
PLOT NO. 60/61, PANDOL INDUSTRIAL AREA, VED ROAD, KATARGAM,
SURAT, GUJARAT -395004

TECHNICAL DATA SHEET RP-103

FIRE SEAL (MORTAR)

1. Product Description

Fire Seal (Mortar) is a lightweight, low-density fireproofing mortar composed of cement and specialized fire retardant chemicals. Engineered with controlled swelling characteristics, it expands during curing to create a tight, crack-free seal. It effectively blocks the passage of fire, toxic gases, and smoke through structural penetrations.

Recommended Applications

- Horizontal cut-outs and penetrations in concrete floors.
- Vertical openings and breaches in masonry or concrete walls.
- Blank and multi-service penetrations (cables, cable trays, and pipes).

2. Special Features & Benefits

- **Dual Fire Rating:** High-performance thermal barrier offering fire resistance ratings up to 2 to 4 hours depending on application configuration.
- **Controlled Expansion:** Expands slightly while setting to ensure a robust, airtight, and crack-free perimeter seal.
- **Excellent Adhesion:** Bonds strongly to common construction substrates including structural steel and concrete.
- **Retrofit Friendly:** Soft enough to easily route additional cables or retrofitted utilities through the penetration post-installation.

- **Environmental Resistance:** Splash-resistant, aging-resistant, and fully suitable for use in waterlogged or high-moisture environments.
- **User Friendly:** Easy to mix, apply via trowel, and requires no supplementary fire-resistant coatings.

3. Technical Specifications

Physical & Chemical Properties

Property	Value / Specification
Appearance / Color	Red or Grey
Bulk Density	700 gm / litre ± 50 gm / litre
pH Value	9.0 to 12.50
Compressive Strength	Approx 1.2 to 1.9 N / mm²
Thermal Conductivity	Poor (Excellent Insulator)
Toxicity	Non-Toxic
Performance Variation (Ageing)	No variation found over time
Expected Service Life	30 Years

Performance Under Fire Conditions

- **Unexposed Side Max Temp:** Less than 200°C above ambient temperature after a 2-hour fire exposure (per IS 12458).

4. Testing & Compliance Standards

Fire Seal (Mortar) is tested and evaluated to meet major national and international fire safety norms:

- **Indian Standards:** IS:10810 (Part 53 & 61), IS:12459, IS:17044-2018, IS:12458-2019 (Ref 1988)
- **British Standards:** BS:476 Part 8 & 22
- **International Standards:** IEC 331/332
- **Equivalent Global Testing:** ASTM E 814 (UL 1479), CAN/ULC S115, and ASTM E 1966 (UL 2079)

5. Application & Curing Details

1.Mix Preparation:

Ratio 1 : 0.64

Mix the mortar powder with water at a strict weight ratio of **1 part Mortar to 0.64 parts Water**. Mix thoroughly until a smooth, lump-free trowelable consistency is achieved.

2.Substrate Application: Ambient Temp.

Apply the mixture using a standard trowel at room temperature. Ensure all gaps, structural interfaces, and cable spaces are tightly packed. The mortar adheres naturally to steel and concrete without primers.

3.Setting & Initial Cure: 2 Hours.

The mortar undergoes its primary chemical expansion and initial set within **2 hours** of application, sealing micro-cracks along the perimeter.

4.Full Structural Curing: 6 to 7 Days.

Allow the system to cure completely for **6 to 7 days** to reach its full designed compressive strength and maximum environmental resistance.

6. Packaging, Storage & Shelf Life

- **Packaging Available:** 20 kg bags.

- **Storage Conditions:** Must be stored in a dry, covered area at temperatures between **5°C and 50°C**. Protect from moisture and direct sunlight.
-
- **Shelf Life: 18 Months** from the date of manufacturing when stored properly in its original, unopened, and undamaged packaging.

Disclaimer: The data provided above is based on controlled laboratory testing and standard application procedures. Actual field performance may vary depending on installation quality, substrate preparation, and environmental conditions at the job site.



Mfg by **RUDRA ENTERPRISE**

Website: www.rudrapaint.com

E Mail:- rudrapaint@yahoo.com

Your Safety is Our Motto

XXXXXXXXXX-----XXXXXXXXXX