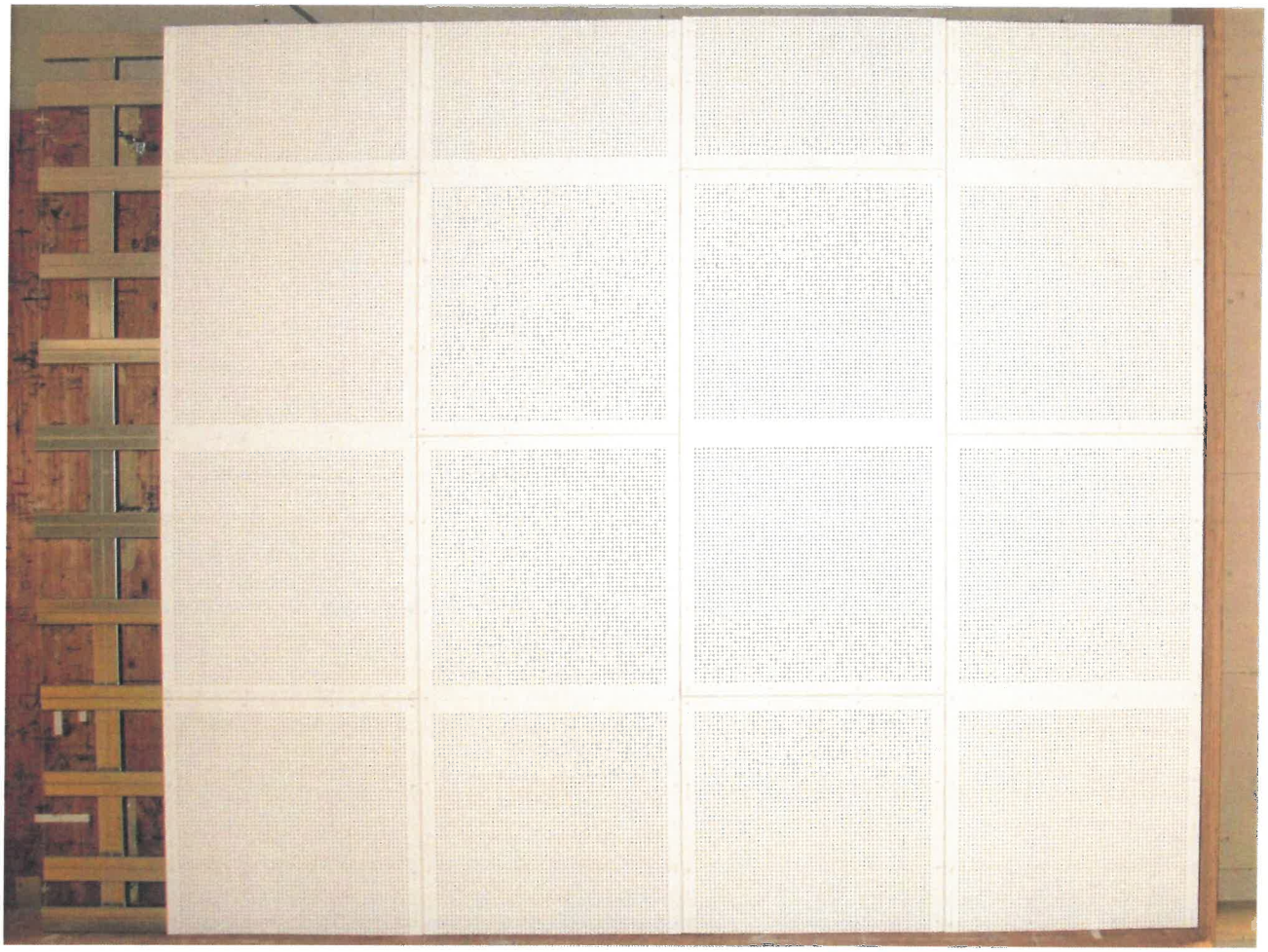
Approved and released by

**Dr.-Ing. Stegmaier**
**Head of section**
**Building Envelope, Energy Efficiency, Floor Constructions**

Materialprüfungsanstalt Universität Stuttgart
Pfaffenwaldring 32
70569 Stuttgart (Vaihingen)
USt.-ID-Nr. DE 147794196

