

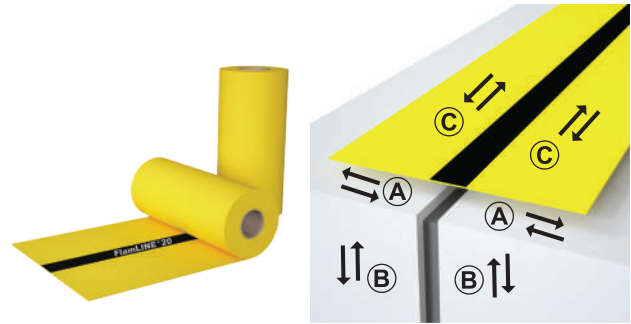
FlamLINE® 20

FlamLINE® family of Waterproof Expansion Joints is used for waterproofing expansion joints in large commercial and industrial structures. Specifically designed to accommodate building movements concurrently, in the three principal axial directions and is installed with specific roofing and waterproofing applications: torched-down modified bitumen, self-adhered membranes, cold adhesives, epoxy resins, PMMA's, and with specific adhesive tapes; single-ply membranes such as EPDM, PVC, and TPO. FlamLINE can also be used as a tie-in between two dissimilar, non-compatible membrane types. Factory fabricated under stringent quality control and supplied directly to the project site in a continuous roll, with all detailing complete, ready for site installation. Site conditions can require that FlamLINE joints be supplied in distinct segments; using SITURA's portable vulcanizing machine, joint connections can easily and independently be done on-site by the installer. Advantages of using FlamLINE include the elimination of wood curbs, metal flashing, nails and screws, caulked or glued seams, all contributing to lower life cycle costs and significant labor savings. The flat profile of FlamLINE does not obstruct the flow of water to drainage, limiting water ponding. FlamLINE is manufactured from a proprietary copolymer with internal polyester reinforcement which is dimensionally and chemically stable and proven to have excellent resistance to weathering and climate change-related effects. FlamLINE does not contain any asphalt or any VOCs.

TYPICAL USES

FlamLINE 20 Waterproof Expansion Joint product is designed to be used for:

- *Roof Expansion Joints*
- *Sub Grade (Waterproofing) Expansion Joints*
- *Plaza Deck Expansion Joints*
- *Parking Garage Expansion Joints*
- *Protected Roof Membrane Expansion Joints*
- *Tunnel Expansion Joints*
- *Blindside Waterproofing Expansion Joints*
- *Vertical Wall Expansion Joints*
- *Bridge Expansion Joints*
- *Roof Control Joints*
- *Building Closure Joints*



FlamLINE 20 Waterproof Expansion Joint

EXPANSION/CONTRACTION RANGE DATA

The FlamLINE 20 Waterproof Expansion Joint product is designed to accommodate 3-way building movements simultaneously, which are as follows:

MOVEMENT

(A) Horizontal	± 1/8" [± 35 mm]
(B) Vertical	± 1" [± 25 mm]
(C) Shear	± 1" [± 25 mm]

All movement values are based on limiting the gland elongation to 100%, well below the material's ultimate elongation of 600%. All movement is restricted to the joint gland only, with the polyester selvage edges providing a stable and nondeformative surface for encapsulation. FlamLINE joints have no length creep and are true to measure.

PHYSICAL DATA

PROPERTIES	VALUE
Thickness	0.080" [2.00 mm]
Roll Width	13½" [340 mm]
Expansion Joint Gland Width	1½" [40 mm]
Roll Length	Endless
Weight	0.74 lb/ft [1.10 kg/m]
Color	Black Gland, Yellow Selvage
Identification Marks	Topside imprinted mark "FlamLINE® 20"
Inservice Lifespan	20 years plus

