

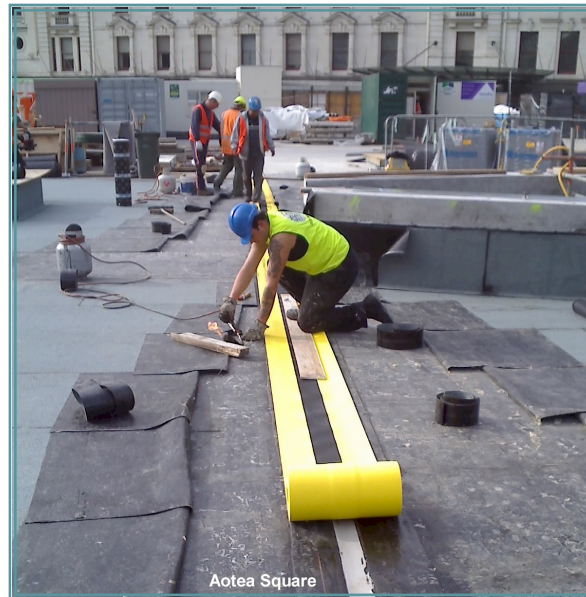


[ISSUED APRIL 2011]

# BEAL Appraisal



## Sealtec FlamLINE Expansion Joints System



### Product

1.1 Sealtec FlamLINE Expansion Joints System is a torchable specialist waterproof expansion joint system, that offers a practical solution to expansion joints more commonly found in membrane roof construction, and is used in conjunction with, torch applied roofing and waterproofing membranes.

### Building Regulations

2.1 In the opinion of BEAL, the Sealtec FlamLINE Expansion Joints System, if designed, installed and maintained in accordance with the statements and conditions of this Appraisal Certificate, will meet the following provisions of the NZBC.

2.2 Clause B2 DURABILITY

Performance B2.3.1 (b), 15 years. The Sealtec FlamLINE Expansion Joints System meets this requirement. See paragraphs 8.1-8.2.

2.3 Clause E2 EXTERNAL MOISTURE

Performance E2.3.2. The Sealtec FlamLINE Expansion Joints System will contribute towards meeting this requirement. See paragraph 9.1 to 9.2.

2.4 Clause F2 HAZARDOUS BUILDING MATERIALS

Performance F2.3.1. The Sealtec FlamLINE Expansion Joints System meets this requirement and will not present a health hazard to people.

### Scope and Limitations

3.1 Sealtec FlamLINE Expansion Joints System (FlamLINE tape) has been appraised for use as a torchable waterproof expansion joint system for use with membrane roof construction, torch applied roofing and waterproofing membranes within the following scope;

- New or existing roofs or decks that incorporate a torch-on membrane or mastic asphalt waterproofing (domestic or commercial)
- New or existing bridges that require a system to prevent the ingress of (external) moisture at expansion joints.

3.2 FlamLINE tape must be installed in accordance with the Technical Literature to produce the performances as de-

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The most up to date version of this BEAL Appraisal Certificate can be viewed at [www.beal.co.nz](http://www.beal.co.nz)



terminated within this Appraisal Certificate.

3.3 Installation must be carried out by an applicator trained and approved by Sealtec Ltd.

## Technical Literature

4.1 Refer to the Sealtec FlamLINE Expansion Joints System Technical Literature. The Technical Literature must be read in conjunction with this Appraisal Certificate. All aspects of design, use, installation and maintenance contained within the Technical Literature and scope of this Appraisal Certificate must be followed.

4.2 For a copy of this Technical Literature and any subsequent updates please refer to:

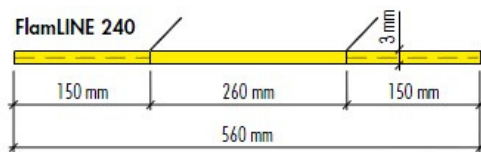
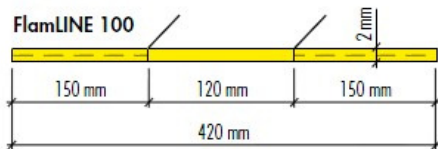
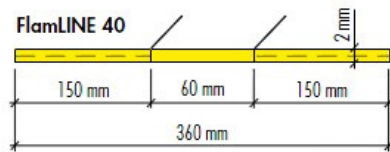
[www.sealtec.co.nz](http://www.sealtec.co.nz)

## Technical Specification

5.1 The FlamLINE tapes are preformed elastomeric gaskets of nominal thickness of 2.2mm with three nominal widths.

The products are made from a proprietary co-polymer with polyester reinforcement and consists of a central section that is elastic (not reinforced) and can stretch. The FlamLINE tapes are yellow in colour with the centre stretchable area a dark grey.

