Cosmofin

PVC WATERPROOFING MEMBRANE

PROJEX GROUP PTY. LIMITED

THE ECONOMICAL SOLUTION

AVAILABLE TO ALL WATERPROOFING CONTRACTORS

Complete Waterproofing System with all Accessories included.

Why Choose Cosmofin PVC Single Ply Waterproofing?

Cosmofin has a proven track record of 20 years in Australia.

It is a flexible PVC single ply membrane offering excellent characteristics of strength, elongation and weathering, making it ideal for new build or refurbishment projects.

The Cosmofin System incorporates an ancillary range to complete the waterproofing project including corners, welding solvent, adhesives, steel profiles, etc. All Cosmofin membranes are reinforced (except Cosmofin F) and are available with or without a fleece backing providing scope for all methods of application, such as mechanically fastened, adhered or loose laid and ballasted.

Cosmofin PVC membranes have been successfully installed on a range of commercial and domestic projects including some of the following building types:

- Schools / Universities
- Private residences
- Offices
- Retail developments
- Hospitals
- Factories & Warehouses
- Supermarkets

COSMOFIN SYSTEM ATTRIBUTES

- UV STABLE - Suitable for exposed roofs
- FULLY WELDED - All connections are homogeneously welded - No capillary effect
- REINFORCED - Strong & durable with special polyester reinforcing - No delamination
- ROOT RESISTANT - Tested - Resistant to plant roots (FLL and EN 13948)
- VAPOUR PERMEABLE - Can be laid over damp substrates
- RECYCLABLE - Reused in manufacturing process
- EXTRUDED - No built in calendar tension
- TOTAL ANCILLARY SYSTEM- Including profiles, corners, adhesives etc

The Complete Cosmofin Waterproofing System

COSMOFIN MEMBRANES

- COSMOFIN FG LL — Reinforced membrane, 1.5mm thick, light grey, with side edges sealed beyond the reinforcement. Generally used for loose laid applications. (Roll size: 1.65m x 20m long)
- COSMOFIN FG LLV — Reinforced membrane with integrated fleece backing, 1.5mm thick, light grey, with side edges sealed beyond the reinforcement. Ideal for bonded applications & can also be loose laid. It can be laid directly over bitumen. (Roll size: 1.65m x 15m long)
- COSMOFIN F — Unreinforced detailing / closer strip membrane, 1.5mm thick. (Roll Size: 1m x 20m long)

COSMOFIN ANCILLARIES

Cosmofin ancillaries have been individually designed to ensure total compatibility and ease of application and play a vital role in achieving the total integrity of the overall Cosmofin waterproofing system.

- COSMOFIN STEEL — 24 gge galvanised steel with membrane factory bonded to one side. Four standard profiles shapes are always available in stock and specials can be made to order.
- COSMOFIN CORNERS — Prefabricated corners aid speed of installation on site, and are used to reinforce internal and external corners with no stretching or cutting required.
- COSMOFIN THF — Tetrahydrafuran cold welding solvent, for cold welding of overlaps & PVC pipe connections.
- WOLFINATOR — Wolfinator is a structural grade adhesive that has been specially formulated for the bonding of Cosmofinsteel to absorbent & non-absorbent substrates including metals, ceramics, timber, glass, etc. It will also adhere to slightly damp substrates.
- TEROTECH SPRAY — Adhesive for bonding loose laid membranes to the vertical substrates where adhesion is required- skirting tiles etc.
- TEROKAL TK400 — The recommended adhesive for strip bonding of Cosmofin LLV to most substrates where adhering is required. TK 400 can be installed over existing membranes, damp substrates and is applied using 60cm Lance Applicating Gun.
- PROJEX SHOCKMAT — Rubber matting supplied in roll form and available in 5 and 10mm thickness. Used as a protective walkway, temporary protection of finished floors etc

Revolutionary Solution for Bonding PVC Membranes

COSMOFIN LLV - STRIP-BONDED

This new application technique will save time and money to all waterproofing contractors that need to adhere the membrane to the substrate.
Projex Cosmofin LLV waterproofing membrane can be applied using this new and innovative installation method.

