HYPERFLEX WPM / DPM

Carafra Industrial Composites

Technical Manual Contents. **Page.**

CIC Carafra Industrial Composites

HYPERFLEX WPM / DPM

Specialists Agree.

Within the construction industry, architects and engineers agree that of all the problems that can beset a building, inadequate waterproofing, above and below ground, creates the greatest havoc. The entry of moisture does not just ruin the décor or equipment; it can set up a whole chain reaction. Soil and atmospheric chemicals can become activated, and will attack the very structure of the building, without being immediately detectable. Thus over a period of time the damage is done.

- **Time Proven and Tested.**
- **Independent Tests.**
- **Unequalled Safeguards.**

Leaders in Corrosion and Prevention Technology. **2.**

HYPERFLEX WPM / DPM

Carafra Industrial Composites

- **Hyperflex WPM / DPM Outperforms the High Performers.**
- **Exceptional by Any Standard.**
- **Time Proven Formula.**
- **A Membrane for All Applications.**
- **Saves Time Saves Money.**
- **A Membrane for All Seasons.**
- **Vapour and Rot Proof.**
- **Technical Advisory Service.**

HYPERFLEX WPM / DPM

Carafra Industrial Composites

SBS Modified Bitumen Waterproofing Membranes Reinforced with Composite Polyester (P)

What is HYPERFLEX ?

Produced exclusively for CIC Ltd - CIC HYPERFLEX is a line of polymer-modified bitumen waterproofing membranes of the highest quality.

CIC HYPERFLEX is modified by SBS thus guaranteeing high flexibility under tropical temperatures.

CIC HYPERFLEX is reinforced with composite polyester (P) of non-woven armoured with glass fiber filaments which provides highly mechanical properties and dimensional stability.

Uses

CIC HYPERFLEX is a high performance membrane, can be applied virtually anywhere where torch applied modified bitumen membranes subject to high mechanical stresses are specified.

CIC HYPERFLEX can be applied in: -

- Single layer roofing system
- Foundations and underground structures subject to movement
- Waterproofing of toilets, wet areas inside buildings.

SR / AL Roof Waterproofing

Sub Structure Tanking

Advantages of CIC HYPERFLEX •

- Easy to apply (by torch)
- Highly mechanical properties
- Absolute impermeability to water • Resistant to chemical attack
- Excellent high temperature performance
- Excellent adhesion to any surface • High dimensional stability
- Environmentally friendly

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Quality Control

CIC Hyperflex is ISO 9001 certified. It applies a stringent quality control system utilising its in house laboratory.

Samples are analysed by independent laboratories to ensure continued adaherence to the highest standards – ASTM, DIN,UNI

Product Range

Standard thicknesses available:	3mm / 4mm
Upper Surface finishes:	3mm PE, 4mm PE, 3mm SR/AL.
Bottom Surface:	Polyethylene Film – PE.
Upper Surface:	Polyethylene Film – PE, Fine Sand, Mineral Granule.
Roll Size:	10m2

Roof Waterproofing

Continued.

Tanking – Water Excluding

Tanking – Water Retaining

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Hyperflex Primer QD.
A solvent based solution of polymer the modified bitumens.

A fast drying (QD=quick drying) bitumen primer for all surfaces prior to the application of the Hyperflex range of WPM / DPM products.

Technical Data.
Colour: Black
Solids content: %mm / 43.
Specific gravity: 0.94
Flash point: < 24c.
Nominal coverage: 8m2 / lt.
Drying time: 20 mins.

Safety:
The Material is flammable and should Not be applied in the vicinity of naked Flames or sources of ignition.

Storage Life:
Store in cool, dry place away from sources of ignition. Avoid contact with the skin and the inhalation of vapours. Always ensure that adequate ventilation is provided. Max. shelf life – 6 months.

Applications:
Tanking / Roofing.

Standards Conformity.
Hyperflex waterproof membranes and ancillary products conform to the following standards.

ISO 9001-2000.
Quality Standard.
Certificate No. ACS 0100/01.

Mechanical Properties.

Membrane strength:	ASTM D1000.
Elongation:	ASTM D1000.
Puncture resistance:	ASTM E154.
Adhesion:	ASTM D1000.

Functional Data:

Water vapour transmission:	ASTM E96
Water penetration joint:	MOAT 27
Longitudinal stability:	MOAT 27

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Fixing Techniques.