Phone: +49 (0)711 685 - 0
Telefax: +49 (0)711 685 - 62635
Internet: www.mpa.uni-stuttgart.de

BW-Bank Stuttgart / LBBW
Account No. 7 871 521 687 BLZ 600 501 01
IBAN: DE51 6005 0101 7871 5216 87
BIC/SWIFT-Code: SOLADESTXXX



Picture 1
Overall view: visible face
**"Contrapanel Globe G1F"**



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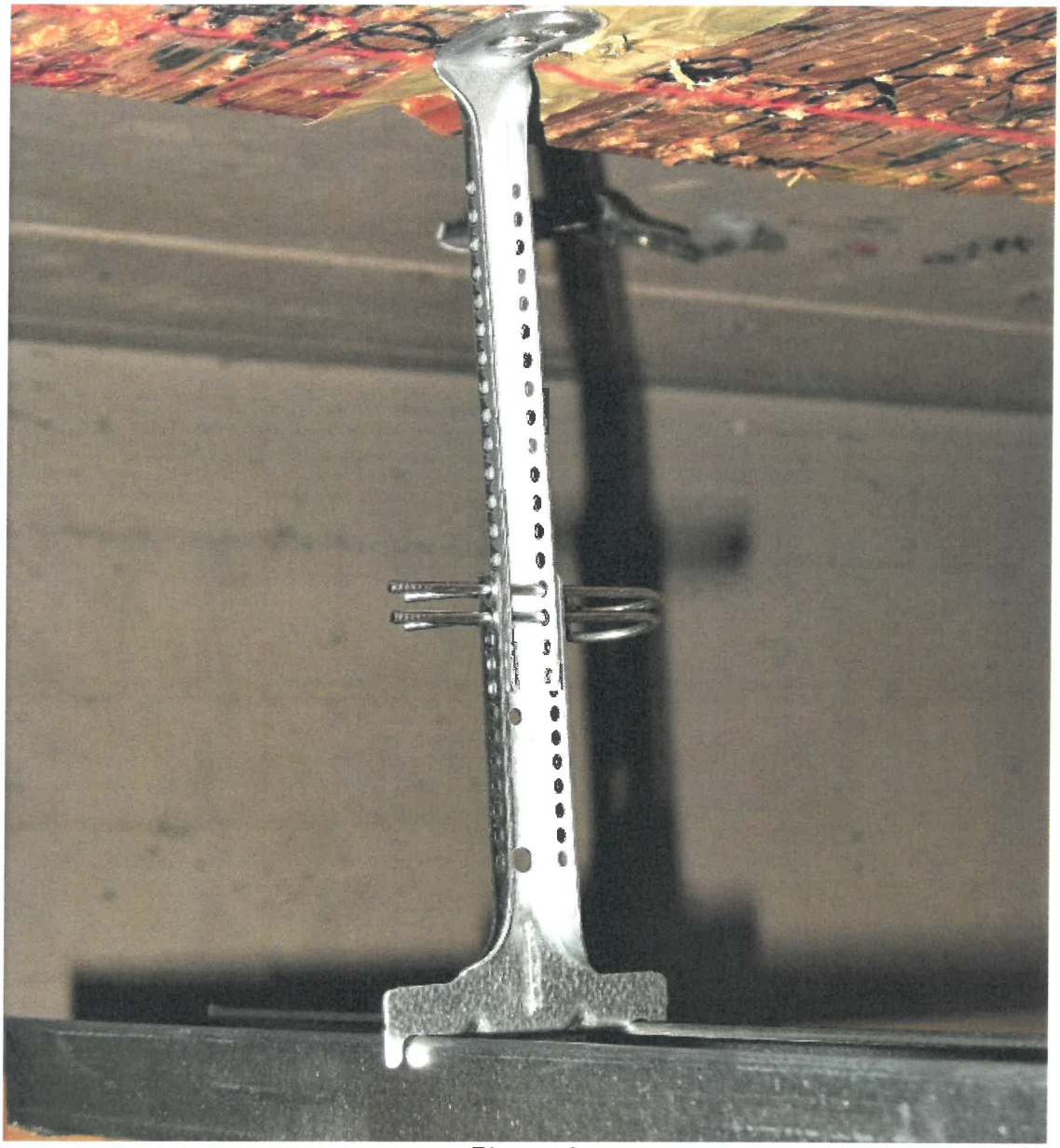

