

# 4131WP SEALCO FLAMESEAL® TORCH ON TANKING

## 1. GENERAL

This section relates to the application of **Sealco Ltd** FlameSEAL® torch on tanking membrane for basement foundation and vertical wall applications.

It is used:

- with concrete, concrete masonry and polystyrene/concrete masonry substrates
- in medium to high hydrostatic applications such as deep excavations where a full tanking system is required

### 1.1 RELATED WORK

Refer to ~ for ~

#### **Documents**

### 1.2 DOCUMENTS

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

BRANZ BU 397 Waterproofing basements

### 1.3 MANUFACTURER/SUPPLIER DOCUMENTS

Manufacturer's and supplier's documents relating to this part of the work:

Sealco FlameSEAL® Product Manual (1st Edition November 2019)

Standard detailed drawings

Manufacturer/supplier contact details

Company:	<b>Sealco Ltd</b>
Web:	<a href="http://www.sealco.co.nz">www.sealco.co.nz</a>
Email:	<a href="mailto:jeff@sealco.co.nz">jeff@sealco.co.nz</a>
Telephone:	03 366 9495 (head office) or 0508 (SEALCO)
Mobile	027 - 5445532

#### **Warranties**

### 1.4 WARRANTY - MANUFACTURER/SUPPLIER

Provide a materials warranty in the suppliers standard form.

Warranty period:	20 years materials (FlameSEAL® double layer system) 10 years materials (FlameSEAL® single layer system)
From:	Date of completion of the application

### 1.5 WARRANTY - INSTALLER/APPLICATOR

Warrant this work under normal environmental and use conditions against failure.

Warranty period: 5 years

Refer to the general section for the required form of 1237WA WARRANTY AGREEMENT and details of when completed warranty must be submitted.

#### **Requirements**

### 1.6 QUALIFICATIONS

Waterproofing work to be carried out by licensed applicators approved by Sealco Ltd.

### 1.7 NO SUBSTITUTIONS

Substitutions are not permitted to any specified Sealco Ltd system, or associated components and products.

### 1.8 PROJECT REGISTRATION

Contact Sealco Ltd to confirm that the project has been registered.

Web: [www.sealco.co.nz/project-registration.html](http://www.sealco.co.nz/project-registration.html)

Telephone: 03 - 366 9495 or 0508 (SEALCO)

If the project has not been registered, telephone and provide all required details.

## **Performance**

### 1.9 PRE INSTALLATION MEETING

Convene a meeting between the applicator, contractor, all associated consultants and Sealco Ltd to ensure all parties know what is required for effective performance of the system.

### 1.10 SPECIAL DETAILS

Where a standard detail does not exist, or if a standard detail cannot be applied, an approved alternative must be obtained from Sealco Ltd before proceeding with the installation.

### 1.11 PRESSURE RATING

Obtain a written assurance from Sealco Ltd that the waterproofing system, comprising membrane and jointing methods, is capable of sustaining the designated water pressure head. Refer to SELECTIONS for the designated water pressure head.

### 1.12 QUALITY ASSURANCE

Maintain quality necessary to assure that work is performed in accordance with this specification and the qualifying requirements of Sealco Ltd.

Ensure that Sealco Ltd's Quality Control sheets are completed fully and faithfully for each installation area.

## **2. PRODUCTS**

### **Materials**

### 2.1 TORCH ON TANKING MEMBRANE

FlameSEAL®, an SBS modified bitumen waterproofing membrane with 180 gsm composite polyester reinforcement all marked with the manufacturer's mark. Either a 3mm thick single layer or a 3mm / 3mm two layer system.

### **Accessories**

### 2.2 FLAMESEAL PRIMER

FlameSEAL quick drying bituminous primer, in pails marked with the manufacturer's mark, and used in accordance with Sealco Ltd technical literature.

### 2.3 FLAMESEAL SEALANT

FlameSEAL® Sealant, a bituminous sealant available in 310ml cartridge, specially formulated to be compatible with FlameSEAL® membrane.

### 2.4 FLAMESEAL TERMINATION BAR

FlameSEAL® aluminium Termination Bar.

### 2.5 DRAINSEAL DRAINAGE PROTECTION SHEET

DrainSEAL dimpled sheet, comprised of a layer of geo-textile polypropylene fabric and a dimpled high density polyethylene (HDPE) membrane. Available in rolls 6-20mm thick, 2m wide x 20m long.

