

# Fire Protection Wrap ZZ 451

## Technical data sheet

<b>Trade name:</b>	Fire Protection Wrap ZZ 451 ZZ-Wrap NE
<b>Description:</b>	Non-shrinking, solvent-free, plastic, fibreglass-reinforced butyl rubber, with halogen-free fire safety additives; intumescent.
<b>Implementation areas:</b>	System component for diverse through penetration firestop systems.
<b>Approvals / certificates:</b>	<ul style="list-style-type: none"><li>• General type approval Z-19.11-1765, DIBt</li><li>• System component in ETA-11/0206, ETA-10/0431, ETA-12/0088</li></ul>
<b>Colour:</b>	Red-brown
<b>Content / dimensions:</b>	Self-adhesive butyl sealing tape, 5000 x 150 x 3 [mm]
<b>Transport / storage:</b>	Store rolls vertically, dry and protected from dust
<b>Storage temperature:</b>	5 °C to 30 °C
<b>Application temperature:</b>	5 °C to 30 °C, recommended: 20 °C to 25 °C
<b>Bulk density:</b>	$\rho = 1215 \text{ kg/m}^3$ up to $1485 \text{ kg/m}^3$
<b>Safety notices:</b>	Please observe the safety data sheet.

## Behaviour in the event of fire

<b>Reaction to fire:</b>	DIN 4102-B2
<b>Classification of the fire protection behaviour in accordance with DIN EN 13501-1:</b>	Class E
<b>Expansion pressure:</b>	No expansion pressure measurable
<b>Foaming factor:</b>	6.0x to 9.0x Tested on samples at 450°C for more than 25 minutes with superimposed load. The foaming factor is a laboratory characteristic value. The foaming behaviour in installed status depends on the existing boundary conditions.

## Other product characteristics

<b>Microbial metabolic potential:</b>	Inert / fungistatic / bacteriostatic Test standard: DIN EN ISO 846
---------------------------------------	-----------------------------------------------------------------------

## Fire Protection Wrap ZZ 451

### Physical construction material / product characteristics

The following specifications do not represent guaranteed product characteristics. They must, therefore, be regarded exclusively as information intended to serve as guideline values.

**Thermal conductivity:**  $\lambda = 0.396 \text{ W/(m}\cdot\text{K)}$   
Test standard: DIN EN 12664

**Surface resistance:**  $R_0 = \gg 10^{12} \Omega$   
Test standards: DIN EN 60079-0 (VDE 0170-1):2013-04 Section 7.4 including application of note 2 of Section 7.4.2, IEC 60079-0:2011 and modified + Cor.:2012, EN 60079-0:2012, EN 80079-36 and TRGS 727:2016-07-29

### Approved in potentially explosive zones:

	0	1	2	20	21	22
earthed	✓	✓	✓	✓	✓	✓
unearthed	IIA	IIA, IIB	IIA, IIB	✓	✓	✓

## Fire Protection Wrap ZZ 451

### Hygiene, health and environmental protection

#### Indoor air hygiene

Requirements of AgBB Scheme 2015 are fulfilled  
 Test standards: prEN 16516, ISO 16000-3, ISO 16000-6,  
 ISO 16000-9

Test lab: eco-INSTITUT Germany GmbH, Cologne  
 Date: 11/10/2017

	Result	Requirement	Requirements fulfilled
<b>Emission rating</b>			
<b>Measurement after 3 days</b>			
TVOC (C6 – C16)	0.066 mg/m <sup>3</sup>	≤ 10 mg/m <sup>3</sup>	✓
Carcinogens (EU Cat. 1A and 1B)	< 0.001 mg/m <sup>3</sup>	≤ 0.01 mg/m <sup>3</sup>	✓
<b>Measurement after 28 days</b>			
TVOC (C6 – C16)	0.02 mg/m <sup>3</sup>	≤ 1 mg/m <sup>3</sup>	✓
Σ SVOC (C16-C22)	< 0.005 mg/m <sup>3</sup>	≤ 0.1 mg/m <sup>3</sup>	✓
R (dimensionless)	0.0	≤ 1	✓
VOC without NIK	< 0.005 mg/m <sup>3</sup>	≤ 0.1 mg/m <sup>3</sup>	✓
Carcinogens	< 0.001 mg/m <sup>3</sup>	≤ 0.001 mg/m <sup>3</sup>	✓

#### VOC emission class

**A+** in accordance with French decree no. 2011-321  
 Test standards: ISO 16000-3, ISO 16000-6, ISO 16000-9,  
 ISO 16000-11, ISO 16017-1

### Testing the fire protection properties under environmental influences

Tests were performed in accordance with the approval principles for materials that form an insulating layer, dated 11/24/2006 of the DIBt, and EOTA Guideline for European Technical Approval, ETAG no. 026-2, dated 01/01/2008.

#### Thermal stress:

Continuous contact or ambient temperature: ≤ 60 °C

## Fire Protection Wrap ZZ 451

### Permissible ambient conditions:

In accordance with ETAG 026-2: Use category Z<sub>1</sub>  
Fire-retardant sealing products for use in indoor areas with all moisture levels at temperatures  $\geq 0^{\circ}\text{C}$ .

Occasional, brief spray water stress does not pose a problem. Overall, continuous wet conditions as well as standing water and pressing water must be avoided.

### Influence of coating materials and chemicals:

The following paints and occasional, brief influence of chemicals do not cause any change in the technical fire protection properties:

Coating materials: Dispersion paint, alkyd resin paint, polyurethane acrylic lacquer, epoxy resin lacquer

Solvent/oil: Trichloroethylene, xylene, acetone, white spirit, butyl acetate, butanol, domestic fuel oil

Gaseous chemicals: Brief storage over concentrated ammonia solution

Comment: Environmental conditions with high humidity levels and/or some coating materials and chemicals can cause minor lightening of the colour.

### Contact with metals and plastics:

The surface consistency of aluminium, stainless steel, galvanised steel and plastics made of polyethylene and polyvinyl chloride is not affected in a negative way upon contact with ZZ 451 fire protection bandage.

All the information in this leaflet is based on current technical knowledge and experience. Details on processing and application must be checked on a project-by-project basis due to the variety of possible influences. If the application for which our products are used is subject to a government agency approval obligation, then the user is responsible for obtaining this approval. We would be pleased to respond to any enquires you might have. The information in this document and declarations of ZAPP-ZIMMERMANN GmbH in conjunction with this document do not constitute any assumption of a guarantee. Guarantee declarations require the separate, express written declaration of ZAPP-ZIMMERMANN GmbH. The conditions specified in this data sheet represent the characteristics of the delivery object, they do not represent any specific values. Specific values must be separately determined on a case-by-case basis. We reserve the right to adapt the product to technical progress and to new developments. In all other aspects we refer to our general terms and conditions.