## 6.3 GENERAL WATERPROOFING

**Introduction**

Dibiten smooth surfaced membranes are as ideally suited for general waterproofing purposes as they are for roofing uses.

Generally, the method of application and flashing details are the same as for roofing.

The differences may lie in the requirement for a protective layer of roofing paper between the Dibiten membrane and the fill to be used, and in the possible requirement for more than one layer of Dibiten membrane.

Because the Dibiten membrane will not be accessible after installation, proper installation of the membrane is critical for long term performance.

Information regarding waterproofing specifications not listed in this manual can be obtained by contacting Dibiten technical department. The technical manager will review and assess the requirements of a particular project on an individual basis.

Listed on the following pages are some of the more common waterproofing specifications requested for Dibiten smooth surfaced membrane (Dibiten Poly/4 or Poly/5).

- General Information for Roof Decks
- Specification for Shower Pan & Sub-Flooring
- Specification for Planter Boxes & Roof Gardens
- Specification for Concrete or Asphalt Base Sheet (ex: Parking Decks, Bridges, Highways, Viaducts)
- Specification for Below-Grade Waterproofing (ex: Foundations)
- Specification for Between-Slab Waterproofing (ex: Water Reservoirs)

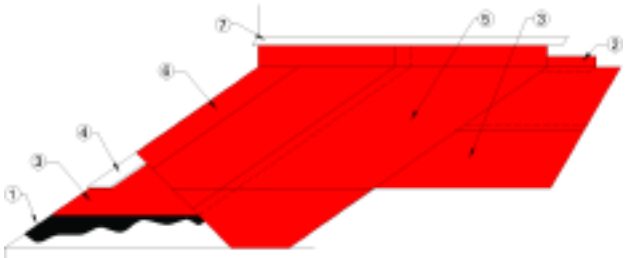
## GENERAL WATERPROOFING

### Specification for Roof Decks

**The following guidelines apply to any situation in which the deck is to be used as a walkway:**

1. Only Dibiten Poly/4 or Dibiten Poly/5 smooth surfaced heat welded modified bitumen membranes are to be be used.
2. Depending on the deck type, the membrane should be applied as in standard roofing specifications.
3. Two plies of the Ditiben membrane are recommended instead of one*.
4. The surface of the installed Dibiten membrane must be protected. Apply a minimum 11 lb. fiber glass ply sheet, loose laid over the membrane prior to installation of non-penetrating paving tiles or similar decking. Concrete can be poured directly over the loose laid ply sheet. If indoor/outdoor carpeting is to be installed over the Dibiten membrane, the fiber glass ply sheet is not required. If a deck is to be constructed over the Dibiten membrane using wood sleepers (supports), an extra strip (min. 9" wide of Dibiten Poly/4 must be installed (heat welded) under all sleepers wherever they come into contact with the Dibiten membrane. No penetrations (punctures) to the Dibiten membrane can be made.

   *If Poly/4 is used, two plies are required. If Poly/5 is used, one ply is acceptable providing it is Poly/5 reinforced with 250 gr/sq polyester (special order required).




**Note: STEP 8, not shown, is the installation of walking deck surfacing such as tiles, heavy duty outdoor carpeting, or similar appropriate materials suitable for protecting the Dibiten membrane from puncture. (A loose laid ply sheet (such as 11 lb. fiber glass) is required between the 2nd layer of Poly/4 and the decking material unless outdoor carpeting is used, in which case a water-based adhesive compatible with the Dibiten membrane must be used).**

GENERAL WATERPROOFING

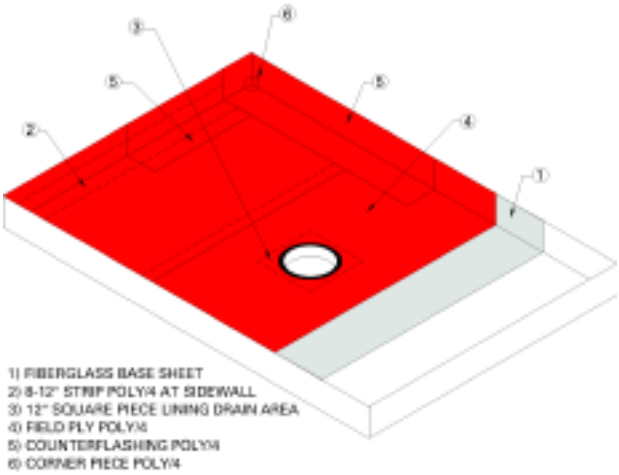
## Specification for Shower Pan & Sub-Flooring

**Material: Dibiten Poly/4 or Dibiten Poly/5 smooth surfaced modified bitumen membrane, heat welded.**

**Deck Type: Wood or Concrete**

**General Guidelines:**

1. Concrete decks must be thoroughly cured and primed with concrete primer.
2. Wood decks require a minimum G-2 base sheet mechanically fastened to the deck prior to installation of the waterproofing.
3. Apply one layer of Dibiten Poly/4 or Dibiten Poly/5 modified bitumen membrane, fully adhered (heat welded), overlapping side laps 4" and end laps 6" as in standard roofing procedures and specifications.
4. At corners, flashing areas, and drain, apply two layers of the Dibiten membrane as illustrated in the Detail Drawings section of this manual.
5. Over the Dibiten membrane, loose lay a minimum 11 lb. fiber glass ply sheet before applying the shower pan or sub floor.




