KARL ZIMMERMANN
INTUMESCENT BUILDING MATERIALS

# ZZ® 882 Fire Protection Contour Cut

## Technical data sheet

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| **Trade name:** | **ZZ® 882 Fire Protection Contour Cut** |
| **Material:** | **ZZ® 18-A Fire Protection Foam**<br>ZZ-Fire protection foam BDS-N, variant A |
| **Description:** | Soft-elastic intumescent polyurethane foam with halogen-free flame retardants; does not exhibit any appreciable expansion pressure. |
| **Implementation areas:** | As a moulded component (3D moulded component, toroidal sealing ring, panel, blank) for use as a sealing system for cable and pipe penetrations, joint seals, small surface insulation. |
| **Product group:** | IN16 – Interior seals<br>EX12 – Exterior seals |
| **Certificates:** | • Classification report no. 19/0434, Currenta<br>• Test report no. 17/0798<br>• Test report no. 17/0910 |
| **Requirement set:** | R22, R23 according to EN 45545-2 |
| **Hazard level:** | HL1, HL2, HL3 |
| **Colour:** | Red-brown |
| **Transport / storage:** | Dry and only in the original packaging |
| **Storage temperature:** | 5 °C to 30 °C |
| **Bulk density:** | $\rho \geq 180$ kg/m³ to 750 kg/m³ |
| **Safety notices:** | Contains melamine (SVHC; CAS 108-78-1, EC no. 203-615-4) > 0.1% (Please note the safety data sheet). |

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## Behaviour in the event of fire

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| **Classification of the fire behaviour according to DIN EN 13501-1:** | Class E |
| **Expansion pressure:** | No expansion pressure measurable |
| **Foaming factor:** | 1.6x to 4.5x<br>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. |
| **Smoke generation according to EN ISO 5659-2:** | $D_s$ max (-) = 57 |
| **Burning behaviour (Oxygen index) according to ISO 4589-2:** | OI = 69.9 % |
| **Conventional index of toxicity according to NF X 70-100-1 /-2:** | $CIT_{NLP}$ = 0,30 |
| **Surface flammability according to ASTM E 162:** | Flame spread index $I_s$ = 14.2 |

| **Specific optical density of smoke according to ASTM E 662:** | Non-flaming mode | Flaming mode |
|---|---|---|
| | $D_s$ (1.5) (-) = 34 | $D_s$ (1.5) (-) = 36 |
| | $D_s$ (4.0) (-) = 80 | $D_s$ (4.0) (-) = 84 |

## 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.

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| **Thermal conductivity:** | λ = 0.103 W/(m*K)<br>Test standard: DIN EN 12667 |
| **Surface resistance:** | $R_0 = 2.39 \times 10^9$ Ω<br>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 |

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## 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: 25/08/2017

| | Result | Requirement | Requirements fulfilled |
|---|---|---|---|
| **Emission rating** | | | |
| **Measurement after 3 days** | | | |
| TVOC (C6 – C16) | 0.008 mg/m³ | ≤ 10 mg/m³ | ✓ |
| Carcinogens (EU Cat. 1A and 1B) | < 0.001 mg/m³ | ≤ 0.01 mg/m³ | ✓ |
| **Measurement after 28 days** | | | |
| TVOC (C6 – C16) | 0.014 mg/m³ | ≤ 1 mg/m³ | ✓ |
| Σ SVOC (C16-C22) | < 0.005 mg/m³ | ≤ 0.1 mg/m³ | ✓ |
| R (dimensionless) | 0.02 | ≤ 1 | ✓ |
| VOC without NIK | < 0.005 mg/m³ | ≤ 0.1 mg/m³ | ✓ |
| Carcinogens | < 0.001 mg/m³ | ≤ 0.001 mg/m³ | ✓ |

**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

**Microbial metabolisation:**

Inert / fungistatic / bacteriostatic
Test standard: DIN EN ISO 846

# ZZ® 882 Fire Protection Contour Cut

## Other product characteristics

### 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:

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| 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 negatively affected upon contact with “Fire Protection Foam ZZ 18-A”.