

MFPA Leipzig GmbH

Leipzig Institute for Materials
Research and Testing

Testing, Inspection and Certification
Authority for Construction
Products and Constructions Types

Business Division I: Building Materials and Building Physics

Head of Division:
Dipl.-Ing. Marko Orgass
Tel.: +49 (0) 341-6582-158
Fax: +49 (0) 341-6582-198
werkstoffe@mfpa-leipzig.de

Work Group 1.5 Building Physics and Masonry

Contact Person:
Dr.-Ing. St. Reichel
Tel.: +49 (0) 341-6582-190
reichel@mfpa-leipzig.de



Testing laboratory accredited by DAkkS
GmbH according to DIN EN ISO/IEC
17025. The certificate can be seen on
www.mfpa-leipzig.de

Test Report No. PB 1.5/24-072-1

15 May 2024
No. Copy 1

Contracting body: Soudal NV
Everdongenlaan 18
2300 Turnhout - Belgium

Task: Determination of thermal conductivity
according to DIN EN 12667

Material: Polyurethane foam

Product: MF 167

Samples delivery: 16.07.2020

Testing period: July 2020

Persons in charge: Dr.-Ing. Stephan Reichel

This report consists of 3 pages.

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1 Objective and material delivery

MFPA Leipzig GmbH was commissioned by the company Soudal NV (Belgium) to test the thermal conductivity according to DIN EN 12667 on delivered material samples. According to the client, the samples were made of the polyurethane foam called "MF 167".

On 16 July 2020 two material samples were delivered to MFPA Leipzig GmbH. The production and the conditioning of the samples was the responsibility of the client.

Test specimens with the dimensions of 200 x 200 x 22 mm³ were cut out of the delivered samples at the laboratory. In the specimens some pores were recognizable in the surfaces. Furthermore, the samples were relatively soft and tend to deform plastically under pressure. Further information on the material is not available.

2 Testing procedure and results

DIN EN 12667 2001-05	Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Products of high and medium thermal resistance; German version
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Conditioning: (23 ± 2) °C and (50 ± 5) % rel. hum. for 6 hours

Testing device: Double-sided guarded hot plate apparatus according to DIN EN 12667
Manufacturer: Quade measurements, type: 200/100-WLF1051

Specimen: 2 specimens, 200 mm x 200 mm x 22 mm

Procedure: According to DIN EN 12667, a central, plane plate unit which consists of a heating unit and metal cover plates is inserted between two identical test specimens in a double-sided guarded hot plate apparatus. On the other side of each test specimen, there is a plane cooling plate. During measurement, a constant heat flow is adjusted based on which and based on the surface temperatures, the thermal insulation resistance is calculated.



Table 1: Thermal conductivity

Test date: 21.07.2020 – 22.07.2020		Sample	
Property	Unit	1	2
Length	[mm]	198.0	198.0
Width	[mm]	197.4	197.0
Height	[mm]	22.5	23.0
Density	[kg/m ³]	21.4	20.9


Mean temperature of the sample surface hot plate side	Mean temperature of the sample surface cooling plate side	Mean difference of temperature	Mean temperature of the samples	Thermal conductivity
$\theta_{w,m}$	$\theta_{c,m}$	$\theta_{w,m} - \theta_{c,m}$	$\theta_m = (\theta_{c,m} + \theta_{w,m})/2$	λ_{10}
[°C]	[°C]	[K]	[°C]	[W/(m·K)]
15.3	4.8	10.5	10.0	0.03364

The results of the tests exclusively relate to the items tested. This document does not replace a certificate of conformity or suitability according to national and European building codes.

Leipzig, 15 May 2024

Dipl.-Ing. Marko Orgass
 Head of Business Division


 Dr.-Ing. Stephan Reichel
 Head of Work Group