Picture 2
Detail: Suspension
**"Contrapanel Globe G1F"**



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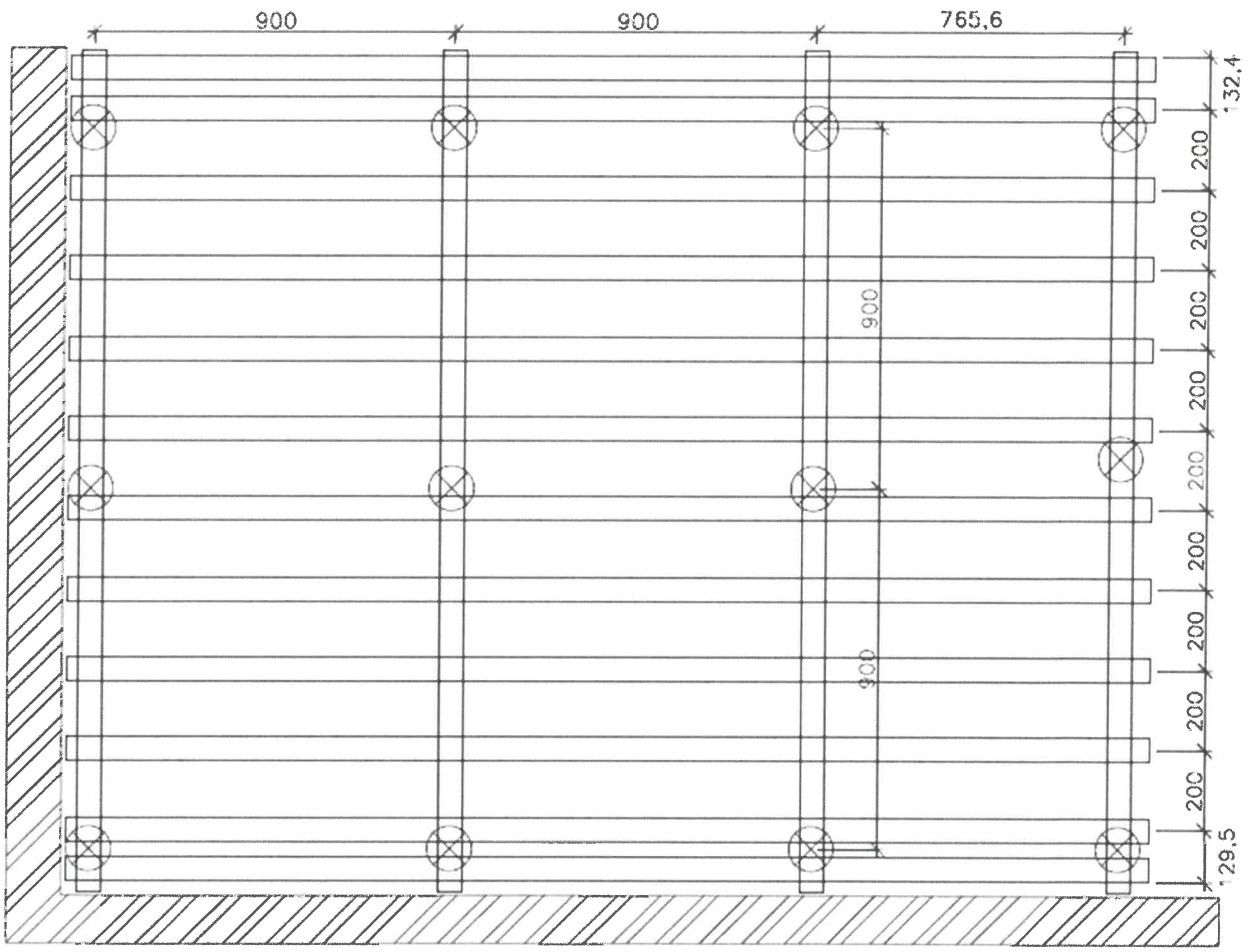


Grid system:

CD 60/27 primary profiles cc 900 mm and secundary CD-profiles cc 200 mm connected by cross connectors.

