

**COMPANY**

NANVERA Advanced Materials

**PRODUCT CODE (SKU)**

KL-018 — PUTTYFLEX FIREPROOF

**ISSUE DATE / REVISION**

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## 1. Product Description

UNSPSC Code: 31211500. CSI MasterFormat Classification: 09 96 46 / 09 24 00 00.

PUTTYFLEX FIREPROOF (SKU: KL-018) is a high-build elastomeric putty designed for levelling and fire protection of flat surfaces in indoor applications. It has a dense, smooth, easy-to-apply consistency, and when applied at a thickness of 2 mm (2000 microns) it forms a highly efficient thermal barrier that prevents the transfer of high temperatures to substrates made of concrete, masonry, gypsum, or wood. It also has elasticity that allows it to bridge surface hairline cracks, along with exceptional adhesion to the substrate.

## 2. Recommended Uses

Indoor levelling and fire-protection putty for walls and ceilings: applied over concrete, brick, and plastered surfaces in hospitals, towers, administrative buildings, and exhibition complexes exposed to fire risk.

Fire protection and levelling of indoor wooden surfaces: applied as a protective putty on doors and interior wood cladding to prevent wood ignition and keep its temperature below 98°C under direct flame up to 600°C.

Backing and levelling for gypsum board partitions: as a protective interior putty layer before protective and decorative finish coatings, to delay heat penetration.

## 4. Application Instructions

Indoor Surface Preparation: the substrate must be dry, clean, and completely free of dust, oils, greases, and loose particles. Application of a penetrating primer-sealer (such as KC Sealer or diluted Nano Rubber) is recommended for maximum adhesion.

Application Tools: applied using a putty knife, steel trowel, or dedicated putty-spraying equipment.

Application Method: the putty is applied in two passes to achieve the overall target thickness of 2 mm (2000 microns) at a consumption rate of 2 kg/m<sup>2</sup>.

Topcoat: after full drying (48–72 hours), the surface may be lightly sanded and coated with any compatible interior decorative or protective finish coatings without affecting the fire-protection performance.

Tool Cleaning: immediately after use and before the material dries, clean tools with clean water.

## 5. Packaging & Storage

Packaging: supplied in sealed buckets of 15 kg or 5 kg, bearing the KEMET brand marking and item code KL-018.

Storage: store in a dry, shaded place at room temperature (from +5°C to +35°C).

Shelf Life: 12 months from date of manufacture in original, unopened packaging.

## 6. Health, Safety & Environmental Data (HSE)

Safety: water-based product, eco-friendly, non-toxic, non-flammable in liquid state.

Precautions: use PPE (rubber gloves, safety goggles, dust/spray mask).

Waste Disposal: cured putty is disposed of as non-hazardous construction waste.

## Technical & Physical Properties

| Property                      | Value                                                      | Test Method                       |
|-------------------------------|------------------------------------------------------------|-----------------------------------|
| Appearance / Color            | Smooth thick paste (white / off-white)                     | ISO 7390 / Visual                 |
| Chemical Base                 | Nanotechnology-modified polymer and thermal-barrier resins | KEMET proprietary formulation     |
| Application Environment       | Indoor                                                     | —                                 |
| Density (at 25°C)             | 1.25 ± 0.05 g/cm <sup>3</sup>                              | ASTM D1475                        |
| Solids Content                | 68% ± 2%                                                   | ASTM D1644 / ASTM D2697           |
| Target Film Thickness         | 2.0 mm (2000 microns DFT)                                  | Calibrated thickness gauge        |
| Consumption Rate              | 2.0 kg/m <sup>2</sup> (at 2 mm thickness)                  | Certified application rate        |
| Fire Resistance Rating        | Up to 120–180 minutes (600°C – 800°C)                      | ASTM E119 / BS 476 Pt 20/21       |
| Thermal Insulation Efficiency | Reduces 600°C flame to < 100°C on wood / < 200°C on steel  | NRC / Chemical Warfare Department |
| Adhesion Strength             | ≤ 2.4 MPa (Class B5 – concrete, steel, wood)               | ASTM D4541 / ASTM D3359           |
| Elongation at Break           | ≤ 600% (elastic crack-bridging)                            | ASTM D412                         |
| VOC Content                   | > 10 g/L (ultra-low / solvent-free)                        | EU Directive 2004/42/CE           |
| Drying Times (at 25°C)        | Dust-free: 60–90 min   Full dry: 24 h   Cure: 48–72 h      | ASTM D1640                        |