General Preparation.
All surfaces must be structurally sound, smooth, dry and free from any indentations or sharp protrusions. Corners must be chamfered or filleted.
The surface must then be treated with Quick Drying Bitumen Primer in preparation of receiving the selected Hyperflex Waterproof Membrane (WPM / DPM).

Torch On.
With this technique the Hyperflex WPM / DPM bitumen base is activated by means of a propane torch to form a powerful bond to the substrate.
Strong 100mm weld overlaps are also achieved to provide a completely integrated membrane to the entire roof / tanking area.

Loose Laid.
In the case of the inverted roof or protected membrane system, it is necessary only to torch on to the primed upstands and 300mm into the surface of the roof. The 100mm overlaps are repeated as with the ***Torch On*** system, but the main area is loose laid and ballast loaded to prevent wind uplift.

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Primer
A QD Primer for concrete surfaces where membranes are to be bonded.

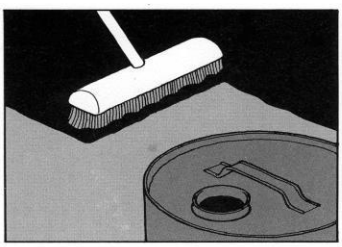
Technical Data:
Material: QD bitumen primer.
colour: Black
Drying Time: 20mins @ 23c.
S.G.: 0.94
Flash Point: <24c.
Coverage: 8m2 / lt.
Packaging: 25 lts.

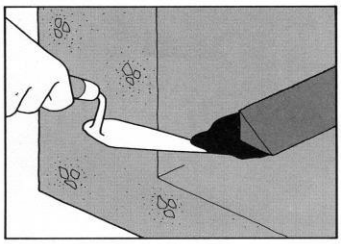
Bitumen Mastic. *
A trowel grade adhesive for fibre fillets.

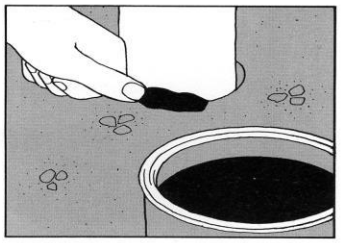
Technical Data:
Material: Bitumen Mastic.
Colour: Black.
Coverage: 1.5m2 / lt.
Drying Time: <24 hours.
Flash Point: >32c.
Packaging: 5 lts.

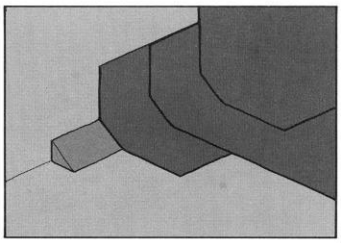
Rubber bitumen.*
A solvent free sealant for Joints and chases.

Technical Data:
Material: rubber bitumen.
Coverage: 1lt / 2.5 lm.
Colour: Black.
Operating Temp: <80c.
Drying Time: 6-8 hours - 14 days / water immersion.
Packaging: 5 lts.









Fibre Board Fillet.*
For rapid fillet formation to walls And abutments.

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Foam Filler Board.*
Polyethylene backing board for sealing compounds to which it will not adhere. To be used where considerable expansion is expected.

Technical Data:
Material: Expanded polyethylene.
Colour: White.
Density: 30kg/m3.
Compression recovery: 90% min. 1.75mm.@50% compression.
Water absorption: MG/em2 0.70.
Sheet size: 2.20m x 1.20m.

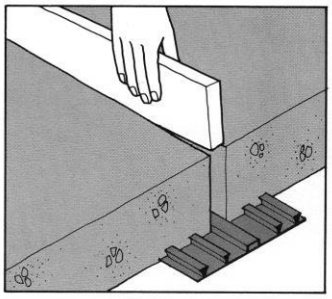
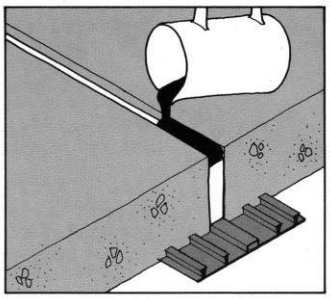
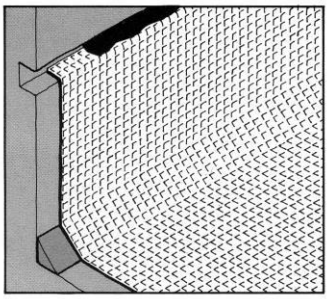
Sealant.*
A Polysulphide sealant for previously primed expansion and contraction joints.