ONLY 5 EASY STEPS TO FOLLOW:

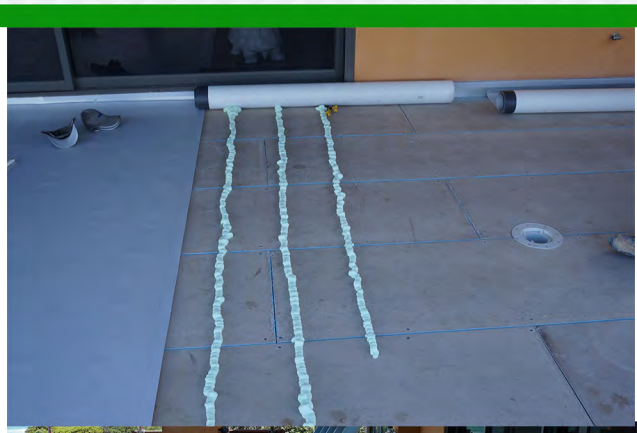
STEP 1: Install **Terokal 400** can onto the **Witec Foam Gun**

STEP 2: Apply TK400 in continuous beads of 30mm diameter directly in front of each roll of Cosmofin LLV (minimum 3 per width of roll)

STEP 3: Roll out the **Cosmofin LLV membrane** onto the Terokal adhesive to bond to the substrate.

STEP 4: Use a broom or roller to ensure full adhesion to the substrate

STEP 5: Clean the Witec Foam Gun with the **Terotech PU Cleaner**.



TK 400 ADVANTAGES AT A GLANCE:

- Fast Application - Easy & Cost Effective
- Universal and Safe to Use on all Substrates
- High Yield (When applying three beads per m2, one can of TK400 covers up to 16 sqms.)
- Workable even in Cold Weather (down to -5°C)

Typical Installation of Cosmofin Membranes (LL & LLV)

Bonded or Loose-Laid Applications

SUBSTRATE PREPARATION

- All substrates to which the Cosmofin membrane is to be applied must be sound, smooth, clean and free from any residues and foreign materials.
- Oil or bitumen residues must be removed (Except FG LL V)
- Check the existing bond and/or compatibility before deciding to overlay failed membrane.
- While laying the membrane, keep the substrate swept clean to prevent stones or debris from lodging under the membrane

PROFILE FIXING

- Cosmofin Steel profiles are supplied in 2 metre lengths. Space them 2mm apart and join with 50mm wide welded patches for the full girth of the profile. The joining process is not required for Type D2.
- Fix all profiles at 150mm centres.

MEMBRANE LAYING AND LAP WELDING

- Layout: Set out the rolls so that they are used most economically, and the welds are minimized
- Side Laps: Overlap each roll a minimum of 50mm and weld the full width
- End Laps: All as side laps
- Multi lap junctions-capillaries: Where these occur they are to be welded tight. Sealants shouldn't be used

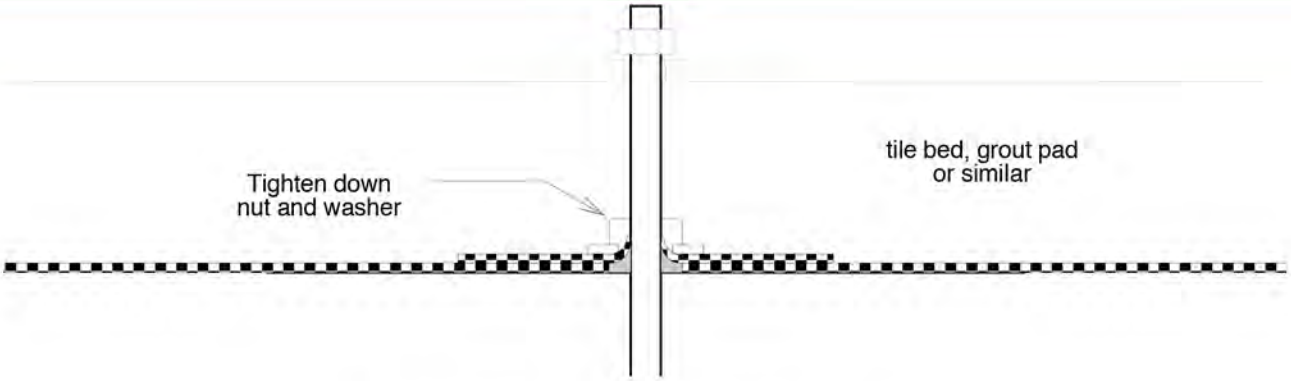
Cosmofin Membrane Selection Guide

Area of installation	Cosmofin LL	Cosmofin LLV
Flat Roof	✓	✓
Balcony	✓	✓
Terrace	✓	✓
Podium Deck	✓	✓
Retaining Wall	✓	✓
Planter Box	✓	✓
Basement	✓	✓
Lift Pit	✓	✓
Cellar	✓	✓
Expansion Joint	✓	
Water Tank	✓	

