

## Customer

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Environmental Lab



Materials Lab



Fire Lab



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**Summary report no. P60-18-8112en****Fire testing**

Order number: 60-18-0472  
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This report consists of  
2 page(s) and 0 enclosure(s).

Fon: 03302 49982 60

**Delivery date specimen:** 24.09.2018

**Test date:** From 28.09.2018 to 12.10.2018

**Test specimen:** OneWayVision Window Film panoRama / panoRama Innova

**Test specification:** Test methods of requirement set R7 according to  
DIN EN 45545-2 (02/2016) „Railway applications – Fire protection on  
railway vehicles – Part 2: Requirements for fire behavior of materials  
and components“

**Objective:** Evaluation according to DIN EN 45545-2 (02/2016)  
Requirement set R7 (see table 5 – Set of material requirements)

**Test results:** **With the obtained test results, the material reached for the  
requirement R7 the Hazard Level 3 (HL3).**

**Remark:** The classification is valid only in conjunction with the test reports listed  
on page 2. Please refer to the test reports for details.

  
**Stefan Harder**  
Head of Fire Lab

The results refer only to the specimens mentioned above.  
This Test Report must always be copied entirely. Any copying of extracts and publication require the prior consent of the Laboratory.

## 1 Details about the specimens

### Material or combination of materials:

OneWayVision Window Film panoRama / panoRama Innova  
glued on approx. 4mm glass

### Manufacturer:

Continental Grafix AG  
Bahnhof-Park 3  
6340 Baar  
Switzerland

### Dimensions of sample:

#### Ref. test methods:

T02	795mm x 150mm x 3,9mm
T03.01	100mm x 100mm x 4,0mm
T10.04, T11.01	75mm x 75mm x 4,0mm

### Side of specimen to be tested by flame:

foiled side

## 2 Summary of results

The material was tested for use in railway vehicles, requirement set R7 (Table 5 DIN EN 45545 2).

Test report no.	Reference method	Standard	Parameter	Unit	Result	HL
P60-18-0623	T02	ISO 5658-2	CFE	kW/m <sup>2</sup>	44,6	3
P60-18-5352	T03.01	ISO 5660-1	MARHE	kW/m <sup>2</sup>	9,2	3
P60-18-4378	T10.04	ISO 5659-2	Ds max	dimensionless	85	3
P60-18-3480	T11.01	ISO 5659-2	CIT	dimensionless	0,36	3
<b>Product classification</b>	-	EN 45545-2	-	-	-	HL3

The Hazard Level HL depends on the operation category and design category according to DIN EN 45545-2 Table 1.

Operation category	Design category			
	N: Standard vehicles	A: Automatic vehicles having no emergency trained staff on board	D: Double decked vehicle	S: Sleeping and couchette cars double decked or single deck
1	HL1	HL1	HL1	HL2
2	HL2	HL2	HL2	HL2
3	HL2	HL2	HL2	HL3
4	HL3	HL3	HL3	HL3