Technical Data:
Material: Non staining two part sealant in gun or pouring grades.
Colour: Grey.
Solids: 98%.
Container: 2.25lts.
Coverage:
2.25lts / 5.5lm
At 20x20mm rebated joints.

Primer:
"P"for porous surfaces.
"N" for non porous surfaces.
Coverage: 1lt / 40lts sealant.

Hyperflex SR/AL Flashing.
For sealing abutments, upstands, and projections.

Technical Data:
Aluminium foil faced self adhesive bitumen sheet.
Colour: Silver.
Bitumen thickness:
Aluminium: 0.08mm.
Roll length: 15m.
Roll width: 950mm.
Tensile strength: 6.0 N/mm.
Puncture resistance: 270 N.
Adhesion: 4.0 N/mm.

HYPERFLEX WPM / DPM

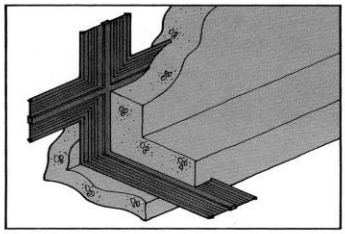
Carafra Industrial Composites

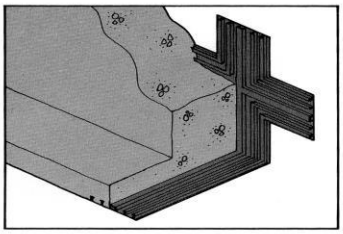
Central Placed Waterstop.*
Water retention works placed horizontally and for water retention or exclusion to roofs / ceilings below ground.

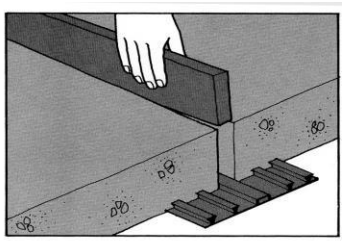
External Placed Waterstop.*
For vertical applications on water excluding structures, & under base slab in water retaining / excluding structures.

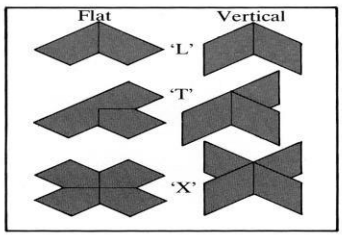
Fibre Board.*
A GP filler board suitable for basements and retaining walls.

Technical Data for centrally / externally placed waterstops.
Types: PVC dumbbell / centrebulb.
Tensile strength: 140kg/cm2.
Elongation break: 300%
Softness: 45% at 20c.









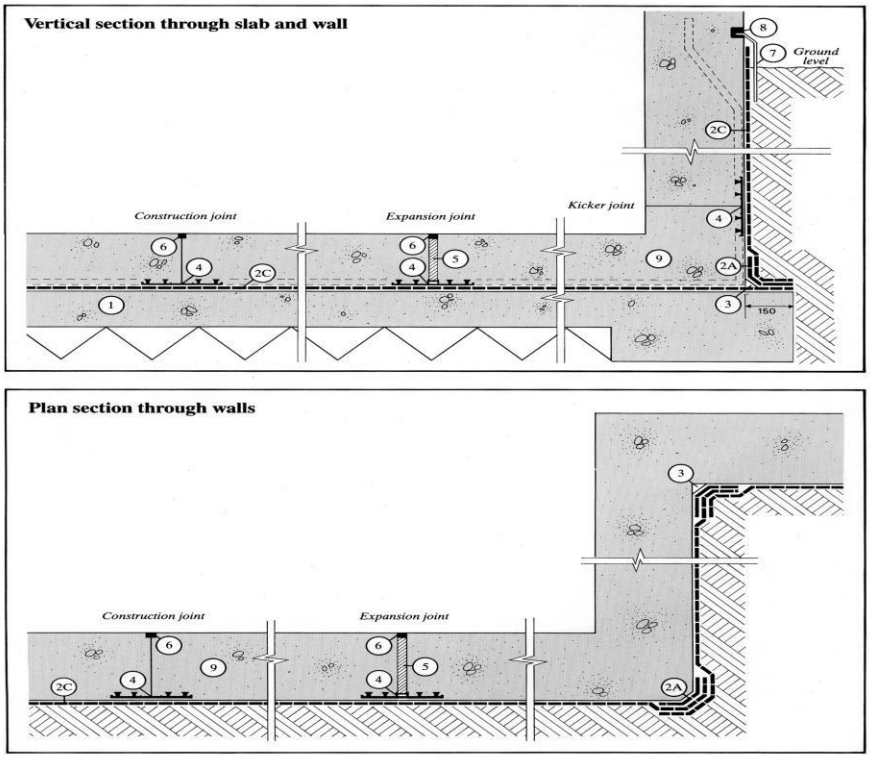
Butt welds can be made on site.
Other joints can be made using
The junction pieces listed above.