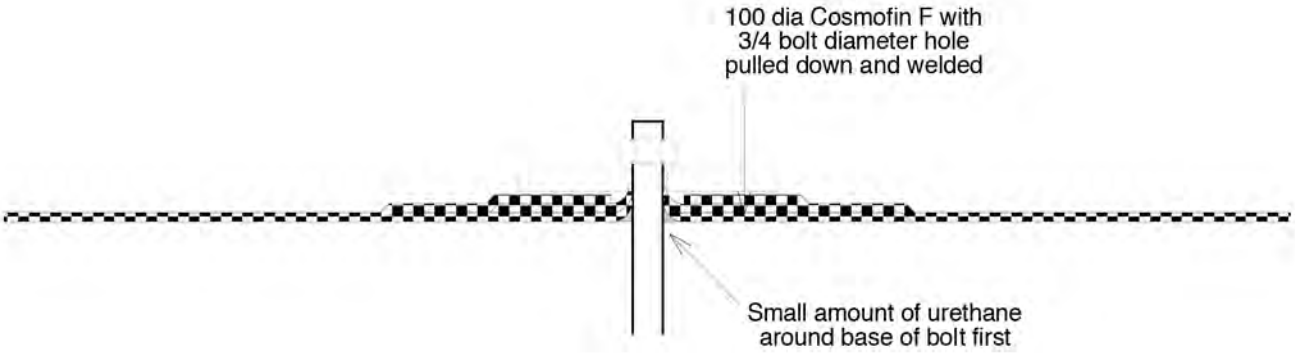
Cosmofin Applications - Planter Boxes

TECHNICAL SECTION

- Drawings
- Technical Data
- Safety Data Sheets
- Warranty



Shows the case where the device is separated
from the membrane by a tile bed or similar.
Also drawn to show a bolt drilled later.



TYPICAL DETAIL AT BOLTS
PENETRATING MEMBRANE
(HANDRAILS, BASE PLATES, PLANT & EQUIPMENT

DETAIL SD 9.02

This drawing is intended to show basic principles and set minimum standards. Any variation in site conditions is to be referred to Projex for approval of the required detail. The thickness scale on this drawing is exaggerated for clarity.	COMMENTS / ASSOCIATED DRAWINGS

