FUERZA SEALTHANE

2-PART POLYURETHENE JOINT SEALANT

FUERZA SEALTHANE is a **high-performance, two-component polyurethane joint sealant** specifically formulated to provide durable, elastomeric sealing for construction and movement joints subjected to cyclic expansion and contraction. Upon curing, it forms a tough, resilient elastomer with outstanding adhesion, flexibility, and mechanical strength, capable of accommodating **joint movement of up to ±30%** of the original joint width while maintaining a watertight and airtight seal.

FUERZA SEALTHANE exhibits exceptional resistance to environmental weathering and aggressive service conditions, including prolonged exposure to **ultraviolet (UV) radiation, rainfall, ozone, temperature fluctuations, atmospheric pollutants, and industrial contaminants**. Its advanced polyurethane formulation ensures long-term retention of elasticity, adhesion, and mechanical integrity, even under severe climatic conditions. The cured sealant maintains stable physical properties over a service temperature range of **–20°C to +70°C**, making it ideally suited for demanding interior and exterior construction, infrastructure, and industrial sealing applications.

FEATURES & BENEFITS:

- Rapid curing and early strength development for reduced installation downtime.
- Provides exceptional adhesion and high bond strength to a wide range of construction substrates.
- Exhibits superior adhesion to diverse materials, including concrete, masonry, brick, metals, timber, and other common construction substrates.
- Compatible with most conventional paint and protective coating systems following complete cure.
- Resistant to fungal and microbiological growth, making it suitable for hygienic environments and approved for contact with potable water.
- Offers outstanding resistance to water ingress, weathering, and a broad range of chemicals, ensuring long-term durability in aggressive service environments.
- **Accommodates high cyclic joint movement while maintaining seal integrity, in compliance with the movement capability requirements of **ASTM C719**.

TECHNICAL INFORMATION

The following typical physical and mechanical properties are based on specimens cured for seven days under controlled laboratory conditions at 25°C and 50% relative humidity (RH).

Appearance:	Gun grade and pour grade
Type of cure:	Forced chemical cure
Pot life:	1-2 hours
Initial surface dry time:	4-6 hours
Mixing ratio by w/w:	85:15
Shore A hardness:	30-40 approx.
Tensile strength:	10-15 kg/cm^2
Elongation at break:	>500%
Chemical resistance:	to dilute acid, alkalis, oils, fuels etc.
Application temperature:	10^{o}C-55^{O}C
Service temperature:	-20^{O}C to +70^{O}C

SPECIFICATION COMPLIANCE:

FUERZA SEALTHANE conforms to the performance requirements of BS 5212, BS 4254, and ASTM C920, ensuring compliance with internationally recognized standards for high-performance elastomeric polyurethane joint sealants.

APPLICATORY USES:

- Sealing of horizontal and vertical movement joints in walls and floor systems.
- Joint sealing and pointing of natural stone installations, including granite, sandstone, marble, GRC (Glass Reinforced Concrete), fiberglass, and other architectural panel systems.
- Weatherproof sealing of metal curtain wall systems and façade assemblies.
- Sealing of potable water reservoirs, tanks, and water-retaining structures.
- Bonding and sealing of façade, cladding, and architectural panel systems to a wide range of construction substrates.
- Sealing of construction, control, isolation, and expansion joints in concrete and masonry structures.
- High-performance sealing of concrete pavement joints in airport runways, taxiways, aprons, and other heavy-duty infrastructure applications.

DIRECTIONS FOR USE:

Surface Preparation:

Proper **substrate preparation** is essential to achieve optimum sealant performance, maximum adhesion, and long-term joint durability. Prior to application, all joint surfaces shall be clean, sound, dry, and free from dust, laitance, existing coatings, bituminous residues, curing compounds, mould release agents, oils, greases, loose particles, and any other bond-inhibiting contaminants. Surface preparation should be carried out by mechanical cleaning using a wire brush and abrasive emery paper to expose a clean, stable substrate. Residual dust and debris shall be completely removed using compressed air or a clean, dry brush. Any traces of oil, grease, or similar contaminants shall be eliminated by wiping the substrate with a clean cloth moistened with a suitable solvent, such as **xylene, toluene, or acetone**, immediately prior to sealant application to ensure optimum bond development.

Back-up material:

Prior to sealant application, a **compressible closed-cell backing material**, such as **polyethylene foam, polysulphide, neoprene, or butyl backer rod**, shall be installed within the joint to accurately control the sealant depth and maintain the specified width-to-depth ratio. The backing material provides a firm support during tooling, prevents three-sided adhesion, promotes the desired hourglass joint profile, and enhances the sealant's ability to accommodate cyclic movement while ensuring long-term sealing performance and durability.

Bond breaker installation:

A suitable **bond breaker tape**, such as **self-adhesive polyethylene tape**, shall be installed over the backing rod prior to sealant application to prevent adhesion of the sealant to the base of the joint. This ensures **two-sided adhesion**, eliminates undesirable three-sided bonding, and enables the cured sealant to accommodate cyclic expansion and contraction effectively while minimizing internal stress concentrations and enhancing long-term joint performance and durability.