HYPERFLEX WPM / DPM

Carafra Industrial Composites

Tanking details – Water Excluding.

1.Oversite concrete.
2.Hyperflex 3mm / 4mm.
3.Fibre fillet.
4.External waterstops.
5.Fillet board.
6.Plysulphide sealant.
7.Hyperflex SR AL
8.Rubber bitumen sealant.
9.Concrete structure

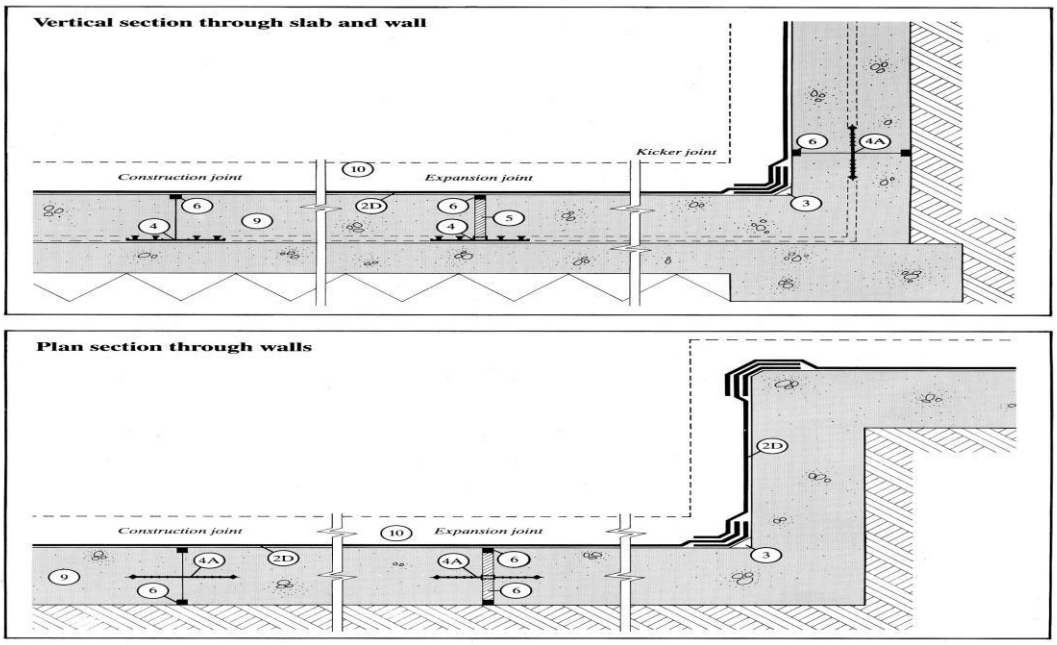


HYPERFLEX WPM / DPM

Carafra Industrial Composites

Tanking details – Water Retaining.

2.Hyperflex 3mm / 4mm.
4.External waterstops / Central waterstops.
6.Polysulphide sealant.
3.Hyperflex 3mm / 4mm.
5.Filler board.
9.Concrete structure.



