

FlangeBand[®]

**Compliance with Standard Guide for
Use of Joint Sealants**

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FlangeBand & Compliance with ASTM C1193-16 Guidelines

ASTM International is a US international standards organization who have developed and published: C1193-16 Standard Guide for Use of Joint Sealants.

FlangeBand's compliance with the recommendations of C1193-16 is explained through addressing those sections in C1193-16 most relevant to the particular task FlangeBand is intended to perform which is as a perimeter movement joint sealing assembly that is installed between shower base and bathtub receptors and the adjacent shower wall(s).

Section 4: Significance and Use. ASTM C1193-16 makes various recommendations in respect of joint design and the application of joint sealants in conjunction with joint sealant accessories associated with sealant use.

In this light the FlangeBand joint sealing system can be viewed as being a silicone sealant called Sealux-N that performs in conjunction with a range of joint sealing accessory materials that include:

- A substrate material (detailed in section 6)
- A substrate cleaner (detailed in section 7)
- A substrate primer (detailed in section 8)
- Sealant backing material (detailed in section 9)

Section 5: General Considerations. A critical aspect sealing perimeter joints around shower bases and bathtubs is sealant selection. Sealux-N is a neutral curing sanitary grade silicone that is environmentally durable, highly elastic, compatible with intended engaging surfaces and tenaciously bondable to the primed Sealux strip membrane and receptor sidewalls (refer to * section 7). Sealux-N complies with ASTM C920.

Sealux-N Silicone Technical Data, Safety Data Sheet and DOP documents can be downloaded at: www.sealux.com.

Section 6: Substrate. The opposing non-porous substrates that create the perimeter joint Sealux-N silicone is intended to waterproof, are formed of the polymeric Sealux strip (bonded to the shower wall) on one side and the adjacent receptor outer skin on the other side. Substrate preparation for sealant adhesion is fundamental to the design performance of the FlangeBand tile flange kit.

Substrate preparation of the Sealux strip for enhanced adhesion with Sealux-N silicone is undertaken in a specialized factory controlled environment during the strip manufacturing process which is explained in Section 8. Substrate preparation of the receptor outer skin to enhance adhesion with Sealux-N is explained in Section 7.

Section 7: Cleaner. The FlangeBand tile flange kit includes sachets of 100% isopropyl alcohol saturated wipes for the purpose of cleaning down all receptor* substrates intended to engage with Sealux-N silicone.

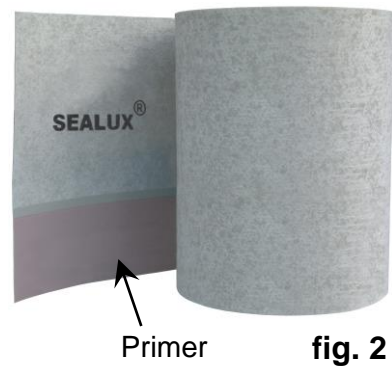
* It is assumed that receptors sourced from reputable suppliers (unless otherwise informed) will after a thorough cleaning with 100% isopropyl alcohol saturated wipes adhere to silicone. If in doubt, an adhesion test should be performed on a receptor surface that remains hidden after installation.



fig. 1

Section 8: Primer. The Sealux strip (fig. 2) is a flexible polymeric material which by its nature has a low surface energy detrimental for adhesion with silicone.

To overcome this, a longitudinal fleece-free portion of the Sealux strip is etched and sealed with a UV cured red-tinged silicone film that not only preserves the benefit of the etching but also acts as a primer that provides tenacious adhesion with Sealux-N silicone.



Section 9: Sealant Backing. A key component of FlangeBand is the closed cell sealant backing material which take two forms: an adhesive backed 1/4"x1/2" (6mm x 12mm) PE foam strip (fig. 4) or a 1/4" (6mm) round PE foam strip (fig. 5).

In the FlangeBand PlumBud kit, the 1/4"x1/2" (6mm x 12mm) sealant backer material is supplied pre-bonded onto the Sealux strip membrane (fig. 3).

In the FlangeBand TileBud kit, the sealant backer foam is supplied as a loose component to accommodate various applications in both new and retro installations.

Included in the FlangeBand kit is sealant backing material alignment guide (figs. 6 & 7) to ensure the correct positioning of backer materials in the joint.

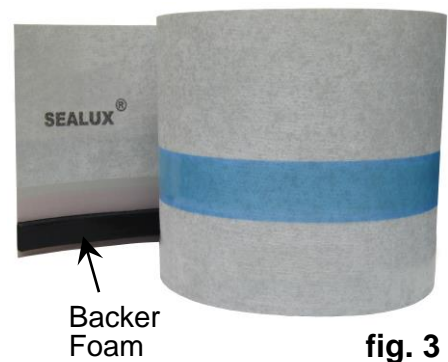


fig. 4



fig. 5



fig. 6



fig. 7

Section 12: Liquid Applied Sealant. Sealux-N is a single-component, neutral/moisture curing (typically 2mm/day), low modulus (high flexibility 25%), sanitary grade (with fungicide) silicone, the only silicone tested and approved by Sealux for used in the FlangeBand sealing system. Sealux-N in normal conditions will skin in 8 minutes and has a 12 month shelf life after manufacture.