TECHNICAL DATA

PROPERTY & TEST METHOD	RESULTS
Hardness "Shore A" ASTM D-2240	55 ± 5
Lap Joint Strength ASTM D-81	Same as base material
Low Temperature Flex ASTM D-746	-70°F [-57°C]
Ultimate Elongation ASTM D-412	> 600%
Puncture Test - CGSB 37.56 (min.)	10 lbf. [44.50 N] min.
UV Exposure ASTM G-53	No Cracks or Cracking 5000 hours
Chemical Resistance to:	
Acids, Alkalis, Polar Solvents, Saline Solutions	No effect
Vegetative FLL "Procedure for Investigating Resistance to Root Penetration at Green Roof Sites" ANSI/SPRI VR-1 2018	
Test for Root Penetration	Pass - No Invasion

SUSTAINABILITY & ENVIROMENTAL PRODUCT DECLARATION (EPD)

SITURA products are manufactured and fabricated with a commitment towards environmental and social consciousness. All FlamLINE products are manufactured, fabricated and shipped with this credo in mind. A verifiable Environmental Product Declaration (EPD under ISO 21930) for FlamLINE 20 is available from SITURA – establishing the product's carbon foot print from cradle to grave.

WARRANTY ACCEPTANCE

FlamLINE 20 qualifies for the following warranties (up to 20 years) when used as a single layer in conjunction with the appropriate membrane type installation detail.

- Material Only Warranty
 - Material & Labor Warranty
 - Specific NDL and OEM Manufacturers' Warranties
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STORAGE

Store FlamLINE rolls on end, on original pallets or elevated platform. Protect from weather or store in an enclosed area. Do not allow the FlamLINE to get wet, if wet, it must be thoroughly dried prior to installation.

SITE MEASUREMENTS

Each FlamLINE joint is fabricated to exact site measurements. Each project is unique and requires that the expansion joint system, on a project-by-project basis, is site measured, surveyed and designed, for proper fit and longterm performance prior to material order. Proper joint layout and configuration are critical to a successful FlamLINE installation. Consult with SITURA as to your particular project requirements.

SURFACE PREPARATION

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

GENERAL APPLICATION GUIDELINES

The FlamLINE product can be installed with a particular variety of roofing and waterproofing applications, the most popular being torched or hot air welded modified bitumen membranes, next are self-adhered membranes, or with the help of structural adhesive tapes single ply roof systems. Consult SITURA and the membrane manufacturer for the specific application types and for detailed application requirements and guidelines. The following are generalized installation steps which do vary for specific membrane types. Identify the installation start location from the layout plan accompanying the roll of FlamLINE waterproof expansion joint material. Roll out the FlamLINE, with the FlamLINE markings facing up, and allow the material to relax prior to application, as the material was in tension when supplied in a roll. Make sure that the building expansion joint is clean and free of debris and has been packed with compressible batt insulation or a 30% compressed backer rod has been placed in the joint cavity. Align the center line of the expansion joint gap with the centre line of the FlamLINE expansion joint material, and verify the FlamLINE conformance to site details and layout prior to starting the application. FlamLINE is internally reinforced and as such has a smooth surface to which the waterproofing membrane(s) can be attached, encapsulating the FlamLINE between its layers. The specific application methodology is available from SITURA, but as a generalization, the concept is to have the membrane layers in full and complete contact with the FlamLINE's yellow selvage edges, encapsulating them completely. Always lay the FlamLINE expansion joint material only in lengths of 10 feet [3 m] or less to allow for proper and thorough contact with the waterproofing medium. Do not lay the FlamLINE in sporadic and uneven segments, making sure that the yellow selvage edges are completely covered leaving only the top black gland exposed. In certain circumstances; the installation may require additional stripping plies and/or mechanical fixation. Always consult with SITURA as to the recommended installation guidelines and requirements for each type of waterproofing membrane.

ADDITIONAL PROTECTION COURSE

FlamLINE 20 can be additionally protected from mechanical damage by the installation of a 12" [300 mm] wide strip of sacrificial 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. Available from SITURA is SacriSeal™, as a form of a protective sacrificial membrane layer. Consult with SITURA with respect to the use of this material. Note; a protective layer maybe a warranty requirement in certain installations.

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