HYPERFLEX WPM / DPM

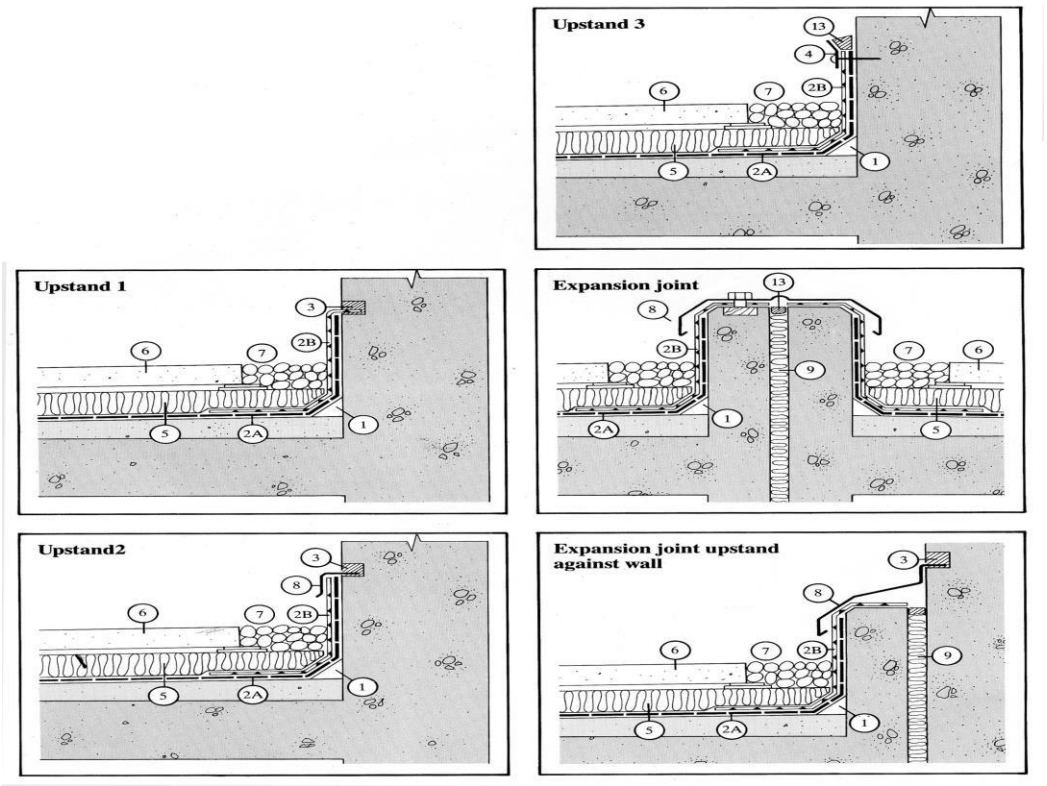
Carafra Industrial Composites

Roofing details.

1.Fibre fillet.
2A.2C.2D. Hyperflex 3mm/4mm.
2B. Hyperflex SR AL.
3. Rubber bitumen sealant.

General specification

50mm sand cement screed can replace the thermal insulation board if required
The Hyperflex SR AL membrane can be laid without Protection and is ideal for light weight structures.

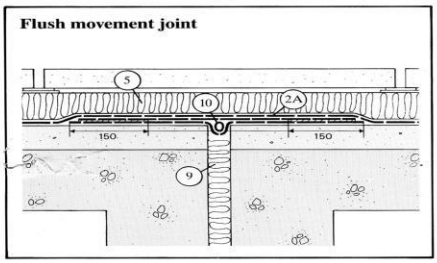


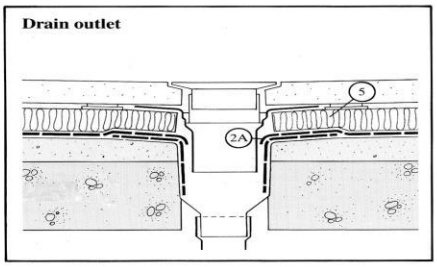
HYPERFLEX WPM / DPM

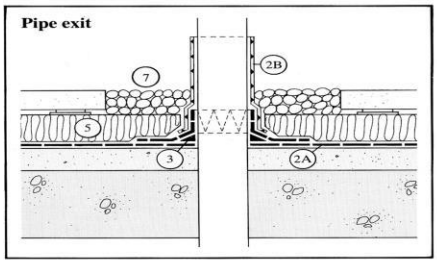
Carafra Industrial Composites

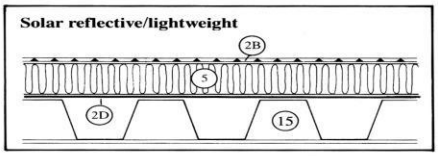
Roofing details.

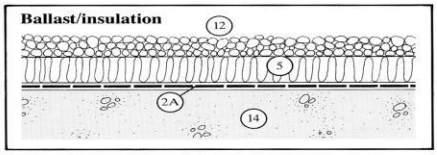
4./ 8. Hyperflex SR AL.
5. Thermal insulation.
6. Paving slab.
7. 20-40mm aggregate.
9. Foam filler board
10. Polythene tube.
11. Tiles set in sand / cement.
12. 50mm round aggregate.
13. Polysulphide sealant.
14. / 15. Concrete roof / Metal deck.