© PROJEX GROUP PTY LTD

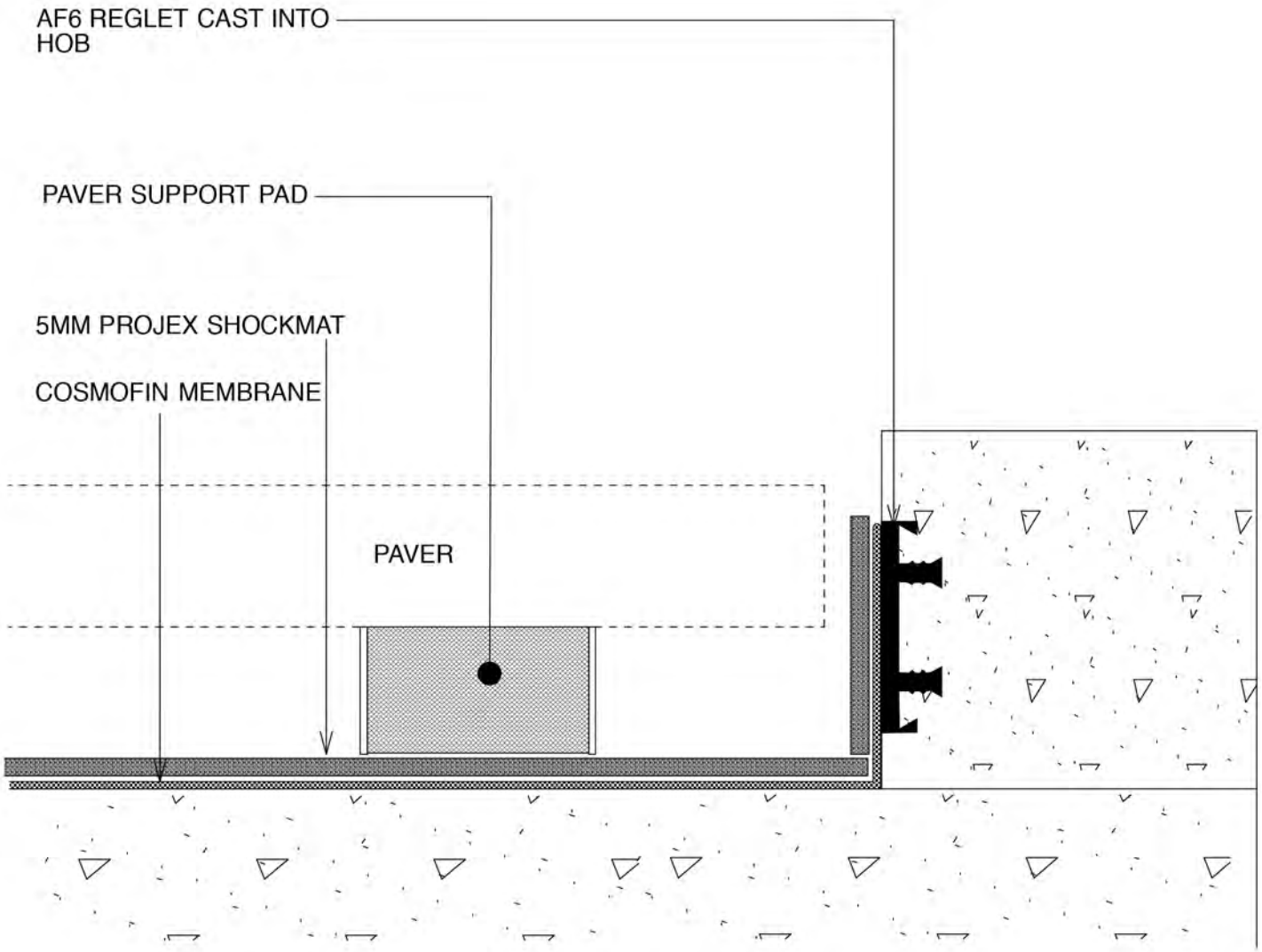
Standard Guide Details

Bolt Details

Scale: 1: 5

Date: Feb 2006

Dwg No: **C - 9.02**



SECTION: TYPICAL HOB DETAIL - PAVER ON PAD