5.2 The FlamLINE tapes are available in three widths, each incorporating a different width of the section that stretches:



5.3 On site, the FlamLINE tape is adhered to both sides of the expansion joint substrate, using either torch applied heat-welding or a Sealtec approved epoxy.

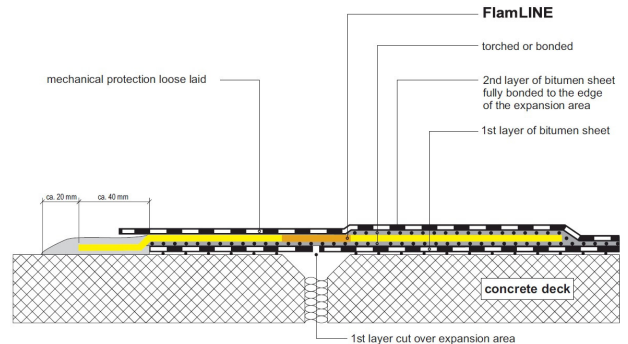


5.4 Once the FlamLINE tape has been adhered to the substrate, the top layer of the roofing material can be

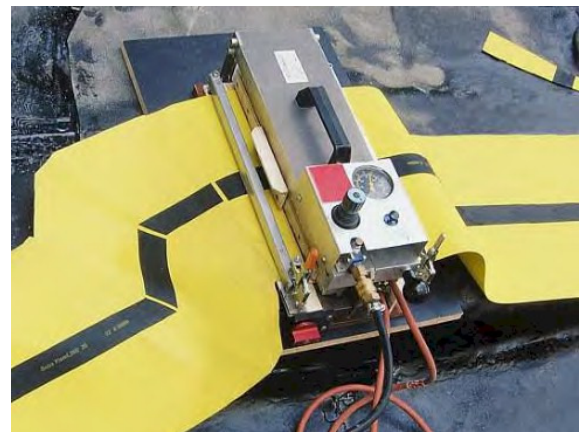
applied on top of either side of the FlamLINE tape. Any gap between the edges of the top layer of roofing material is either sealed using an expandable sealant as per the roofing material manufacturer's instructions, or covered with a strip of membrane such that one side of the strip membrane is fixed while the other side is able to slide over the underlying membrane.

5.5 The strip membrane may be either torch or epoxy fixed to one side of the top layer of roofing membrane. See drawing below.

epoxy / torched



joint is vulcanized using a special device to provide a continuous impermeable monolithic joint. See photo.



## Handling and Storage

6.1 The FlamLINE tape must be protected from damage before use.

## Design Information

### General

7.1 The FlamLINE tape is a solution to expansion joints commonly found in membrane roof construction, and is used in conjunction with, torch applied roofing and waterproofing membranes. Typical applications are found on large roof-tops and on bridges where expansion joints have been allowed for movement.

7.2 The preparation of the membrane roof construction, and expansion joints, is determined by the membrane manufacturer's instructions. Where the expansion joint is over an asphaltic waterproofing system, the design of the expansion joint shall be as per the manufacturer's instructions.

7.3 The width of tape chosen is based on the expected expansion of the joint as determined by the designer. Typically where the movement allowed for does not exceed 40mm, the FlamLINE 40 is selected. Where

the movement allowed for does not exceed 100mm, the FlamLINE 100 is selected. Where the movement allowed for does not exceed 240mm, the FlamLINE 240 is selected.

## Durability– Clause B2

8.1 When FlamLINE tape is used and installed in accordance with this Appraisal Certificate and Technical Literature, and the building or bridge is maintained so that the functional requirement of NZBC Clause B2 is met, and the tape is not damaged, then it is expected to have a serviceable life of at least 50 years.

### Maintenance

8.2 The product requires no maintenance.

## External Moisture

9.1 When the FlamLINE tape is used and installed in accordance with this Appraisal Certificate and Technical Literature, the product will contribute to a building meeting the functional performance requirement of clause E2 of the NZBC.