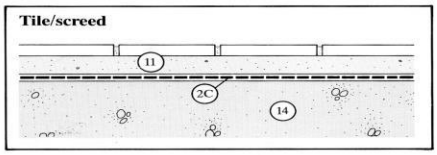


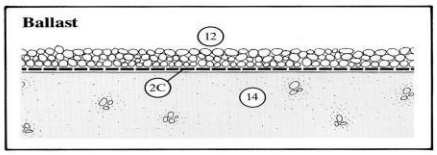


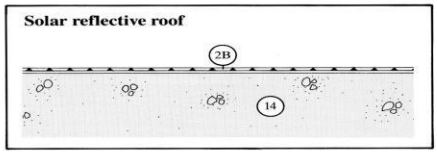








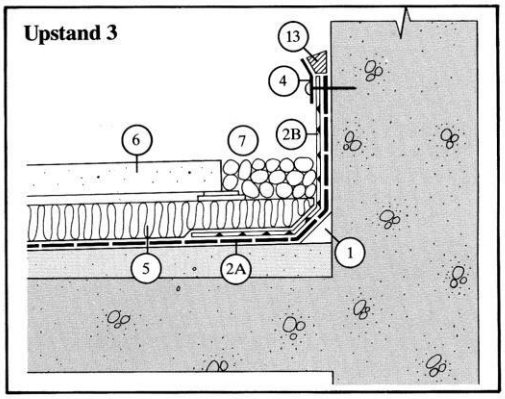


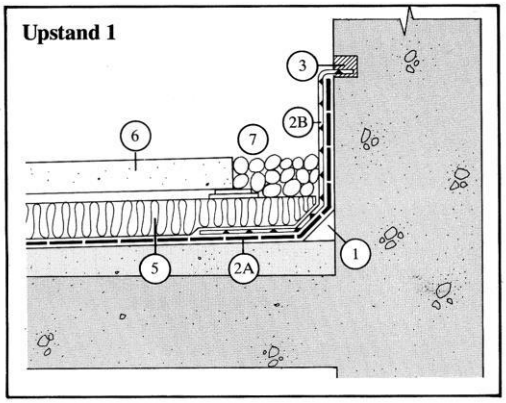


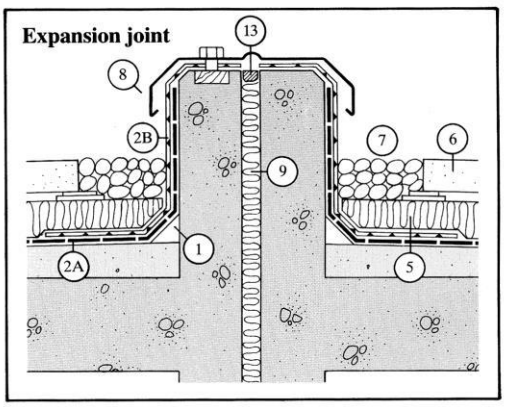
Roofing Detail.

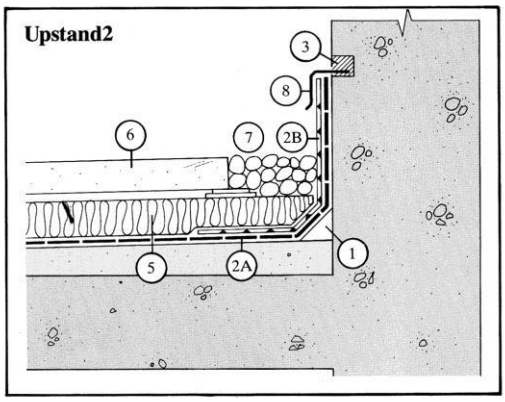
1.Upstands

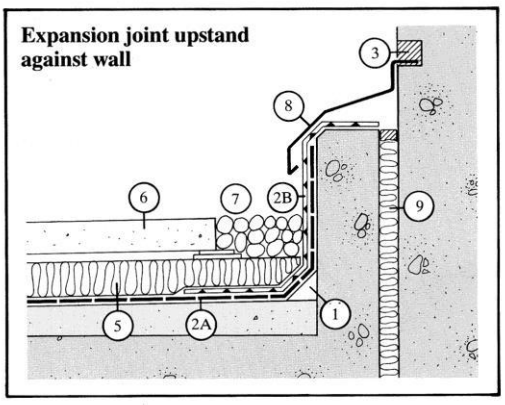
2.Expansion joints.





