CHEMFIT POLYFLEX 2100

Polyurethane Based, One Part, Moisture Curing Elastic Joint Sealant for Outdoor Applications – For Facade and Floor Joints in Buildings and Civil Engineering Constructions

PRODUCT DESCRIPTION

ChemFit PolyFlex 2100 is a high performance, one part, moisture curing elastic joint sealant based on polyurethane technology. It cures upon exposure to atmospheric humidity to form a permanently elastic, durable, and weather-resistant sealant. This product is specifically formulated for outdoor applications, exhibiting excellent adhesion to a wide variety of construction substrates without the need for a primer. It conforms to the requirements of **ISO 11600 F 25 HM**, making it suitable for movement and connection joints in buildings and civil engineering.

PRIMARY APPICATIONS

ChemFit PolyFlex 2100 is recommended for use in conditions such as:

- **Facade Joints:** Sealing and weatherproofing of movement and connection joints in concrete, masonry, and curtain wall facades.
- **Floor Joints:** Sealing expansion and construction joints in industrial floors, warehouses, parking decks, and ramps.
- **Civil Engineering:** Sealing joints in precast concrete elements, bridge decks, and infrastructure projects.
- **General Construction:** Suitable for sealing joints between various building materials like concrete, brick, metal, and wood.

KEY FEATURES AND BENEFITS

- **One Part, Moisture Curing:** Ready to use; cures with ambient humidity.
- **High Movement Capability:** Conforms to ISO 11600 F 25 HM, accommodating expansion and compression up to ±25% of the joint width.
- **Excellent Durability:** Highly resistant to weathering, UV radiation, water, and a wide range of chemicals.
- **Good Adhesion:** Bonds well to most common building substrates without a primer.
- **Permanently Elastic:** Remains flexible over time, ensuring long-term joint integrity.

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Basis	One-part, polyurethane (PU)
Color	Grey (other colors available on request)
Consistency	Non-sag / Thixotropic
Density	~1.15 – 1.60 kg/L
Skin Formation Time (at +23°C/50% r.h.)	50 – 90 minutes
Curing Rate (at +23°C/50% r.h.)	~2 – 3.5 mm per 24 hours
Movement Capability	±25%
Shore A Hardness	35 – 45
Elongation at Break	> 500 – 700%
Service Temperature	-30°C to +80°C
Application Temperature	+5°C to +40°C

PACKAGING AND STORAGE

Packaging:

- 300 mL cartridge
- 600 mL foil pack (sausage)

Storage:

- Store in original, unopened packaging in a cool, dry environment between +5°C and +25°C.
- Protect from direct sunlight and frost.

Shelf life: 12 – 15 months from date of manufacture when stored properly.

DOSAGE AND COVERAGE RATES

Joint design must follow the width-to-depth ratio (2:1). Use a closed-cell polyethylene backing rod as a bond breaker.

Joint Width (W)	Joint Depth (D)	Approx. Joint Length per 600mL
10 mm	10 mm	~6.0 meters
15 mm	12 mm	~3.3 meters
20 mm	16 mm	~1.9 meters
25 mm	20 mm	~1.2 meters

APPLICATION GUIDLINES

Surface Preparation:

- Substrates must be sound, clean, dry, and free from dust, oil, grease, laitance, and any loose particles.
- Mechanically abrade smooth surfaces.

Priming:

- Priming is generally not required, but a test is recommended for critical substrates or at temperature extremes.

Application:

- Insert a closed-cell polyethylene backing rod to the proper depth to act as a bond breaker and control sealant thickness.
- Apply the sealant firmly into the prepared joint, ensuring complete contact with the joint sides.
- Tool the sealant immediately after application with a tool moistened with soapy water.

Curing:

- Skin formation: approx. 50 – 90 minutes.
- Protect from rain and water for at least 24 hours.
- Final cure: 2 – 3 mm per 24 hours.

Cleaning:

- Remove masking tape immediately after tooling.
- Clean tools and uncured sealant with a suitable solvent.
- Cured sealant can only be removed mechanically.

HEALTH AND SAFETY

Polyurethane sealant may cause skin and eye sensitization. If eye contact occurs, rinse with water for 15 minutes and seek medical attention. For skin contact, wash with soap and water. Use gloves and safety glasses. Ensure adequate ventilation. Refer to the Safety Data Sheet (SDS) for detailed information.

CLEANING OF TOOLS

Clean tools and equipment with a suitable solvent (e.g., xylene, acetone) immediately after use.

APPROVALS AND STANDARDS

ChemFit PolyFlex 2100 complies to the following standards:

- **ISO 11600:2011** – Classification F-25 HM
- **EN 15651-1** – Sealants for facade elements – F EXT-INT CC 25 HM
- **EN 15651-4** – Sealants for pedestrian walkways
- **ASTM C920** – Grade NS, Type S, Class 25
- **ISO 9001** – Quality management system certified

LEGAL NOTES

All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.

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