

FlamLINE® 40 Torch Grade Waterproof Expansion Joint

DESCRIPTION

FlamLINE 40 is a torchable waterproof expansion joint that is used with torch applied roofing and waterproofing membranes.

FlamLINE 40 is manufactured from a proprietary copolymer with internal polyester reinforcement. FlamLINE 40's superior material qualities allow for monolithic seam vulcanization, tri-directional movement and high fire resistance. The adhesion to the waterproofing membrane sheet is torch-welded. The torchable membrane is heated and the liquefied asphalt penetrates into the FlamLINE 40 dimpled surface for a homogenous bond. FlamLINE 40 is compatible with torchable asphaltic and coal tar pitch membranes, as well as self adhered membranes. FlamLINE does not contain any asphalt.

All detailing is factory manufactured to suit site specific requirements. FlamLINE 40 is delivered to the job site in one continuous roll for the project. A proprietary vulcanization process, is utilized which results in monolithic and elastic joints. Vulcanization can also be done on site if so required.

The flat profile of the FlamLINE 40 expansion joint is unobtrusive to finishes and allows for free flow of water over the joint.

TYPICAL USES

FlamLINE 40 waterproof expansion joint system is specifically designed to be used with torch down modified bitumen membranes. Typical uses include;

- Roof Expansion Joints
- Sub Grade Expansion Joints
- Plaza Deck Expansion Joints
- Parking Garage Expansion Joints
- Protected Membrane Expansion Joints
- Tunnel Expansion Joints
- Vertical Wall Expansion Joints
- Bridge Expansion Joints
- Building Closure Joints
- Roof Control Joints



FlamLINE 40 installed in a torched system.

EXPANSION/CONTRACTION RANGE DATA

The FlamLINE waterproof expansion joint system is designed to accommodate 3 way movements concurrently:

Movement	FlamLINE 40
Horizontal	± 2" [± 50 mm]
Vertical	± ¾" [± 20 mm]
Shear	± ¾" [± 20 mm]

TECHNICAL DATA

Property & Test Method	Results
Hardness Shore A ASTM D-2240	55 ± 5
Lap Joint Strength ASTM D-816	Same as base material
Low Temperature Flex ASTM D-746	-70°F [-57°C]
Maximum Torching Temperature:	1600°F [870°C]
Ultimate Elongation ASTM D-412	700 %
Tensile Strength ASTM D-624 (min.)	44.8 lbs/in [8.00 N/mm]
Puncture test - cone to CGSB 37.56 M (1995):	10 lbs. [44.5 N] min.
Water absorption ASTM D-570 (min.)	< 0.001%
UV Exposure ASTM G-53	No cracks
5000 hours	or Cracking
Chemical Resistance to:	
Acids, Alkalis, Polar Solvents	No effect
Saline Solutions	

PHYSICAL DATA

Property	FlamLINE 40
Thickness	0.078" [2.0 mm]
Roll Width	14½" [360 mm]
Expansion Joint Gland Width	2¼" [60 mm]
Roll Length	Endless
Weight	0.74lb/ft [1.10kg/m]
Color	Varies*

* Black (top and bottom), Black (top) Grey (bottom), Grey (top and bottom) or Yellow (top and bottom), gland area is identified with reverse color or delineated with lines.

STORAGE

Store rolls on end, on original pallets or elevated platform. Protect from weather or store in an enclosed area.

SURFACE PREPARATION

Refer to roofing/waterproofing manufacturer's guide specifications and recommendations for detailed roofing/waterproof membrane application information. All surfaces must be dry and clean of debris, prior to application.

MODIFIED BITUMEN MEMBRANE TORCHING APPLICATION

Step 1 Preparation:

Identify the start installation location from the plan accompanying the roll of FlamLINE 40 waterproof expansion joint material. Roll out the FlamLINE 40 and allow it to relax, until flat, prior to application. Make sure that the building expansion joint is clean and free of debris and has been packed with compressible batt insulation or a backer rod installed. Align the center line of the expansion joint gap or gap with the centre line of the FlamLINE 40 waterproof expansion joint material, and verify the FlamLINE 40 conformance to site details prior to the torching application.

Step 2 Torching:

Method A. Apply heat to the waterproofing ply and embed the FlamLINE 40 into it, using the "torch and flop" technique. Press the FlamLINE 40 into the hot waterproofing with a blunt putty knife.

Method B. Apply heat to the waterproofing ply and unroll the FlamLINE 40 into it. Press the FlamLINE 40 into the hot waterproofing with a blunt putty knife.

Step 3 Flashing in:

Flash in the FlamLINE 40 with a compatible torch down flashing ply, encapsulating the FlamLINE 40.

SELF ADHERED MEMBRANE APPLICATION

Step 1 Preparation:

Identify the start installation location from the plan accompanying the roll of FlamLINE 40 waterproof expansion joint material. Roll out the FlamLINE 40 and allow it to relax, until flat, prior to application. Make sure that the building expansion joint is clean and free of debris and has been packed with compressible batt insulation or a backer rod installed. Verify the FlamLINE 40 conformance to site details.

Step 2 Substrate Preparation:

FlamLINE material does not contain any asphalt, it therefore has to be set in a bed of asphalt based adhesive, prior to the application of the self adhered membrane. A coat of cold adhesive such as polybitumen can be used, consult roofing/waterproofing membrane manufacturer for a compatible product.

Step 3 Priming:

Apply a compatible primer as recommended by the self adhered membrane manufacturer, to the top surface of the FlamLINE 40 material. Allow the primer to flash off.

Step 4 Application:

Align the center line of the expansion joint gap with the centre line of the FlamLINE 40 waterproof expansion joint material and set the FlamLINE in the pre applied bed of adhesive. The FlamLINE maybe additionally secured to the substrate with a flat termination bar (stainless 16 ga. min.) fastened at 8" [400 mm] on center staggered. The requirement for additional securement would depend on site conditions and design performance requirements. Apply the self adhered membrane to the primed FlamLINE 40 surface, covering the termination bars if installed. Use a roller to apply uniform pressure to the self adhered membrane to achieve a good bond.

ADDITIONAL PROTECTION COURSE

FlamLINE 40 can be additionally protected from mechanical damage by the installation of a 12" [300 mm] wide strip of modified bitumen cap sheet, secured by mopping or torching to one side of the expansion joint. Alternatively in the case of waterproofing a generic protection board can be used, and a variety of toppings or finishes applied, e.g. asphalt, concrete, stamped concrete.

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