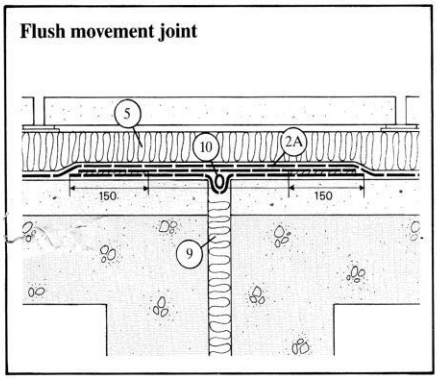


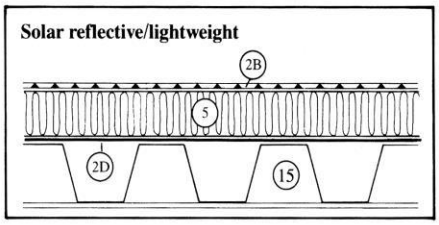


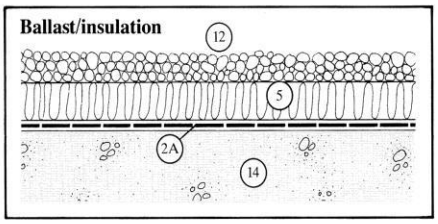


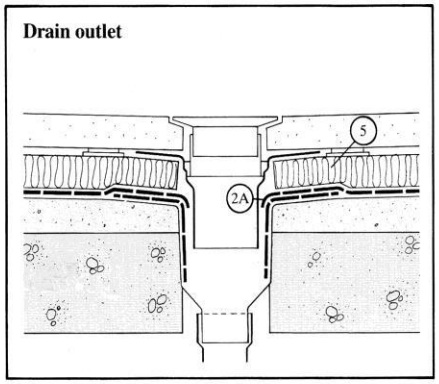
Roofing Detail.

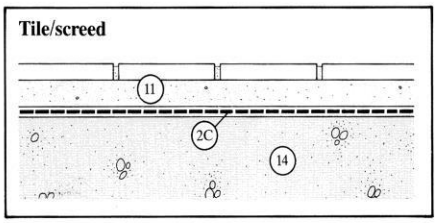
1.Flush movement joint.
2. SR lightweight.
3.Ballast insulation.
4.Drain outlet.
5.Tile screed.
6.Ballast.
7.Pipe exit.
8.SR roof.