Primer application:

Select an appropriate **primer system** based on the substrate type to maximize sealant adhesion and long-term joint performance. Apply **two uniform coats** of the selected primer by brush to the joint faces, maintaining an interval of approximately **30 minutes** between successive coats to ensure adequate solvent evaporation and primer film development.

- **Primer RDL 942:** Recommended for **porous substrates**, including concrete, masonry, timber, and other absorbent construction materials.
- **Primer RDL 947:** Recommended for **non-porous substrates**, including metals, glass, ceramics, and other dense, non-absorbent surfaces.

This priming procedure enhances interfacial adhesion, promotes durable bond formation, and improves the long-term performance of the sealant system under service conditions.

Coverage:

The theoretical coverage of **FUERZA SEALTHANE** is determined by the dimensions of the joint and may be calculated using the following equation:

L = 660 / (W X D)
Where:
L = Theoretical joint length (linear metres)
W = Joint width (mm)
D = Joint depth (mm)

Actual material consumption may vary depending on substrate condition, joint geometry, surface irregularities, and application techniques.
Primer-Consumption:
As a general guideline, **1 litre of primer** is sufficient for approximately **15 kg of FUERZA SEALTHANE sealant**, subject to substrate porosity and site conditions.

Masking tape Application:

Apply a high-quality self-adhesive masking tape, such as polyethylene, cellophane, or fabric-backed tape, along both longitudinal edges of the joint prior to sealant installation. The tape functions as a temporary protective barrier, preventing unintended sealant contamination of adjacent substrates and ensuring precise joint geometry with clean, well-defined edge profiles. Following sealant application and tooling, the masking tape should be removed immediately while the sealant remains uncured to achieve a sharp, aesthetically uniform finish and eliminate the risk of edge disturbance during curing.

Mixing Procedure:

The base and hardener components are supplied in **factory pre-proportioned quantities** to ensure the correct mixing ratio and eliminate on-site proportioning errors. Following the application and curing of the recommended primer, thoroughly premix the individual components before transferring the **entire contents of the hardener (accelerator)** into the base component.
Mechanically or manually blend the two components until a **uniform, homogeneous mixture** with a consistent black appearance is obtained, ensuring complete dispersion of the curing agent throughout the resin matrix. Mixing may be carried out using a **spatula, palette knife, or a flat-blade stirrer** attached to a **low-speed electric mixer operating at a maximum speed of 500 rpm**. Excessive mixing speeds should be avoided to minimize air entrainment and maintain the optimum performance characteristics of the sealant.

Pouring Grade (Manual Application):

Following thorough mixing of the two components, the sealant develops a **pourable consistency** suitable for direct placement into prepared joints from the mixing container. Its self-leveling rheological properties enable the material to flow uniformly within the joint cavity, producing a smooth, continuous, and void-free seal without the need for extensive tooling.

For large-scale or repetitive applications, FUERZA SEALTHANE may also be dispensed using **automatic or semi-automatic sealant application equipment**, ensuring consistent material placement, controlled application rates, and enhanced installation efficiency.

Tooling & Furnishing:

Following sealant placement, the exposed surface shall be tooled immediately using a suitable profiling spatula, putty knife, or flat finishing tool to achieve a smooth, continuous, and uniformly contoured joint profile. The tooling operation should be performed by applying consistent pressure while advancing longitudinally along the joint, thereby consolidating the sealant, eliminating entrapped air voids and surface imperfections, and ensuring intimate contact with the joint flanks to maximize adhesive bond development. Upon completion of tooling, the masking tape shall be removed promptly before the sealant begins to skin over, ensuring crisp and well-defined joint edges. Where required, a compatible soap solution or approved tooling lubricant may be lightly applied to facilitate surface finishing and produce a uniform, aesthetically superior sealant profile without adversely affecting curing or adhesion.

Cleaning:

All tools, mixing equipment, and application accessories shall be cleaned immediately after use using a compatible solvent such as xylene, toluene, methyl ethyl ketone (MEK), or acetone, prior to complete curing of the sealant.

PACKAGING:

FUERZA SEALTHANE is supplied in factory-sealed, pre-proportioned Base and Hardener kits of **2.5 kg** and **4.0 kg**, with a compatible **1 L primer** available to ensure optimum adhesion and overall system performance.

STORAGE CONDITIONS:

Store the material in its original, tightly sealed containers under **cool, dry, and well-ventilated conditions**, ideally at **25°C and 50% relative humidity (RH)**. Protect the product from direct sunlight, excessive heat, moisture ingress, and other adverse environmental conditions to preserve its physicochemical stability.

SHELF LIFE:

The product has a **shelf life of 12 months** from the date of manufacture when stored in its original, unopened packaging under the recommended storage conditions.

Calle solsona 123, 08227 terrassa, Barcelona, Spain
Phone: 0034-666353092, 0334-6866005
Email: info@fuerzachem.com
Website: www.fuerzachem.es , www.fuerzachem.com