

4131WP WPS BITUFLAME® TORCH ON TANKING

1. GENERAL

This section relates to the application of **Waterproofing Systems Ltd bituFLAME®** torch on tanking membrane.

1.1 RELATED WORK

Refer to ~ for ~

Documents

1.2 DOCUMENTS REFERRED TO

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

BRANZ BU 397 Waterproofing basements

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

1.3 MANUFACTURER/SUPPLIER DOCUMENTS

Waterproofing Systems Ltd documents relating to work in this section are:

bituFLAME® Product Manual (3rd Edition November 2007)
Standard detailed drawings

For copies of the above documents, or for technical assistance, contact your local **Waterproofing Systems Ltd** representative:

Northland, Auckland	021 - 917 773
Waikato, Bay of Plenty	021 - 457 953
Gisborne	021 - 457 953
Hawkes Bay, Manawatu	021 - 402 434
Wanganui, Taranaki	021 - 402 434
Wairarapa, Wellington	021 - 402 434
Marlborough, Nelson	027 - 544 5534

Christchurch, Dunedin	027 - 5445 534
Southland, Central Otago	027 - 5445 532

Web: www.waterproofing.co.nz
Telephone: 03 - 366 9495 (Head office) or 0508 (2WATER) 292837
Facsimile: 03 - 366 9496 (Head office)

Warranties

1.4 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.

1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a materials warranty in the suppliers standard form.

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

Requirements

- 1.6 **QUALIFICATIONS**
Waterproofing work to be carried out by licensed applicators approved by **Waterproofing Systems Ltd**. Approved applicators may be found at:
Web: www.waterproofing.co.nz
Telephone: 03 - 366 9495 or 0508 (2WATER) 292837
- 1.7 **NO SUBSTITUTIONS**
Substitutions are not permitted to any specified **Waterproofing Systems Ltd** system, or associated components and products.
- 1.8 **PROJECT REGISTRATION**
Contact **Waterproofing Systems Ltd** to confirm that the project has been registered.
Web: <http://www.waterproofing.co.nz/project-registration.html>
Telephone: 03 - 366 9495 or 0508 (2WATER) 292837
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 **Waterproofing Systems 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 Waterproofing Systems Ltd before proceeding with the installation.
- 1.11 **PRESSURE RATING**
Obtain a written assurance from **Waterproofing Systems 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 **Waterproofing Systems Ltd**.

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



2. PRODUCTS

Materials

- 2.1 TORCH ON TANKING MEMBRANE
bituFLAME[®], an AAP 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 BITUPRIME PRIMER
bituPRIME quick drying bituminous primer, in pails marked with the manufacturer's mark, and used in accordance with **Waterproofing Systems Ltd** technical literature.
- 2.3 NON RIGID PROTECTION SHEET
Polystyrene protection boards minimum 20mm thick or 6mm plastic coreflute protection boards.

3. EXECUTION

Conditions

- 3.1 GENERALLY
Comply with the requirements and instructions of **Waterproofing Systems Ltd**.
- 3.2 LAYOUT
If not detailed on the drawings, confirm the layout to suit site conditions and **Waterproofing Systems 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.
- 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 bituFLAME.

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 **Waterproofing Systems Ltd** installation specifications.

3.11 PRIME CONCRETE

Prime concrete and concrete masonry substrates thoroughly with bituPRIME. Ensure they are sufficiently cured and dry to permit the intended performance of the bituPRIME. Apply bituPRIME ensuring a good even coverage and penetration as recommended by **Waterproofing Systems Ltd**.

Installation

3.12 WEATHER CONDITIONS

Install BITUFLAME® membranes only in fair weather with air temperature above 7°C.

3.13 LAYING OUT BITUFLAME®

Lay out the BITUFLAME® 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 BITUFLAME® - SINGLE LAYER APPLICATION METHOD

bituFLAME® 3mm or 4mm membrane in a single layer with laps and joints is to be fully torched to the substrate according to **Waterproofing Systems Ltd** installation specifications to provide a waterproof construction. Allow 100mm side laps and 150mm end laps.

3.16 INSTALL BITUFLAME® - TWO LAYER APPLICATION METHOD

bituFLAME® membrane where specified in a two layer application is to be fully torched to the substrate according to **Waterproofing Systems 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 **Waterproofing Systems Ltd** specifications. Use a high strength non-shrink, sulphate resistant mortar across the top of each pile cap.
- 3.18 BITUFLAME® 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 BITUFLAME® 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 BITUFLAME® PROTECTION
Fully protect bituFLAME® with a non rigid protection system prior to backfilling against the walls. A separation layer is to be placed on the membrane prior to pouring the concrete floor slab.
- 3.21 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

- 3.22 PROTECT HORIZONTAL SURFACES
After laying is complete the membrane can be protected until the floor slab is poured by covering the tanking with a 50mm layer of 15 MPa blinding concrete or 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
- 3.23 INSTALL NON RIGID PROTECTION SHEETS
Neatly scribe and fit 20mm minimum thickness polystyrene sheets or 6mm coreflute boards, spot fixing them with adhesive and taped over joints, all to **Waterproofing Systems Ltd** requirements.

Completion

- 3.24 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 **Waterproofing Systems 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 **Waterproofing Systems Ltd** Quality Control sheets and provide to them for the issuing of the Materials Warranty.
- Protect the membrane until completion of the contract works.
- 3.26 CLEAN UP
Clean up as the work proceeds.



3.27 LEAVE
Leave this work in a sound condition, free of any defect.

3.28 REMOVE
Remove debris, unused materials and elements from the site.

4. **SELECTIONS**
Substitutions are not permitted to the following, unless stated otherwise.

4.1 PRESSURE RATING
Designated water pressure head: ~ metres

4.2 BITUFLAME® TORCH ON TANKING MEMBRANE - SINGLE LAYER SYSTEM
Location: ~
Supplier: **Waterproofing Systems Ltd**
Brand: bituFLAME®
Thickness: 3mm

4.3 BITUFLAME® TORCH ON TANKING MEMBRANE - DOUBLE LAYER SYSTEM
Location: ~
Supplier: **Waterproofing Systems Ltd**
Brand: bituFLAME®
First Layer: 3mm
Second Layer: 3mm

Protection

4.4 POLYSTYRENE OR COREFLUTE PROTECTION SHEET
Manufacturer: ~
Thickness: ~mm