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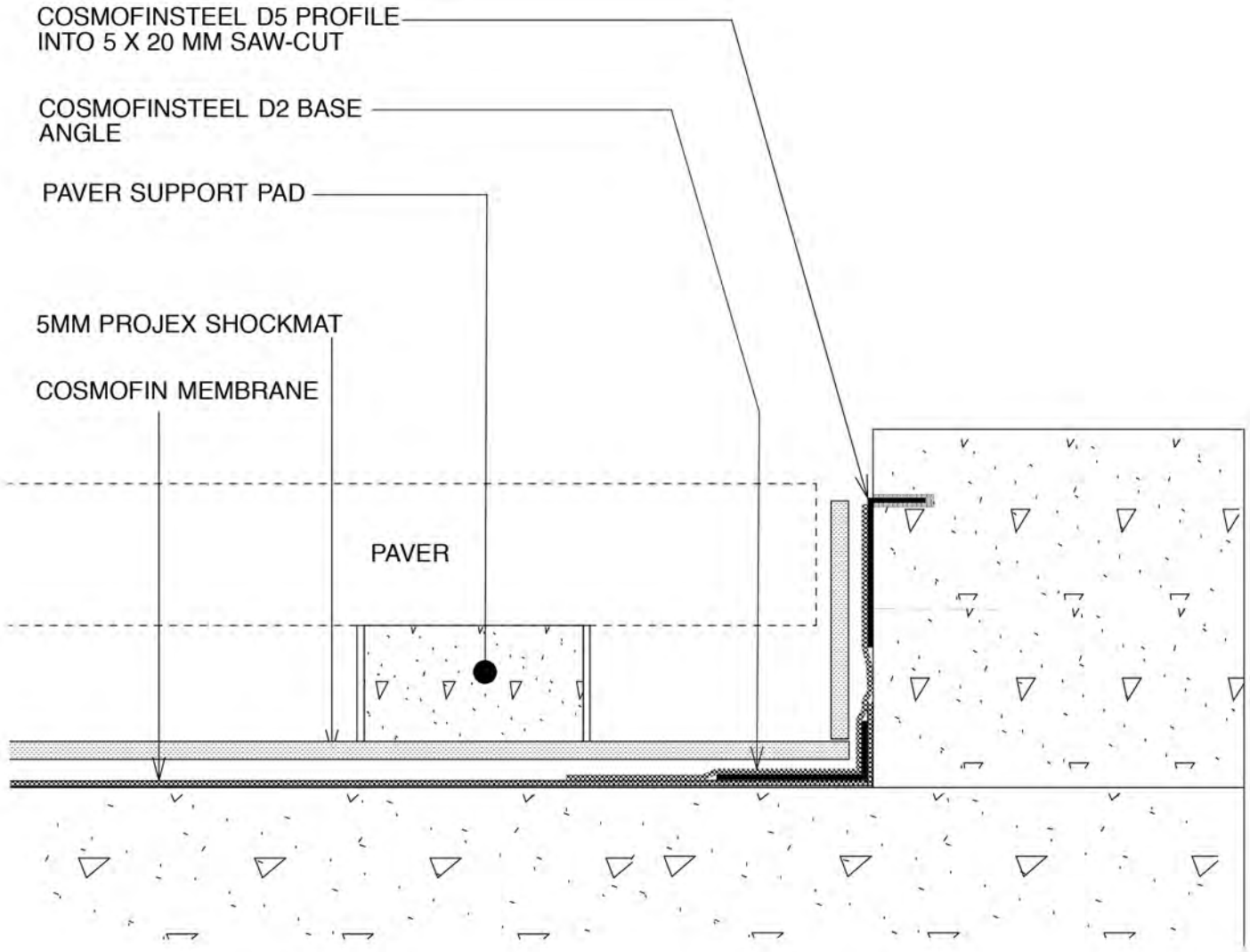
PROJEX GROUP PTY LTD - CONCEPT/SHOP DWG.		SCALE: 1:2
		DATE: 117/06/16
		DWG. No: COS-Sk1



