*Certified translation from the German language*


# MFPA Leipzig GmbH

Testing, inspection and certification body for
building materials, building products and building systems

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## Classification report no. KB 3.1/19-087-2

from 14 May 2020
1st copy

| | |
|---|---|
| Client: | Viessmann Kühlsysteme GmbH<br>Dr.-Vießmann-Straße 1<br>95030 Hof/Saale<br>Germany |
| Order: | Reaction to fire classification according to DIN EN 13501-1:2019-05 |
| Subject matter: | Core compound elements made of steel-PUR-steel with smooth outer shell, thickness 80-150 mm "Refrigeration and freezer unit elements Tecto WL80 - WL150" in accordance with DIN EN 14509:2013-12 |
| Date of order: | 05 April 2019 |
| Person in charge: | Sören Laschke, M.Sc. |

This document consists of 5 pages and one enclosure.




ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-PL-11021-01-00

Testing laboratory accredited by DAkkS GmbH in accordance with DIN EN ISO/IEC 17025. The accreditation only applies to the test procedures listed in the certificate (marked with * in this document). The certificate can be viewed at www.mfpa-leipzig.de.

Approved test centre according to the Landesbauordnung [state building code] (SAC 02) and notified testing laboratory, inspection body and certification body (PÜZ-Stelle) according to the Construction Products Regulation (NB 0800).

Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen Leipzig mbH (MFPA Leipzig GmbH)

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# 1 Details of the classified building product

## 1.1 General

The building product "Refrigeration and freezer unit elements Tecto WL80 - WL150" are factory-made self-supporting sandwich panels with metal facings on both sides in accordance with DIN EN 14509:2013-12.

## 1.2 Product description

The building product "Refrigeration and freezer unit elements Tecto WL80 - WL150" is described as follows:

According to the client, the building products to be classified are Core compound elements made of steel-PUR-steel with smooth outer shell, thickness 80-150 mm which are called "Refrigeration and freezer unit elements Tecto WL80 - WL150". The colour of the material was white on both sides. The cover layers were made of steel and showed smooth surfaces.

*Table 1: Parameters for the Core compound elements made of steel-PUR-steel with smooth outer shell, thickness 80-150 mm "Refrigeration and freezer unit elements Tecto WL80 - WL150".*

| **Designation** | **Parameters according to the client** |
|---|---|
| Total thickness | 80 mm and / or 150 mm |
| Cover layers<br>Material:<br>Thickness inside:<br>Thickness outside: | <br>Steel<br>0.6 mm (+100 %)<br>0.6 mm (+100 %) |
| Cover sheet for edge protection:<br>Material:<br>Thickness:<br>Spacing rivets: | <br>Steel<br>0.6 mm<br>- |
| Painting<br>Epoxy polyester mixed varnish<br>"Hof RAL9016 E/P-S.GLZ (Antibak)", Pulver Kimya<br>Dry layer thickness: | <br><br><br>60 µm to 120 µm (entire surface) |
| Core material<br>"PU foam Elastopor H1232/15/OT", BASF<br>Density:<br>Propellant: | <br><br>38 kg/m³<br>Cyclopentane |
| Seal<br>"PE foam tape",<br>ISOWA-Freudenberg<br>Cross-section: | <br><br><br>3 mm x 7 mm |

# 2 Test reports and test results in support of this classification

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NB 0800>>

## 2.1 Reports

| **Name of the test centre** | **Name of the client** | **Report no.** | **Test procedure and date Rules for the direct and extended field of application and date** |
|---|---|---|---|
| MFPA Leipzig GmbH | Viessmann Kühlsysteme GmbH | PB 3.1/19-087-1 from 14/05/2020 | DIN EN ISO 11925-2:2011-02* |
| MFPA Leipzig GmbH | Viessmann Kühlsysteme GmbH | PB 3.1/19-087-1 from 14/05/2020 | DIN EN 13823:2015-02* |

## 2.2 Results

| Test method and test number | Parameter | Number of tests | Results | |
|---|---|---|---|---|
| | | | continuous parameters, average value (m) | discrete parameters |
| DIN EN ISO 11925-2* | $F_s \leq 150$mm | 6 | (-) | compliant |
| | No flaming droplets/particles | | (-) | compliant |
| DIN EN 13823* | $FIGRA_{0.2\,MJ}$ [W/s] | 5 | 114 | (-) |
| | $FIGRA_{0.4\,MJ}$ [W/s] | | 114 | (-) |
| | $THR_{600s}$ [MJ] | | 6.9 | (-) |
| | SMOGRA [m²/s²] | | 76 | (-) |
| | $TSP_{600s}$ [m²] | | 818 | (-) |
| | no lateral flame spread (LFS) to the edge of the sample | | (-) | compliant |
| | No flaming droplets/particles | | (-) | compliant |
| | No flaming droplets/particles, > 10 s | | (-) | compliant |

*(-) not applicable*

## 3 Classification and field of application

### 3.1 Reference for classification

This classification was carried out in accordance with DIN EN 13501-1:2019-05.