Draining material consists of needle-punched polypropylene.

## **3. EXECUTION**

### **Conditions**

### 3.1 GENERALLY

Comply with the requirements and instructions of Sealco Ltd.

### 3.2 LAYOUT

If not detailed on the drawings, confirm the layout to suit site conditions and Sealco Ltd specifications. Pre-plan the work to keep the number of membrane laps to an absolute minimum.

- 3.3 DE-WATERING  
Maintain water level minimum 300mm below the level of the work area during the progress of the tanking work and until protective loading coats and walls are complete and fully set.
- 3.4 DRAINAGE  
Install certified drainage system to remove water from foundations. Ensure drain is protected with geotextile cloth to prevent it clogging with fines, and that it is correctly located, 150mm from the membrane and 200mm below the foundation/wall construction joint in accordance with Sealco Ltd requirements.
- 3.5 CHECK SUBSTRATE  
Check that the substrate will allow work of the required standard. Complete any remedial work identified before commencing any work. Substrate to comply with performance requirements of the NZBC.

### **Preparation**

- 3.6 STORAGE  
Take delivery of rolls undamaged and include for site handling facilities where required. Stack on end, off the ground on a level surface, out of sunlight and above 5°C and with accessories. Do not allow rolls to become flat or to be crushed.
- 3.7 SUBSTRATE CONDITION  
Ensure that the substrate is in a suitable condition to allow work of the required standard. Ensure all surfaces are smooth, clean, dry and free from dust and dirt with no projections of sharp materials that will cause damage to the membrane or allow water to track behind the membrane. On concrete masonry and polystyrene substrates check that masonry mortar joints are pointed flush with the front face of the substrate.
- 3.8 SUBSTRATE PREPARATION  
Wire brush to remove projections. Remove all debris, leaving the surface dust-free, oil-free and clean, with nothing that could diminish the adhesion of primers. Fill tie holes flush and smooth with mortar. Grind off steps or sharp protrusions caused by formwork joints. Check for live cracks and if identified install a slip layer of 3mm thick FlameSEAL.
- 3.9 CORNERS AND UPSTANDS  
Use only masonry fillets.  
- External corners to be chamfered and flashed.  
- Internal corners are to be coved and flashed.  
- Upstands are to be coved and flashed.
- 3.10 CONSTRUCTION JOINTS  
Flash construction/movement joints to Sealco Ltd installation specifications.
- 3.11 PRIME CONCRETE  
Prime concrete and concrete masonry substrates thoroughly with FlameSEAL. Ensure they are sufficiently cured and dry to permit the intended performance of the FlameSEAL. Apply FlameSEAL ensuring a good even coverage and penetration as recommended by Sealco Ltd.

### **Installation**

- 3.12 WEATHER CONDITIONS  
Install FLAMESEAL<sup>®</sup> membranes only in fair weather with air temperature above 7°C.
- 3.13 LAYING OUT FLAMESEAL<sup>®</sup>  
Lay out the FlameSEAL<sup>®</sup> membrane to relax for 30 minutes prior to laying. In cooler conditions additional time may be required for the membrane to fully relax.