GENERAL WATERPROOFING

## Specification for Planter Box or Roof Garden

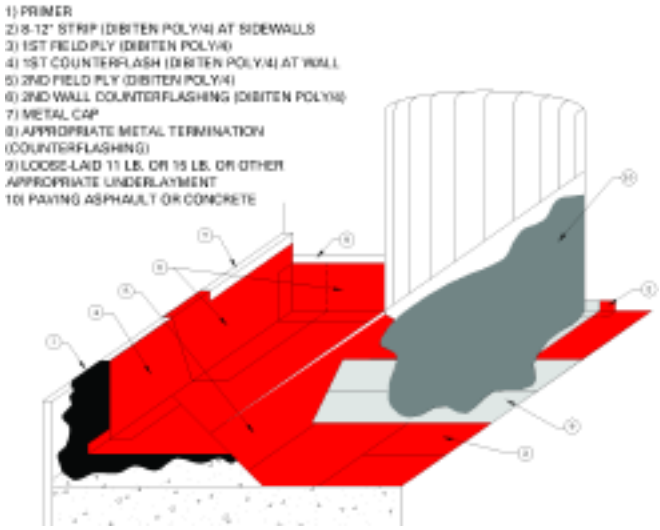
**Material: Dibiten Poly/4 or Dibiten Poly/5 Smooth Surfaced Modified Bitumen Membrane, heat welded.**

**General Guidelines:**

1. The Dibiten membrane should be applied fully adhered as in standard roofing and waterproofing procedure, observing all application requirements as outlined in the roofing sections of this manual. This includes flashing details such as corners, parapets, and drains, and the membrane application must observe the minimum 4" side lap and 6" end lap rule. Planter box or roof garden should allow for adequate drainage.
2. Two layers of Dibiten membrane are required instead of one. The Dibiten membrane counterflashing must extend above the level of the soil surface (min. 6") and be properly terminated with appropriate metal counterflashing, if walls are not completely covered with membrane.
3. Over the Dibiten membrane, a layer of polyester nonwoven fabric should be loose laid, including over the parapets. The outer surface of the membrane may be heat welded lightly at the parapets to adhere the polyester felt. The felt protects the membrane from the stone or aggregate and acts as a filter between the soil, stone and the Dibiten membrane.
4. Over the polyester felt, 4-6 "diameter smooth, river bottom stone or a layer of LECA (light expanded clay aggregate) should be laid into the bed of the planter. This acts as a drainage layer.
5. A second layer of the polyester felt should be applied over the loose laid stone.
6. Apply the appropriate type of soil fill according to the type of planting to be done.

## GENERAL WATERPROOFING

# Specification for Concrete or Asphalt Base Sheet (ex: Parking Decks, Highways, Bridges, Viaducts)



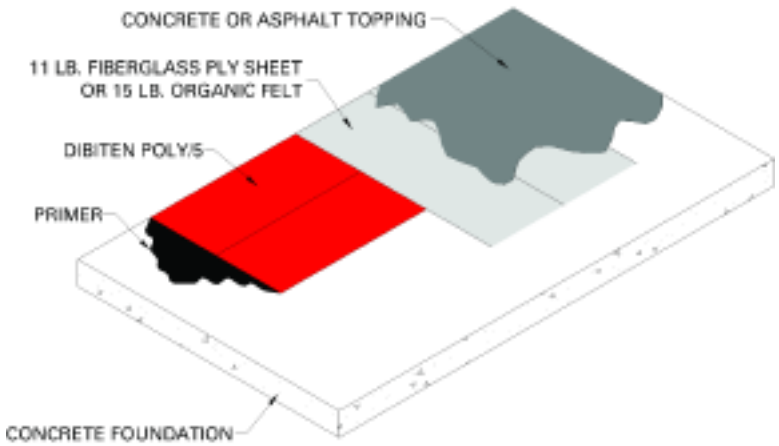

**Material: Dibiten Poly/5* smooth surfaced modified bitumen membrane, heat welded.**

**Deck Type: Wood or Concrete**

**General Guidelines:**

1. If surface to be covered is concrete, apply an appropriate primer and allow primer to dry thoroughly.
2. If surface to be covered is wood or if insulation is to be installed, securely fasten one layer of fiber glass base sheet, type G-2 to the substrate, as in roofing procedure.
3. Apply the Dibiten membrane, fully adhered as in standard roofing specifications, overlapping side laps 4" and end laps 6" and using two plies at any flashing areas, as outlined in the *Flashing Details* section of this manual.
4. If concrete is to be the topping, apply a minimum 11 lb. fiber glass felt or a minimum 15 lb. organic felt, loose laid, over the Dibiten membrane. If paving asphalt is to be installed, an appropriate base sheet suitable for use with paving asphalt must be used.
5. Pour concrete or apply paving asphalt.

