

# Report of the classification of roofs/roof coverings, external fire exposure

**No. 230009481-2**  
of 08.07.2014

**English version**

**Sponsor:** Enke-Werk  
Johannes Enke GmbH & Co. KG  
Hamburger Straße 16  
  
40221 Düsseldorf

**Commission:** Reaction to fire classification in accordance with DIN EN 13501-5  
February 2010

**Date of commission:** 10.04.2014

**Description of the building product to be classified:**

Roof/Roof covering „ENKOPUR“

This classification report defines the classification of the roof/roof covering mentioned above in accordance with the method specified in DIN EN 13501-5 February 2010, under consideration of the application rules pursuant to DIN CEN/TS 16459; DIN SPEC 18086 March 2014.

## 1 Description of the roof/roof covering

- 1.1 The roof may be used on any full-surface wooden underlayment or non-flammable underlayment with joints of 5 mm as a maximum.
- 1.2 Any type of roof layer, e.g. vapour barriers with fire classification E as a minimum in accordance with DIN EN 13501-1, may be installed underneath the thermal barrier coating. This is nailed to the underlayment.
- 1.3 A strip of rollable EPS rigid foam DAA dm, thickness  $\geq 50$  mm, in accordance with EN 13163 with fire classification E pursuant to DIN EN 13501-1, with a compressive stress of  $\leq 100$  kPa. The strip of rollable material must be laminated with a bitumen sheeting in accordance with DIN V 20000-201. The mass per unit area of the glass-fibre-fleece inlay of the bitumen sheeting must be at least  $100 \text{ g/m}^2$ .
- 1.4 1 layer of bitumen sheeting in accordance with DIN V 200000-201 with a fine talc-powder spreading on the surface. The cover layer must consist of oxide bitumen with an inlay made of  $\geq 200 \text{ g/m}^2$  woven fibre glass and the bottom layer must consist of a fusible foil. The bitumen sheeting must have the fire classification E in accordance with DIN EN 13501-1.
- 1.5 The roof covering consists of 1 layer of liquid plastic with the prime coat "Universal-Prime Coat 933" ("Universal-Voranstrich 933") with an application quantity of approximately  $200 \text{ g/m}^2$ . The waterproof layer consists of the embedding layer made of liquid plastic labelled "ENKOPUR".  $2.0 \text{ kg/m}^2$  of the liquid plastic are applied as a minimum. The inlay made of polyester fleece ( $110 \text{ g/m}^2$ ) is inserted covering the full surface directly after the application of the liquid plastic. The liquid plastic "ENKOPUR" is applied once again as wear layer with an application quantity of  $1.0 \text{ kg/m}^2$ .

## 2 Test reports and test results which the classification is based on

### 2.1 Test reports

Name of laboratory	Customer	Number of test report	Test method
MPA NRW	Enke-Werk Johannes Enke GmbH & Co. KG	230006427 of 29.10.2008	DIN V ENV 1187-1

### 2.2 Test results

Test conditions:  
 Roof pitch 15°

Test specimen no.	Criteria	Test 1	Test 2	Test 3	Test 4
Inside fire spread upslope	< 0.700 m	0	0	0	0
Outside fire spread upslope	< 0.700 m	0.050	0.060	0.060	0.070
Inside fire spread downslope	< 0.600 m	0	0	0	0
Outside fire spread downslope	< 0.600 m	0.020	0.020	0.040	0.060
Size of burn length - inside	< 0.800 m	0	0	0	0
Size of burn length - outside	< 0.800 m	0	0	0	0
Flaming droplets/particles on the exposed surface	No	No	No	No	No
Penetration of burning/smouldering parts through the roof construction	No	No	No	No	No
Individual holes	≤ 25 mm	0	0	0	0
Total amount of holes	< 4500 mm <sup>2</sup>	0	0	0	0
Fire spreading to the sides	< Edges <sup>a</sup>	Yes	Yes	Yes	Yes
Smouldering on the inside	No	No	No	No	No
Maximum radius of fire spreading on flat roofs on the inside and outside	< 0.200 m <sup>2</sup>	Yes	Yes	Yes	Yes
<sup>a</sup> Edges of the measuring zone					

### 3 Classification and direct area of application

#### 3.1 Reference

The classification was carried out in accordance with sections 9 table 1 of standard DIN EN 13501-5 February 2010.

#### 3.2 Classification

With regard to its reaction to external fire exposure, the roof/roof coverings “ENKOPUR” is classified as:

**B<sub>ROOF</sub> (t1)**

#### 3.3 Area of application of the product

The classification is valid for the roof covering “ENKOPUR” only, which is described in section 1.5, with the roof as described in section 1 for roof pitches < 20°.

It is possible to use any full-surface wooden underlayment or non-flammable underlayment with joints of max. 5 mm as a carrying platform.

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

Erwitte, 08.07.2014

Director of the notified body

(Dipl.-Ing. Kühnen)



Inspector

(W. Brune)

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