9.2 Where the installation is on a bridge, the FlamLINE tape will provide resistance to the ingress of moisture through the control joints where it has been installed.

## Installation Information

### Installation Skill Level Requirement

10.1 Installation of the FlamLINE tape shall be by tradesmen trained and approved by Sealtec Ltd.

## General

11.1 Installation of the FlamLINE tape must be made in accordance with the FlamLINE Technical Literature and this Appraisal Certificate.

11.2 Sealtec FlamLINE Expansion Joints System must only be installed when the weather conditions allow for the proper installation.

## Health and Safety

12.1 The FlamLINE tape is an inert material, is a non irritant to human skin and does not pose a health threat. Safety equipment should be worn to protect applicators breathing fumes during the torching or vulcanizing processes.



## Basis of Appraisal

BEAL use the compliance verification procedure to demonstrate compliance with the relevant clauses of the NZBC based on a risk analysis procedure.

The following is a summary of the technical investigations carried out

## Tests

13.1 Testing of the FlamLINE tape has been carried out by MPA NRW (a German accredited laboratory) covering the following properties -

- Tear resistance
- Tensile strength
- Heat resistance
- Cold resistance
- Hydrostatic water resistance
- Compatibility with bitumen
- Mass
- Shore hardness
- Fire resistance

13.2 The resistance to moisture absorption and the effect of salt was assessed by BEAL using in-house test methods and found satisfactory.

## Other Investigations

14.1 An assessment of the durability of the FlamLINE tape has been made by BEAL based on in-service history.

14.2 An assessment of the ease of installation was made by BEAL and found satisfactory.

14.3 The manufacturer's Technical literature and Installation instructions have been assessed by BEAL and found to be satisfactory.

## Quality

15.1 The quality of the FlamLINE tape supplied by Sealtec Ltd is managed through the use of a Building Product Quality Plan. The 'Building Product Quality Plan' ensures continuous conformance with the quality requirements from purchase to supply of components.

15.2 The FlamLINE tape Building Product Quality Plan is reviewed at least annually by BEAL.

15.3 Quality on site is the responsibility of the trained and approved applicators.

15.4 For a copy of this Technical Literature and any subsequent updates please refer to:

[www.sealtec.co.nz](http://www.sealtec.co.nz)

15.5 Building owners or bridge owners are responsible for the maintenance of the building or bridge to ensure the long term performance of the FlamLINE tape.

## Sources of Information

- Test Certificate No. 22000802 from MPA NRW .
- Test Certificate No. 22000151-e from MPA NRW
- Test Report TR110422 from BEAL
- ISO 9001 certificate for the manufacturer
- The Building Regulations 1992, up to, and including October 2004 Amendment including the Building Code

## Concluding statement

16.1 In the opinion of BEAL, the Sealtec FlamLINE Expansion Joints System is fit for purpose and will comply with the NZBC to the extent specified provided that it is used, designed, installed and maintained as set out in this Appraisal Certificate.

The Appraisal Certificate is issued only to Sealtec Ltd and is valid until further notification, subject to the conditions of this Appraisal.

## Conditions of Appraisal

1. This Appraisal Certificate :
  - A) Relates only to the Sealtec FlamLINE Expansion Joints System as described herein;
  - B) Must be read, considered and used in full together with the Technical Literature
  - C) Does not address any legislation, regulations, codes or standards, not specifically named herein;
  - D) Is copyright of BEAL
2. The Appraisal Certificate holder continues to meet the quality requirements of the Sealtec FlamLINE Expansion Joints System Building Product Quality Plan and has the plan revalidated by BEAL on an annual basis.
3. Sealtec FlamLINE Expansion Joints System Ltd, shall notify BEAL and obtain approval of any changes in product specification or quality assurance prior to product being marketed including any trade literature, web site info or the like.
4. BEAL makes no representation as to:
  - A) The nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
  - B) The presence or absence of any patent or similar rights subsisting in the product or any other product;
  - C) Any guarantee or warranty offered by the Appraisal Certificate holder
5. BEAL's verification of the building product or system being able to comply with one or more above-mentioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the NZBC at the date of this Appraisal Certificate. In the event that the criteria is withdrawn or amended at a later date, this Appraisal may no longer remain valid.
6. Any reference in this Appraisal Certificate to any other publication shall be read as a reference to the version of publication specified in this Appraisal Certificate.

Authorised Signatory



C R Prouse - Director  
[APRIL 2011]