- 3.14      **HEAT CONTROL**  
Control heat to ensure the membrane is fully installed to the substrate with all laps properly formed. In two layer systems ensure full bonding between the two layers. Do not overheat the membrane.
- 3.15      **INSTALL FLAMESEAL® - SINGLE LAYER APPLICATION METHOD**  
FlameSEAL® 3mm membrane sand finished in a single layer with laps and joints is to be fully torched to the substrate according to Sealco Ltd installation specifications to provide a waterproof construction. Allow 100mm side laps and 150mm end laps.
- 3.16      **INSTALL FLAMESEAL® - DOUBLE LAYER APPLICATION METHOD**  
FlameSEAL® membrane where specified in a two-layer application is to be fully torched to the substrate according to Sealco Ltd installation specifications with offset laps and joints to provide a waterproof construction. Ensure complete bonding between the two layers of membrane. Allow 100mm side laps and 150mm end laps.
- 3.17      **PENETRATIONS**  
Flash all pile-caps and other penetrations and dress in a tight cove according to Sealco Ltd specifications. Use a high strength non-shrink, sulphate resistant mortar across the top of each pile cap.
- 3.18      **FLAMESEAL® LAP JOINTS**  
All side lap joints to be 100mm wide and end laps 150mm wide. All laps to be fully welded and seamed off. In a two-layer system all laps to be off-set. Ensure adequate heat control to ensure full lap integrity.
- 3.19      **FLAMESEAL® FLOOR TO WALL JUNCTION**  
Protrude the under slab membrane 150mm beyond the perimeter of the footing. When wall is struck, bring this portion of membrane up and torch to wall base. Install the wall membrane down over the top to form a sound seal. Ensure the 150mm flap is adequately protected from damage during construction of the walls and that foreign matter is not able to contaminate the critical lap area.
- 3.20      **FOUNDATION TO WALL JUNCTION FLASHING**  
Install 3mm thick x 150mm wide sand-finished FlameSEAL® flashing to junction of foundation and wall in accordance with Sealco Ltd installation instructions.
- 3.21      **FLAMESEAL® PROTECTION**  
Fully protect FlameSEAL® with DrainSEAL protection system prior to backfilling against the walls (see 3.24). A separation layer is to be placed on the membrane prior to pouring the concrete floor slab.
- 3.22      **BACKFILL**  
Place the backfill once the vertical membrane is in place and adequately protected and the drainage system has been installed at the footing. Ensure the backfill is free of sharp objects that could damage the membrane.

### **Protection**

- 3.23      **PROTECT HORIZONTAL SURFACES**  
After laying is complete the membrane can be protected until the floor slab is poured by covering the tanking with DPC sheets. This situation arises when there is an extended delay between the membrane installation and the placement of the floor slab or where vehicles and other construction machinery is being taken over the membrane
- 3.24      **INSTALL PROTECTION SHEETS - DRAINSEAL**  
Install DrainSEAL in accordance with manufacturer's instructions:  
  - Unroll rolls with geo-textile fabric facing the backfill sheets edge butted. For greater protection join the two edges using waterproof bituBond Self Stick bituminous strips.
  - Fix DrainSEAL profile to the FlameSEAL® and nail it down with JNH 40 plugs or steel nails, above the tanking temporarily until backfill is completed.
  - Form a suitable water collection and drainage tube (Draincoil or similar) at the foot of foundation, then fill with free draining stone and 30% grit sand fines around the draincoil

followed by compactable fill (prior to fixing ensure compatibility with wall waterproofing system).

### **Completion**

- 3.25 **SECTIONAL COMPLETION**  
As sections of the tanking are completed, arrange for inspection of the work before covering with protective sheets, walls, or slabs. Complete the Sealco Ltd Quality Control Sheets, and provide to them for issuing the Materials Warranty.
- 3.25 **ACCEPTANCE**
  - Arrange for an inspection of the completed work.
  - Complete Sealco Ltd Quality Control sheets and provide to them for the issuing of the Materials Warranty.
  - Protect the membrane until completion of the contract works.
- 3.27 **CLEAN UP**  
Clean up as the work proceeds.
- 3.28 **LEAVE**  
Leave this work in a sound condition, free of any defect.
- 3.29 **REMOVE**  
Remove debris, unused materials and elements from the site.

### **4. SELECTIONS**

For further details on selections go to [www.sealco.co.nz](http://www.sealco.co.nz).  
Substitutions are not permitted to the following, unless stated otherwise.

- 4.1 **PRESSURE RATING**  
Designated water pressure head: ~ metres

### **Membrane Systems**

- 4.2 **FLAMESEAL® FLAMESEAL TORCH ON TANKING MEMBRANE - SINGLE LAYER SYSTEM**  
Location: ~  
Manufacturer: Sealco Ltd  
Type/brand: FlameSEAL® sand finish  
Thickness: 3mm
- 4.3 **FLAMESEAL® FLAMESEAL ANTI-ROOT TORCH ON TANKING MEMBRANE - DOUBLE LAYER SYSTEM**  
Location: ~  
Manufacturer: Sealco Ltd  
Type/brand: FlameSEAL® sand finish anti-root  
First Layer: 3mm  
Second Layer: 3mm

### **Accessories – Protection Boards**

- 4.5 **FLAMESEAL DRAINSEAL PROTECTION SHEET**  
Location: ~  
Supplier: Sealco Ltd  
Type/brand: DrainSEAL  
Thickness: 8-20mm