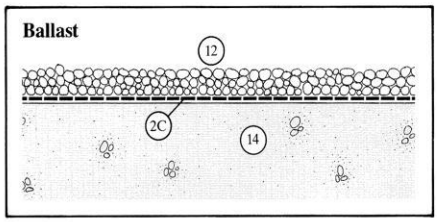


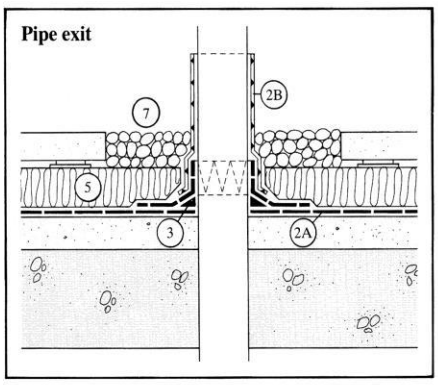


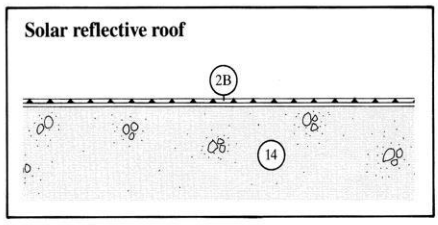






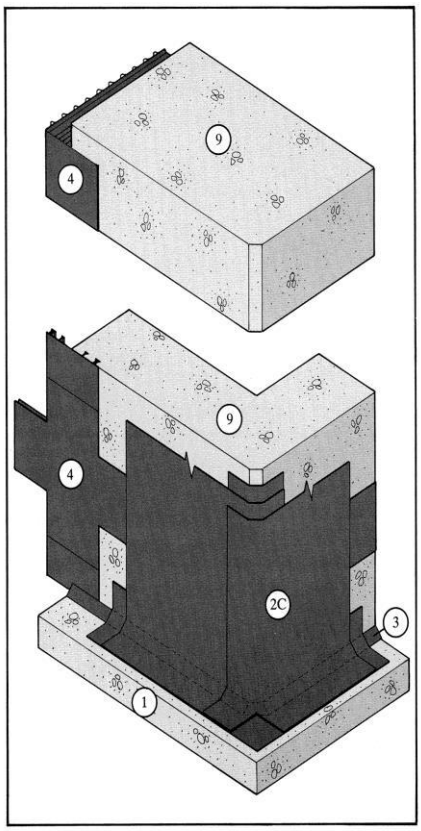


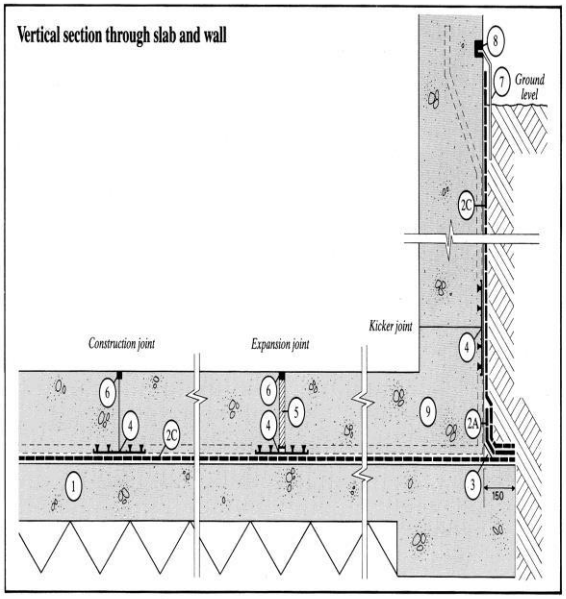


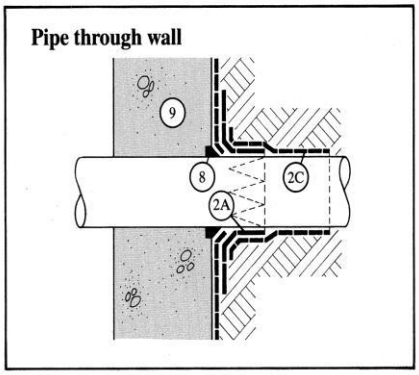


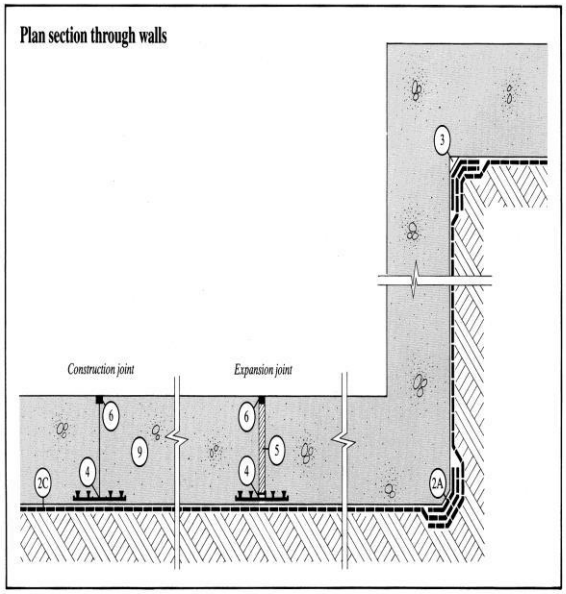
Tanking detail.

1.Water excluding.
2. Vertical section through slab and wall.
3..Plan section through wall.
4.Pipe through wall.









HYPERFLEX WPM / DPM

CONTACT INFORMATION

CARAFRA INDUSTRIAL COMPOSITES Ltd - NIGERIA

No. 3 Niwil Close
Ikeja
Lagos State
Nigeria

Tel: + 234 806 018 0786, +234 803 473 8332
Email: pld@cic-wa.com / cou@cic-wa.com
web: www.cic-wa.com

CARAFRA INDUSTRIAL COMPOSITES Ltd - UK

Ardmhor House
Perthshire
PH1 1QP

Tel: + 44 (0) 1764 683 762
Tel: + 44 (0) 7786 193 585

Email: ajk@cic-wa.com
web: www.cic-wa.com

CARAFRA INDUSTRIAL COMPOSITES Ltd - INTERNATIONAL

Managing Director
P.L.Dugdale
Tel: +234 806 018 0786
Email: pld@cic-wa.com

Commercial Director
Dolamu A.G. Akitoye-Sowemimo

Production Director
O.Lambo
Tel: +234 01-773 0258
Email: ol@cic.com

Business Development Manager
Stephen Ekekeh
Tel: +234 806 162 6114
Email: se@cic-wa.com

Development Director
A.J.Keeble
Tel: +44 (0) 1764 683 762
Email: ajk@cic-wa.com