SECTION: TYPICAL HOB DETAIL - PAVER ON PAD

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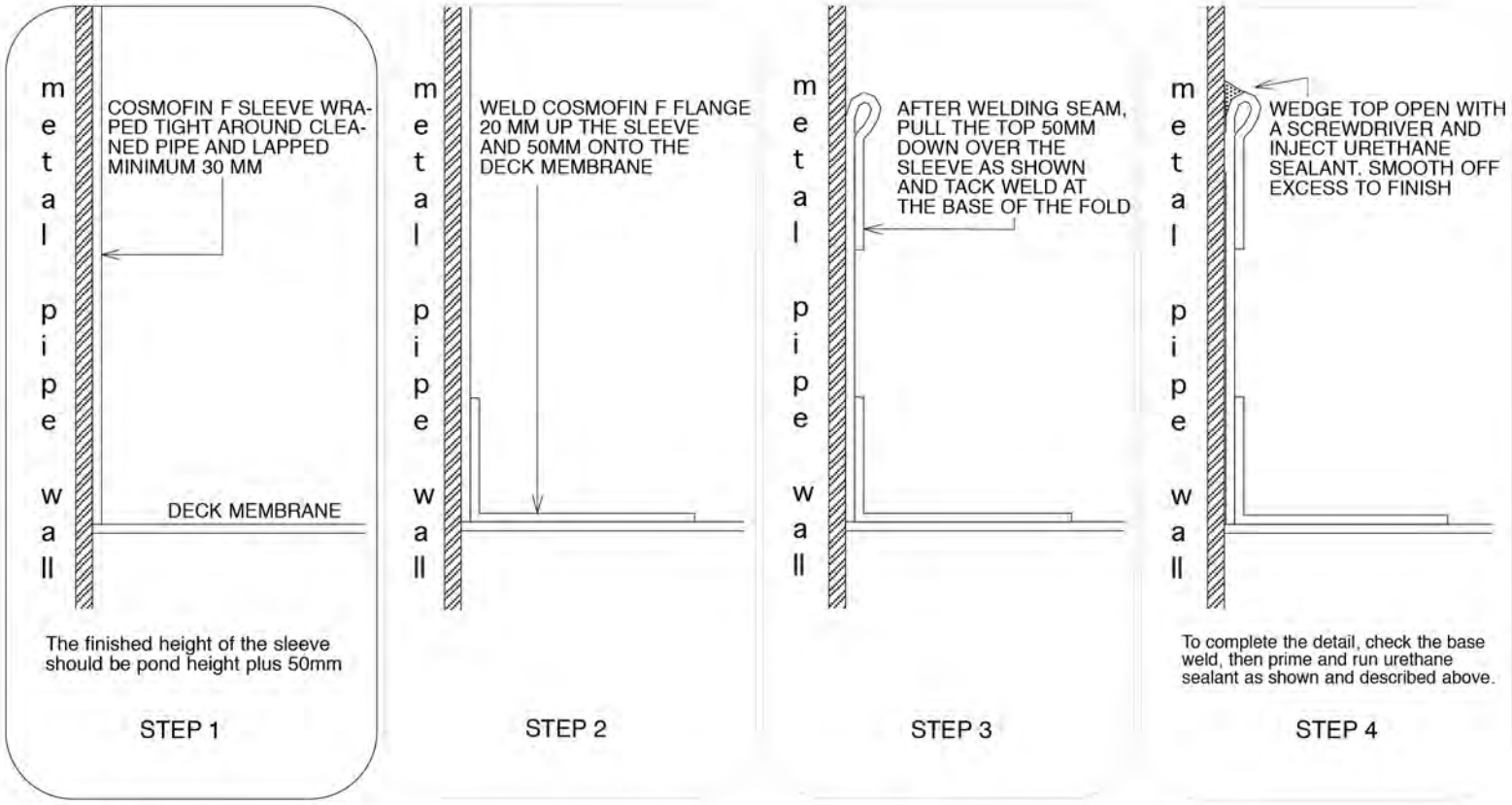
PROJEX GROUP PTY LTD - CONCEPT/SHOP DWG.		SCALE: 1:2
		DATE: 20/05/15
		DWG. No: COS-Sk02



