

## CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-5:2016

Classification no.	2019-Efectis-R000076
Sponsor	Zep BV Keteldiep 15 8321 MH URK THE NETHERLANDS
Product name	<b>ZEP solar cell roof tile (ceramic roof tile, incorporating a PV module)</b>
Prepared by	Efectis Nederland BV
Notified body no.	1234
Author(s)	C.C.M. Steinhage B.Sc. A.J. Lock
Project number	ENL-18-001149
Date of issue	January 2019
Number of pages	4

## 1. INTRODUCTION

---

This classification report defines the classification assigned to **ZEP solar cell roof tile (ceramic roof tile, incorporating a PV module)** in accordance with the procedures given in EN 13501-5:2016.

## 2. DETAILS OF CLASSIFIED PRODUCT

---

### 2.1 GENERAL

The product, **ZEP solar cell roof tile (ceramic roof tile, incorporating a PV module)**, is defined as a roof covering.

### 2.2 MANUFACTURER

Zep BV  
Keteldiep 15  
8321 MH URK  
THE NETHERLANDS

### 2.3 PRODUCT DESCRIPTION

According to the sponsor the product tested is based on the existing roof tile model Nibra F10Ü Flachdachziegel of Nelskamp, Germany, in which two square mono crystalline silicon solar cells (PV modules) are incorporated.

Actual documentation of the roof tile can be obtained from [Nelskamp.de](http://Nelskamp.de).

Information of the product tested can be found on the website [zepbv.nl](http://zepbv.nl).



### 3. STANDARDS, REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

#### 3.1 APPLICABLE (PRODUCT) STANDARDS

CEN/TS 1187:2012	Test methods for external fire exposure to roofs
NEN 6063:2007	Test method for external fire exposure to roofs

#### 3.2 REPORTS

Name of Laboratories	Name of sponsor	Report ref. no.	Test method
Efectis Nederland BV THE NETHERLANDS	Zep BV THE NETHERLANDS	2019-Efectis-R00052	CEN/TS 1187:2012

#### 3.3 TEST RESULTS

Test method	CEN/TS 1187, Test 1: Method with burning brands
Roof pitch	45°

Parameter	Criteria	Test result				Compliance [Y/N]
		1	2	3	4	
Flame spread:						
- Internal, upwards [cm]	< 70	-	-	-	-	Y
- External, upwards [cm]	< 70	-	-	-	-	Y
- Internal, downwards [cm]	< 60	-	-	-	-	Y
- External, downwards [cm]	< 60	-	-	-	-	Y
Maximum burned length:						
- Internal [cm]	< 60	-	-	-	-	Y
- External [cm]	< 80	-	-	-	-	Y
Lateral flame spread	< edges <sup>1)</sup>	Y	Y	Y	Y	Y
Burning droplets/debris falling from exposed side	None	Y	Y	Y	Y	Y
Burning/glowing particles Penetrating the roof	None	Y	Y	Y	Y	Y
Size of through openings:						
- one single opening [mm <sup>2</sup> ]	< 25	-	-	-	-	Y
- sum of all openings [mm <sup>2</sup> ]	< 4500	-	-	-	-	Y

<sup>1)</sup> Edge of the measuring zone

#### 4. CLASSIFICATION AND FIELD OF APPLICATION

---

##### 4.1 REFERENCE OF CLASSIFICATION

This classification has been carried out in accordance with clause 9 of EN 13501-5:2016.

##### 4.2 CLASSIFICATION

The product, **ZEP solar cell roof tile (ceramic roof tile, incorporating a PV module)**, in relation to its reaction to fire behaviour is classified:

**Reaction to fire classification: B<sub>ROOF</sub> (t1)**

##### 4.3 FIELD OF APPLICATION

This classification is valid for the following product parameters:

Roof pitch	>20°
Supporting deck	CEN/TS 1187, par. 4.4.2.2.b Wood particle board deck not fire retardant treated
Insulation	Not applicable
Other properties	Including water resistant film

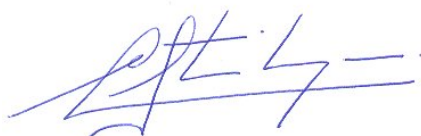
##### 4.4 DURATION OF THE VALIDITY OF THIS CLASSIFICATION REPORT

There are no limitations in time on the validity of this report.

#### 5. LIMITATIONS

---

This classification document does not represent type approval or certification of the product.



C.C.M. Steinhage B.Sc.  
Project leader reaction to fire



A.J. Lock  
Project leader reaction to fire