



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



Materialprüfungsanstalt  
Universität Stuttgart

Materialprüfungsanstalt · Otto-Graf-Institut · Universität Stuttgart  
Postfach 801140 · D-70511 Stuttgart

Phone +49 (0) 711-685-62712  
Fax +49 (0) 711-685-62744  
E-mail Feuerwiderstand@mpa.uni-stuttgart.de  
Section Fire Resistance of Construction  
Components

Original version in German. In any cases of doubt the German version is valid.

## Fire Resistance Classification according to DIN EN 13501-2:2016

**Report No.:**

**0672-901 7132 000/Re/Pk<sup>1)</sup>**

**Subject:**

**Pipe penetration seal „System Düker BSV 90“,  
tested according to DIN EN 1366-3:2004**

**Customer:**

**Düker GmbH<sup>2)</sup>  
Würzburger Straße 10-16  
97753 Karlstadt/Main**

**Date of issue:**

**October 30<sup>th</sup>, 2018**

**Period of validity:**

**unlimited**

This classification report includes 5 pages and applies to the test report named under paragraph 3.1. The publication of the classification report is only allowed to the full extent.

This document does not represent an authorization or certification of the product. It does not replace relevant evidence of applicability required by German building law (general technical type approval or approval in individual cases).

<sup>1)</sup> This classification report replaces the version 0672-901 7132 000/Re/Pk dated February 18<sup>th</sup>, 2009, extended by notification dated February 10<sup>th</sup>, 2014. The original test and classification standards have changed since the first issuing of the classification report. Nevertheless the MPA University of Stuttgart is sure, that the changes do not influence the former classification. In future, due to his stewardship commitment and product liability, the customer is responsible to order new tests or classifications if necessary, when test or classification standards have changed.

<sup>2)</sup> former Eisenwerke Fried. Wilh. Düker GmbH & Co. KGaA, D-97753 Karlstadt/Main

Test laboratory approved by the German national accreditation body (DAkkS) based on DIN EN ISO/IEC 17025. The accreditation applies to the test methods indicated in the original documents. Appointed as Technical Service by the Federal Motor Vehicle Transport Authority (KBA). Certified according to DIN EN ISO 9001:2008 by TÜV Süd Management Service GmbH. Approved by the DIBt as a test and certification centre (PÜZ-Stelle), EU notified body No. 0672 and 1080.

Materialprüfungsanstalt Universität Stuttgart  
Pfaffenwaldring 32 und 4  
D-70569 Stuttgart (Vaihingen)  
USt.-ID-Nr.: DE 147794196

Telefon (0711) 685 - 0  
Telefax (0711) 685 - 62635  
Internet: www.mpa.uni-stuttgart.de

BW-Bank Stuttgart /LBBW  
Konto Nr. 7 871 521 687 BLZ 600 501 01  
IBAN: DE51 6005 0101 7871 5216 87  
BIC/SWIFT-Code: SOLADESTXXX

## 1 Introduction

This classification report defines the fire resistance classification of the pipe penetration seal "System Düker BSV 90" of company Düker GmbH, 97753 Karlstadt/Main (Germany), following DIN EN 1366-3:2009 in accordance to the standard DIN EN 13501-2:2016.

## 2 Details of the classified product

### 2.1 Type of function

The pipe penetration seal, that is classified in this document, has a fire resistance of 90 minutes, considering a one-side fire scenario and a view on the integrity and insulation criteria in terms of DIN EN 13501-2, paragraph 5.

### 2.2 Description of the product

For supporting the classification according to paragraph 4.2 the pipe penetration seal is described completely in the test report listed in paragraph 3.1.

## 3 Test reports and test results for supporting the classification

### 3.1 Test report

Name of the laboratory	Name of the customer	Number and date of the test report	Test date	Method of testing
MPA Universität Stuttgart (EU notified body 0672)	Eisenwerke Fried. Wilh. Düker GmbH & Co. KGaA, D-97756 Karlstadt/Main	901 2592 000/Re/Ei dated 06.03.2007	15.12.2006	DIN EN 1366-3: 2004

### 3.2 Test results

Method of testing	Parameter	Result
<p><b>DIN EN 1366-3</b> (thermal stress corresponding to the standardized temperature-time-curve according to DIN EN 1363-1:1999)</p>	<p>Pipe penetration seals in the course of ceiling penetrations</p> <p><u>Supporting structure:</u>            Aerated concrete ceiling thickness = 150 mm (density 550 kg/m<sup>3</sup>)</p> <p><u>Pipe material:</u>            Cast iron pipes according to DIN EN 877 in the pipe diameters DN 75/80 and DN 150</p> <p><u>Pipe end configuration:</u>  <b>Test condition A (uncapped / uncapped)</b> according to DIN EN 1366-3, table 1</p> <p><u>Integrity</u></p> <ul style="list-style-type: none"> <li>• criterion gaps / opening</li> <li>• criterion cotton pad</li> <li>• criterion permanent flame occurrence</li> </ul> <p><u>Insulation</u></p> <ul style="list-style-type: none"> <li>• criterion maximum temperature rise 180 K</li> </ul>	<p>90 minutes</p> <p>90 minutes</p> <p>90 minutes</p> <p>90 minutes</p>

## 4 Classification and field of application

### 4.1 Reference basis of the classification

This classification will be carried out according to DIN EN 13501-2:2016, paragraph 7.5.8.

### 4.2 Classification

The pipe penetration seal will be carried out according to the following combinations of performance parameters and categories:

R	E	I	W		tt	-	M	C	S	Inc Slow	sn	ef	r
-	x	x	-		x	-	-	-	-	-	-	-	-

The following classification will be derived from the test results described in paragraph 3.2:

**EI 90 – U/U**

### 4.3 Direct field of application

These pipe penetration seals have the following field of direct application according to DIN EN 13501-2:2016 and DIN EN 1366-3:2009, respectively:

- 4.3.1 The pipe penetration seals are only applicable in course of ceiling penetrations. The minimum thickness of the ceiling is 150 mm and the ceiling has to consist of concrete, respectively reinforced concrete or aerated concrete with a minimum density of 550 kg/m<sup>3</sup>.
- 4.3.2 The construction of the pipe penetration seal must fulfil the constructive requirements described in the test report named in paragraph 3.1. The given material properties in the test report and also the described fixing distances have to be observed.
- 4.3.3 The pipe penetration seal is only applicable in conjunction with cast iron pipes according to EN 877 in the pipe diameter range from DN 75/80 to DN 150. The pipes must penetrate the ceiling perpendicular to the supporting construction; slanted penetrations are not allowed.
- 4.3.4 All pipe end configurations (uncapped / uncapped, capped / uncapped, uncapped / capped, capped / capped) are allowed.

## 5 Limitations

### 5.1 Validation

The validity of this classification report is unlimited; however the comments in footnote 1 one on page 1 have to be considered.

### 5.2 Warning note

This document does not represent an authorization or certification of the product. It does not replace relevant evidence of applicability required by German building law (general technical type approval or approval in individual cases).

Materials Testing Institute University of Stuttgart  
Section Fire Resistance of Construction Components

Test Engineer



Dr. rer. nat. Andrea Bramborg-Kramer



Head of section



Dr. rer. nat. Stefan Wies