### 3.2 Classification

The building product "Refrigeration and freezer unit elements Tecto WL80 - WL150" is

classified as follows in relation to its reaction to fire: B

The additional classification in relation to smoke production is: s3

The additional classification in relation to flaming droplets/particles is: d0

The format of the reaction to fire classification for building products except floorings and pipe insulations is:

| Reaction to fire | | Smoke production | | | Flaming droplets/particles | |
|---|---|---|---|---|---|---|
| B | - | s | 3 | , | d | 0 |

i. e. B-s3, d0

**Reaction to fire classification: B-s3, d0**

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## 3.3 Scope

This classification is valid for the following product parameters:

- The composition of the product to be classified described in section 1.2 must be used according to these specifications. Further requirements under building law for the constructive design are to be considered.
- The metal facing may be made of all types of sheet steel.
- The metal facings must be closed, i. e. not cut or perforated.
- The thickness of the steel sheet may not be smaller than 0.6 mm and may not exceed 1.20 mm both on the inside and on the outside.
- The profile geometry of the inner metal facing may be flat or slightly profiled.
- The metal facings may be coated on the inside and outside with a maximum thickness of 120 µm. An epoxy polyester mixed varnish must be used for coating. The lacquer coats may be of any colour. The PCS value of the painting must be lower than or equal to the tested painting.
- The joint design has to correspond to the joint design which is specified in enclosure 1 or a similar type of overlapping joint has to be used with a metal groove with an overlap ≥ 15 mm at the inner cover layer.
- The polyurethane rigid foam system “PU foam Elastopor H1232/15/OT” (manufacturer: BASF) must be used as an insulation core with the propellant “cyclopentane”.
- The bulk density of the “PU foam Elastopor H1232/15/OT” must be 38.0 kg/m³ ± 15 %.
- The minimum element thickness of the building product is 80 mm.
- The metal profile covers used have to be made of sheet steel with a thickness of at least 0.6 mm and a width with corresponds to the element thickness. The overlap cover sheet-cover layer must be at least 10 mm.
- The profile covers must be riveted at a spacing of at least 10 cm.
- The sealing tape “PE foam tape”, ISOWA-Freudenberg or one with the same or lower PCS values must be used.

The classification applies to the following end-use applications:

- The results are also valid for vertical and horizontal application to walls and (counter) ceilings
- The core material must be covered on both sides by the metal facings. All cut edges must be covered with the above-mentioned metal profile covers.

## 4 Limitations

(1) A combination with other building products, especially insulating materials with other gross density ranges than specified in section 3.3, can have an adverse effect on the reaction to fire so that the classification in section 3.2 is no longer valid. The reaction to fire in combination with other building products or for other gross density ranges or thickness ranges must be tested separately.

(2) The classification document is not a type approval or product certification and does not replace a verification according to German building law (*Landesbauordnung* [state building code]), which may be required.

(3) This classification report is valid as long as the product composition or the product design, the raw materials or the production process and the construction regulations or the basis for the evaluation do not change.

The results of the tests refer exclusively to the test items described herein. This document does not replace any certificate of conformity or usability as defined by the building regulations (national/European).

Leipzig, 14 May 2020

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| <<signature, illegible>> | <<signature, illegible>> | <<signature, illegible>> |
| Dipl.-Ing. M. Juknat | N. Neumann, M.Sc. | S. Laschke, M.Sc. |
| *Head of Division* | *Head of Laboratory* | *Test Engineer* |

Enclosure 1 Sectional drawing of the joint design

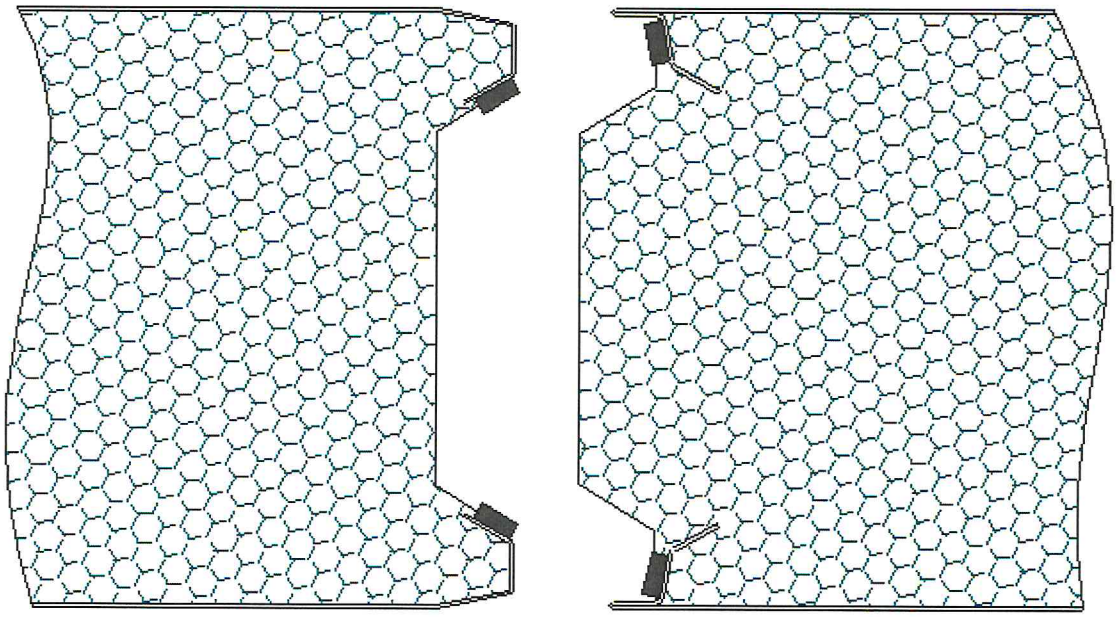

*Figure 1: Sectional drawing of the joint design, according to the client's specifications.*

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## Authentication

I have examined the German original/photocopy/facsimile and this is a true translation of the same into English.

Barbara Wohanka, registered translator for the English language at the District Court of Landshut, Germany

Geisenhausen, 10 June 2020