



UST Sealant Tape Telecommunication-Shelter

Sealing Telecomm shelters

Telecommunication shelters must be watertight.

Liquid sealant (caulk), alone, is not protection against long-term water infiltration. Backing up the caulk with UST Impregnated Sealant tape will provide lasting protection.

Not only do telecomm shelters house critical electronics, but telecomm shelters are usually located at the full mercy of the weather.

Extremes in heat, cold, as well as pummelling from rain, snow, sleet and driving winds leave these critical structures totally exposed.

While they provide aesthetic benefit, liquid sealants (caulk) lose effectiveness for many reasons:

- poor initial adhesion to exposed aggregate
- poor adhesion caused by dust and concrete particles
- failure to create "hour-glass" required for proper liquid sealant performance
- failure to tool sealant to promote proper adhesion
- loss of key physical properties (UV resistance, modulus) over time and temperature.



For these reasons, providing a secondary seal of impregnated foam sealant will ensure that leaks do not occur even when the caulk fails.

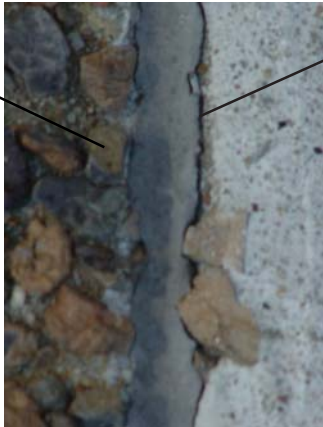
Product Description

- **UST** is a preformed expanding foam tape sealant. It is made by impregnating a resilient, high-density, open-cell polyurethane foam with


water-based, stabilized acrylics. It is supplied factory precompressed and packaged in reel form with self-adhesive backing for use in preformed joints subject to expansion and contraction movement, and also as gaskets in tightly squeezed, non-moving joints.

- After removal of packaging, material begins gradual expansion--

Exposed aggregate finish is a difficult surface on which to achieve good liquid sealant adhesion.



Liquid-applied sealants rely on adhesion. Adhesion is weakest in tension. As structures expand and contract with thermal changes, liquid-sealants eventually separate from substrates.



By contrast UST exerts a continuous backpressure thereby ensuring a seal regardless of movement.

Liquid-applied sealants may provide aesthetic versatility but should be backed up by UST to ensure watertightness at critical connections and penetrations.

- slowly in cold weather, faster in hot.
- Sealing ability is a function of the characteristics of the open cell foam structure, the level of impregnation, and the degree of compression or density which can be varied to suit specific applications. For example, lower compression serves for dust, driving snow, etc., while progressively greater compression is required for vertical run-off water, etc.
- UST is supplied precompressed to less than the nominal material size for easy insertion into a preformed joint of the same opening width.
- Sealing between the foam and substrate is achieved through a combination of the pressure-sensitive adhesive impregnation and the back pressure of the expanding foam.

Uses, Applications

- As a water, vapor, air, sound and dust seal between metal surfaces, as well as between concrete and other substrates.
- For applications requiring high temperature stability.
- Ideal as a gasket tightly squeezed between joint faces that are mechanically fastened together such as lap seams.
- Its resilience makes it also suitable for use in a partly expanded condition for filling preformed openings between components and where joint opening size varies due to seasonal temperature changes.
- In applications where damping vibration and noise is as important as weather sealing.
- As a secondary seal behind caulk.

Advantages

- Does not dry out.
- Durable, resilient, therefore suitable for moving joints.
- Tolerant of joint face irregularities.
- Ideal as a secondary seal to wet sealants (caulk).
- Compatible with and adheres to most wet sealants.
- Does not bleed.
- Back pressure of foam maintains seal, minimizes tension on substrate, and reduces possibility of failure due to weak or improperly prepared substrates.

- Exposed face remains virtually flat regardless of variation and changes in joint width and compression.
- User friendly, no masking, mixing, priming, tooling, curing or clean-up required.
- Polyester scrim embedded in self-adhesive resists stretching of material during installation.
- Good thermal and sound insulating properties.
- Difficult to vandalize.
- Vermin resistant.

Limitations

- UST will not adhere to joints that are dirty or dust-covered or to surfaces coated with oils or release agents.
- UST service temperature range is -40°F to 249°F (-40°C to 120°C).

Joint Design

- Substrate faces must be parallel and have sufficient clear depth to fully support UST.
- Substrate must be capable of resisting, without deflection, approximately 1.5 to 2.5 lb/in² (10 to 17 kPa) back pressure from the UST.

Installation

- Surface Preparation: Joint surfaces must be free from gross irregularities, loose particles, foreign matter such as dirt, dust, ice, snow, water, etc., and coatings such as grease, oil, release agents, lacquers, etc., that may be detrimental to the adhesion of the sealant.
- UST should be stored indoors at room temperature. Recovery is quicker when warm and slower when cold.
- Remove UST from protective packaging.
- Expose self-adhesive side by removing release liner.
- Join consecutive lengths of material with a 45° miter.

Warranty

Standard or project-specific warranties are available from EMSEAL on request.

Availability and Price

EMSEAL products are available internationally. The product range is continually being developed, and EMSEAL reserves the right to modify or withdraw any product without prior notice.

TABLE 1: Typical Physical Properties of UST

Property	Value	Test Method
BASE MATERIAL	OPEN CELL, HIGH DENSITY, POLYURETHANE FOAM	N/A
Impregnation	Water-based, Stabilized Acrylics	N/A
COLOR	CHARCOAL GREY	N/A
Tensile strength	21 psi min (145 kPa)	ASTM D3574
TEMPERATURE RANGE		
HIGH - PERMANENT	249°F (120°C)	ASTM C711
LOW - PERMANENT	-40°F (-40°C)	ASTM C711
UV resistance	Excellent	
MILDEW RESISTANCE	EXCELLENT	
Resistance to aging	Excellent	
BLEEDING	NONE	
Compression set	5% max	ASTM D3574
THERMAL CONDUCTIVITY	0.34 BTU. IN/HR. FT ² . °F (0.05 W/M. °C)	ASTM C518