

# **Report of the classification of the reaction to fire performance**

**No. 230007442-13**

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**English version**

## **Sponsor**

Düker GmbH & Co. KGaA  
Hauptstraße 39 – 41

63846 Laufach

## **Order**

Classification of the reaction to fire behaviour according to DIN EN 13501-1 in consideration of DIN EN 877

## **Date of order:**

17 February 2010

## **Name of the building product which is to be classified:**

„SML“ cast iron pipes and cast iron fittings according to DIN EN 877

This report is to determine the classification of the above-mentioned building product in accordance with the test method stated in the standard DIN EN 13501-1:2007+A1:2009 and DIN EN 877 (January 2010)

## 1. Description of the building product

Drain pipes and fittings made of cast iron according to DIN EN 877 with outer coating.

Outer coating of the pipes:

- name of the outer coating: „Silvatherm Walzlack“
- thickness in dry condition: 60 µm
- applied quantity in dry condition: 113 g/m<sup>2</sup>
- colour: red

Outer coating of the fittings:

- name of the outer coating: „Senotherm Tauchlack“
- thickness in dry condition: 55 µm
- applied quantity in dry condition: 82,5 g/m<sup>2</sup>
- colour: red

As pipe joints can be used:

- „Rapid W2“

The pipe joints consist of steel with rubber inlays.

## 2. Test reports and test results which form the basis of the classification

### 2.1 Test reports

Name of the laboratory	Sponsor	Number of the test report	Test procedure
MPA NRW	Düker GmbH & Co. KGaA Hauptstraße 39 – 41 63846 Laufach	230007442-1	DIN EN 13823
MPA NRW	Düker GmbH & Co. KGaA Hauptstraße 39 – 41 63846 Laufach	230007442-5 230007442-6	DIN EN ISO 1716

2.2 Test results

Test procedure	Number of tests	Parameter	Test results	
			Average values	Fulfilled
DIN EN 13823	3	FIGRA <sub>0,2</sub> (W/s)	6.3	--
		THR <sub>600s</sub> (MJ)	1.1	--
		LFS < outer edge	--	yes
		SMOGRA (m <sup>2</sup> /s)	0.7	--
		TSP <sub>600s</sub> (m <sup>2</sup> )	31.0	--
		Burning droplets / particles (s)	0	--

For „Senotherm Tauchlack“, outer coating of the fittings:

Test procedure	Number of tests	Parameter	Test results
EN ISO 1716	3	PCS[MJ/kg]	19.997
		PCS [MJ/m <sup>2</sup> ]	1.650

For „Silvatherm Walzlack“, outer coating of the pipes:

Test procedure	Number of tests	Parameter	Test results
EN ISO 1716	3	PCS[MJ/kg]	11.949
		PCS [MJ/m <sup>2</sup> ]	1.350

### 2.3

Calculation of the gross combustion heat  $PCS_{\text{outer coating of the system}}$  according to the requirements given in DIN EN 877 (January 2010), clause 4.6.3 and annex G.

The outer coating of the pipes and fittings is not regarded as an essential component as the applied thickness (dry condition) is below 1 mm and the applied quantity (dry condition) is below 1 kg/m<sup>2</sup>.

$$PCS_{\text{outer coating of the system}} = (0.8 \times PCS_{\text{outer coating of the pipes}}) + (0.2 \times PCS_{\text{outer coating of the fittings}})$$

$$PCS_{\text{outer coating of the system}} = 0.8 \times 1.350 \text{ MJ/m}^2 + 0.2 \times 1.650 \text{ MJ/m}^2$$

$$\underline{\underline{PCS_{\text{outer coating of the system}} = 1.410 \text{ MJ/m}^2}}$$

### 3. Classification and direct field of application

#### 3.1 Reference

The classification was carried out in accordance to the clauses 11 and 14.1 of the standard **DIN EN 13501-1:2007** and **DIN EN 877 (January 2010)**.

#### 3.2 Classification

The tested material with regard to its fire behaviour is classified as: **A1**

The additional classification regarding the smoke production is: **--**

The additional classification regarding the burning droplets/particles is: **--**

This results in a classification of the fire performance of the tested material:

Fire behaviour	Smoke production	Burning droplets/particles
<b>A1</b>	<b>--</b>	<b>--</b>

i.e. **A1**

Remark: The classification was determined by application of the procedure given in DIN EN 13501-1, clause 8.3.2 and table 1, footnote c (non homogeneous building product with an outer not essential component with a  $PCS_s \leq 2 \text{ MJ/m}^2$  as well as results from the test according to DIN EN 13823 with  $FIGRA_{0,2} \leq 20 \text{ W/s}$ ,  $THR_{600s} \leq 4.0 \text{ MJ}$ ,  $LFS < \text{outer edge}$  and  $s1$  and  $d0$  are fulfilled in each case).

#### 3.3 Field of application of the product

The classification is valid solely for the product described in clause 1.

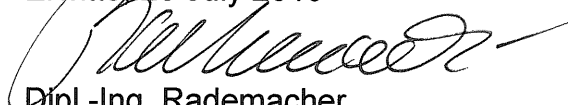
### 4. Restrictions

4.1 This classification report does not represent a type approval or a certification of the product.

4.2 This classification report is valid until 19 July 2011.

This classification report written in English language is issued additionally to the report written in German language with the same report number. In case of doubt the German version is valid solely. This classification report is only valid in combination with the German version.

Erwitte, 20 July 2010



Dipl.-Ing. Rademacher  
 Head of the testing body

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