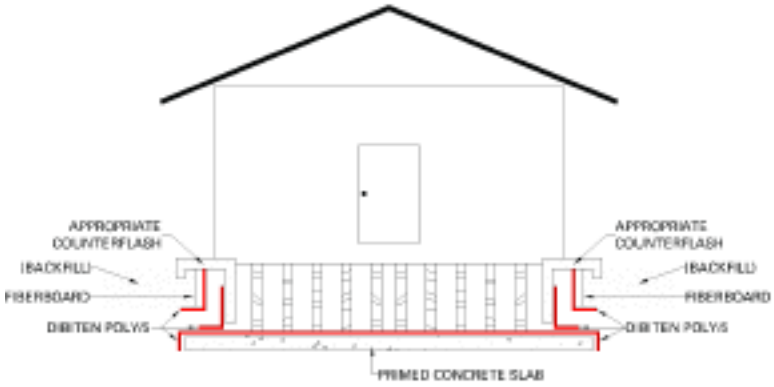
***Dibiten Poly/5 reinforced with 250 gr/sq polyester fabric is required for this application. Two layers of Dibiten Poly/4 may be substituted for the one layer of Dibiten Poly/5.**



GENERAL WATERPROOFING

## Specification for Below-Grade Waterproofing (ex: Foundations)

**Material: Dibiten Poly/4 or Dibiten Poly/5 smooth surfaced modified bitumen membrane, heat weld applied only.**




**Example Above: Below-Grade Waterproofing (ex: Foundations)**

**Application:**

1. Surface should be smooth, clean and free of any debris.
2. Prime all masonry, concrete, or metal to which the Dibiten membrane is to be applied.
3. Heat weld apply the Dibiten Poly/4 or Poly/5 into place. Fully adhere the membrane and counterflash using Dibiten membrane as in roofing procedures.
4. Maintain a minimum 1/4" outward flow of melted bitumen from the overlapped side and end laps (4" side laps and 6" end laps are required as per roofing specifications).
5. Heat weld and trowel all seams.
6. A protection course (ridge board, fiberboard, etc. is to be applied before the backfill is installed).

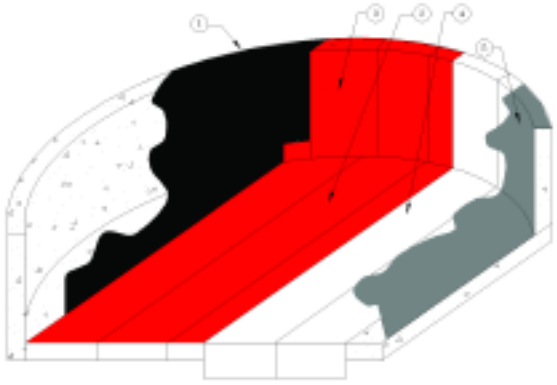
GENERAL WATERPROOFING

## Specification for Between-Slab Waterproofing (ex: Water Reservoirs)

**Dibiten Poly/4 or Dibiten Poly/5 smooth surfaced modified bitumen membrane, heat welded only.**

**Application:**

1. Concrete must be primed using suitable primer and primer must be allowed to thoroughly dry.
2. Apply the Dibiten membrane using the heat welded method of application, following the same procedures for installation, flashing details, and terminations as for roofing procedure (see Applications section of the Specifications and Applications Manual). If Dibiten Poly/4 is used, two plies are required. If Dibiten Poly/5 is used, one ply is sufficient provided it is Poly/5 reinforced with 250 gr/sq polyester.



1) PRIMER
2) DIBITEN POLY/5 (250gr/sq POLYESTER REINFORCED) FIELD PLY
3) DIBITEN POLY/5 (250gr/sq POLYESTER REINFORCED) COUNTERFLASHING
4) LOOSE-LAID PLY SHEET
5) CONCRETE TOPPING

**Example Above: Between-Slab Waterproofing (ex: Water Reservoirs)**

3. Install a loose laid ply sheet such as 11 lb. fiber glass ply sheet. The Dibiten material may be heat welded very lightly to tack the ply sheet if necessary.
4. Install the top surfacing of concrete and any top coating required.

**Note: Detail drawing illustrates waterproofing aspects only - does not address construction, reinforcement, or safeproofing (for drinkability) etc. The treatment of the inside of tanks and reservoirs is dependent upon the type of liquid they will contain. All applicable government health, safety and construction codes must be observed and are the responsibility of the construction contractor.**