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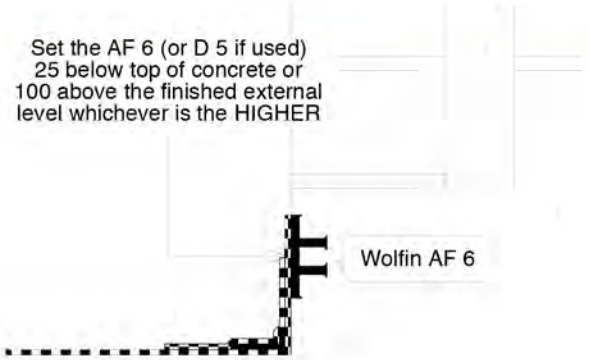
PROJEX GROUP PTY LTD - CONCEPT/SHOP DWG.

HALF SECTION TYPICAL DETAIL AT METAL PIPE PENETRATION

SCALE: 1:1

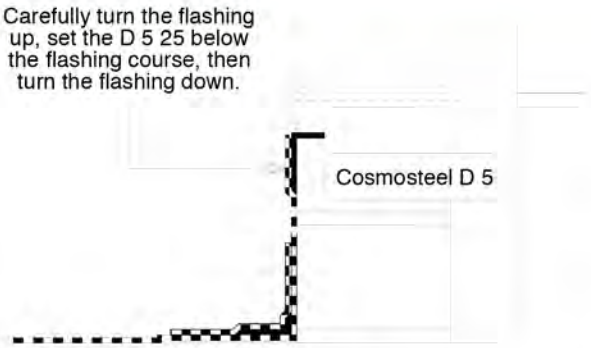
DATE: APRIL 2016

DWG. No: WP - 1



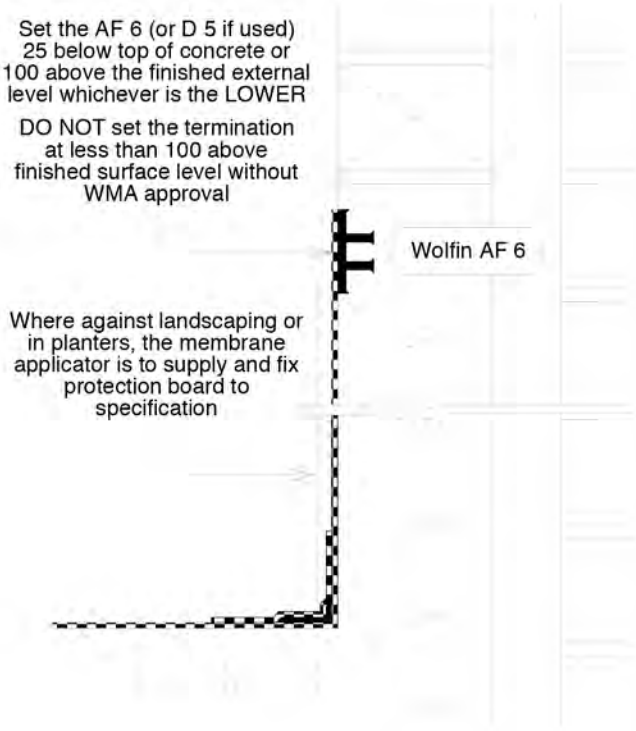
TYPICAL at CONCRETE SETDOWN or HOB

DETAIL SD - 2.01



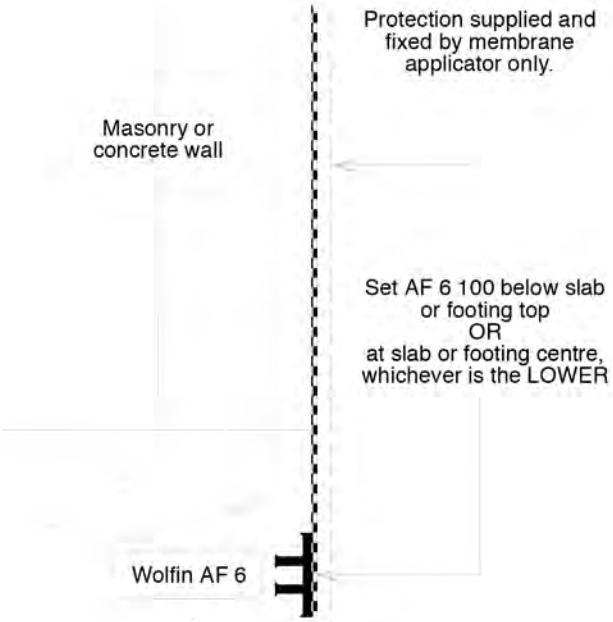
TYPICAL at MASONRY SETDOWN

DETAIL SD - 2.02



TYPICAL at CONCRETE PARAPET UPSTAND

DETAIL SD - 2.03



TYPICAL at RETAINING WALL BASE
Applies either to footing or to slab edge

DETAIL SD - 2.04

This drawing is intended to show basic principles and set minimum standards.
The thickness scale on this drawing is exaggerated for clarity.

COMMENTS / ASSOCIATED DRAWINGS
1. Profile Construction details: refer dwg WSD - 1 & 4.

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Standard Guide Details

Typical Terminations
Concrete Decks & R / walls
Details SD 2.01 to 2.04

Scale: 1: 5

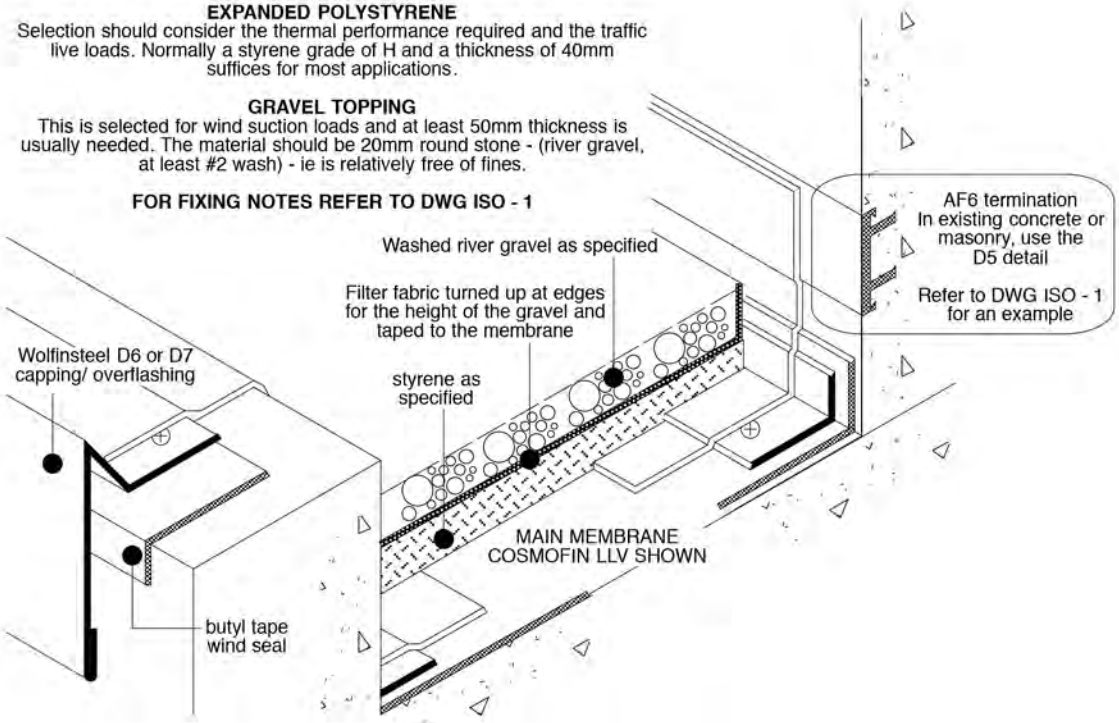
Date: APRIL 2006

Dwg No: **SD - 2**

EXPANDED POLYSTYRENE
Selection should consider the thermal performance required and the traffic live loads. Normally a styrene grade of H and a thickness of 40mm suffices for most applications.