⊗ Nonius hanger cc 900 mm

Picture 3
Technical drawing of the grid system of the ceiling element
**"Contrapanel Globe GIF"**

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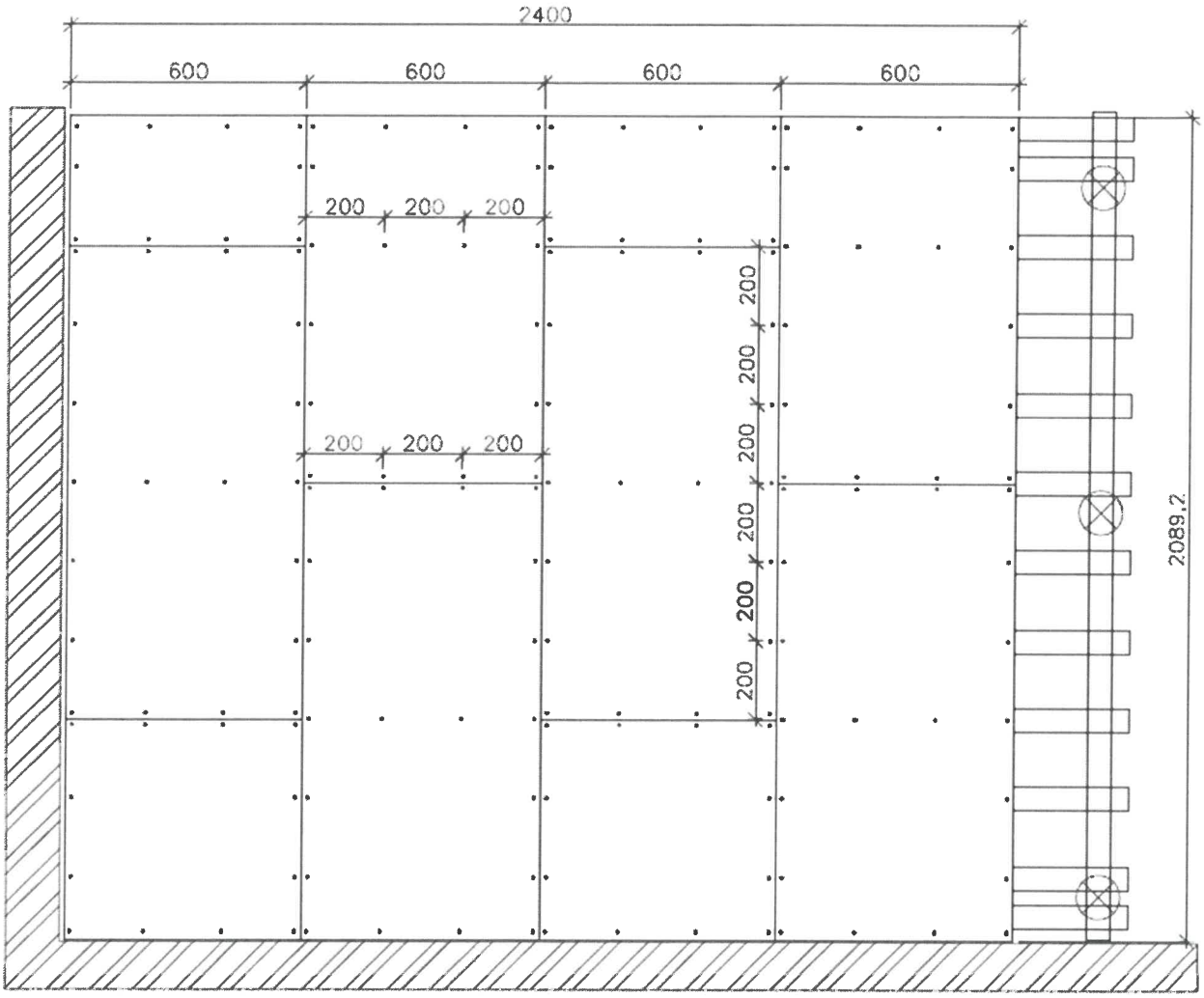


## Panels:

KnaufDanoline Contrapanel 12,5 x 600x1200 mm
Perforation Globe G1F
Screw fixed to CD profiles with 25 mm screws
Minimum 15 mm from edges.
cc 200 mm along all edges and along the center-line of the panel (in cross direction)

Picture 4
Technical drawing of the panels of the ceiling element
**"Contrapanel Globe GIF"**