Section 14: Sealant joints. FlangeBand is a versatile joint sealing assembly that promotes three joint seal configurations (figs. 8, 9 and 10):

- a) a 'sloping butt joint' incorporating sealant backing material when waterproofing the joint between a flange-free shower base or bathtub sidewall and adjacent shower wall.

The sealant width is set by the width of the sealant backer at typically 1/4" (6mm) and the sealant depth is pre-set by the sealant backer alignment guide at 1/4" (6mm).



fig. 8

The 'sloping' aspect of the sealant's upper face downward to the rim side reduces perimeter canalling and moisture wicking up the wall behind the tiles.

- b) a 'rectangular butt joint' without a sealant backing material when sealing the joint between a shower base or bathtub tiling flange and adjacent (often overhanging) shower wall. The dimensional configuration of the joint is pre-determined by the position of the shower base or bathtub tile flange outer face relative to the shower wall outer face.



fig. 9

The sealant depth is set at a minimum of 1/4" (6mm) and the sealant width is set by how much the tile flange outer face is offset behind the shower wall outer face above.

- c) a 'fillet joint' with or without a backer material when sealing a shower base or bathtub rim to the adjacent shower wall. The sealant fillet dimensions can be set by the sealant spatula supplied with the FlangeBand kit to ensure the sealant remains concealed below and behind the wall covering bottom edge.



fig. 10

Section 15: Designing a Sealant Joint for Movement. Shower base and bathtub perimeter joint seals must accommodate a variable degree of joint expansion (and subsequent joint contraction) between the shower wall substrate and receptor substrate.

The two main causes of receptor/wall joint expansion are receptor settlement and deflection under the weight of occupant (and water if in a bathtub) and shrinkage of the wall and floor materials during the drying out process (new-builds).

Where the FlangeBand kit has been installed between a flange-free shower base or bathtub and adjacent shower wall, it should be understood that the inner longitudinal strip portion (facing the wall) running adjacent to the outer primed strip portion bonded to the Sealux-N silicone, is not bonded to the wall along this line and is freely releasable.

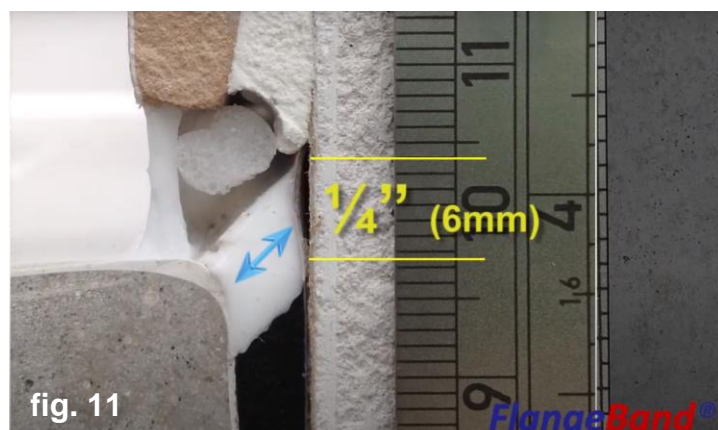


fig. 11

Consequentially, through the ability of the Sealux strip to freely release off the shower wall and deflect in sympathy with the connected shear-tensioned elastic silicone material bridging the strip to the receptor sidewall, the FlangeBand joint seal design can accommodate joint expansion far in excess of what normal perimeter joints would typically experience during their working lives around shower bases and bathtubs.

Section 16: Sealant Installation. Section 16 describes many aspects in respect of the use of sealant and sealant accessories in unprotected environments, and also issues addressed in sections 6-9.

The FlangeBand tile flange kit is a dedicated assembly of a sealant and sealant accessories intended for the specific task of providing a permanent watertight perimeter joint seal between shower bases and bathtubs installed against shower walls.

The sealant bridge connecting the strip to the receptor sidewall remains concealed and protected from direct exposure to the shower environment. Consequentially, when FlangeBand is installed in accordance with the manufacturer's instructions, the typically service life having regard for the sealant's semi-protected location, is anticipated to extend in normal conditions for the life of the shower enclosure (20/25 years).

Section 17: Sealant Joint Maintenance. There is no remedial or maintenance work associated with FlangeBand because once installed FlangeBand is an inaccessible, permanent, flexible, durable, watertight joint seal. Maintenance and remedial works are however required in respect of the exposed tile/rim sealant joint which will typically require replacement from time to time depending on shower usage.

Section 18: Certification, Marking, Shipping, Preservation, and Safety. Sealux-N conforms to ASTM-C920 recommendations. Sealux-N Silicone Technical Data, Safety Data Sheet and DOP documents can be downloaded at: www.sealux.com



fig. 12

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