GRAVEL TOPPING
This is selected for wind suction loads and at least 50mm thickness is usually needed. The material should be 20mm round stone - (river gravel, at least #2 wash) - ie is relatively free of fines.

FOR FIXING NOTES REFER TO DWG ISO - 1



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PROJEX GROUP - CONCEPT/SHOP DWG.

TYPICAL INSULATED ROOF
INSULATION OVER MEMBRANE
(I R M A Roof)

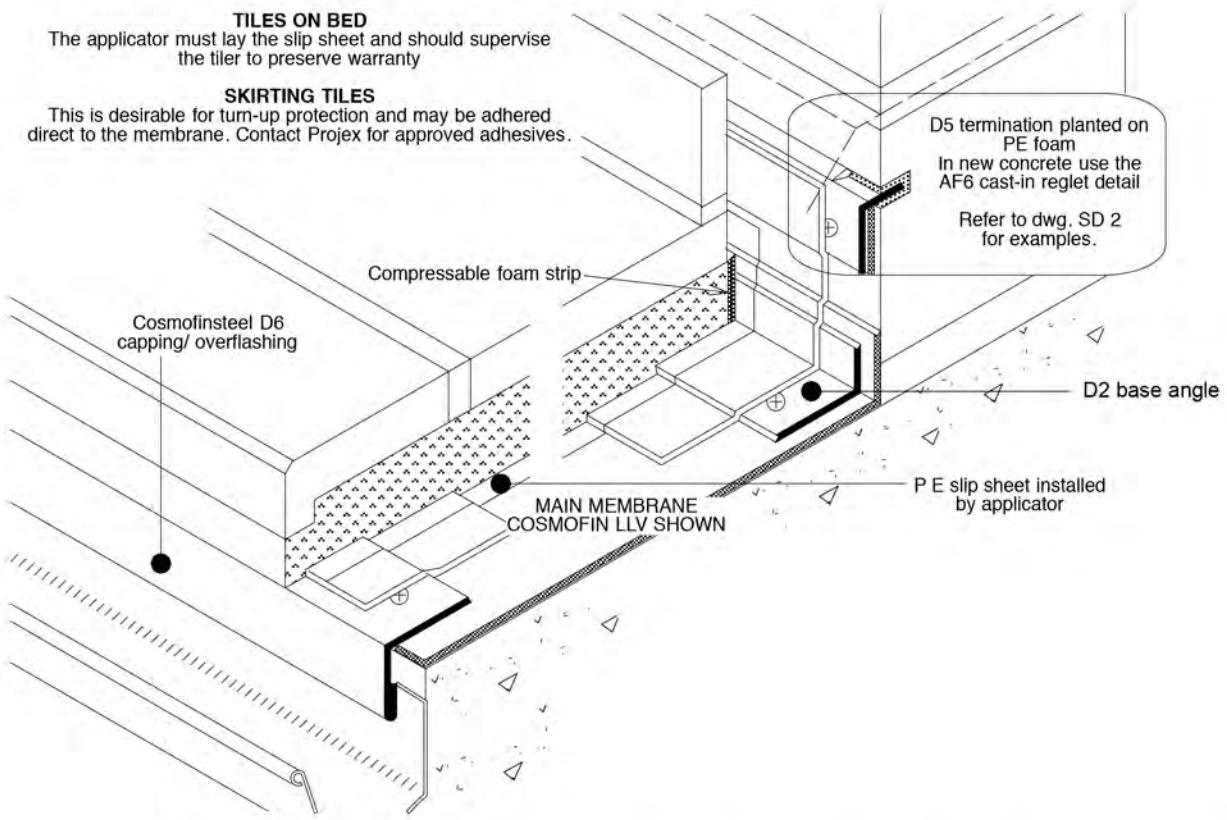
SCALE: N.T.S.

DATE: 2/12/15

DWG. No: ISO-D- 3

TILES ON BED
The applicator must lay the slip sheet and should supervise the tiler to preserve warranty

SKIRTING TILES
This is desirable for turn-up protection and may be adhered direct to the membrane. Contact Projex for approved adhesives.



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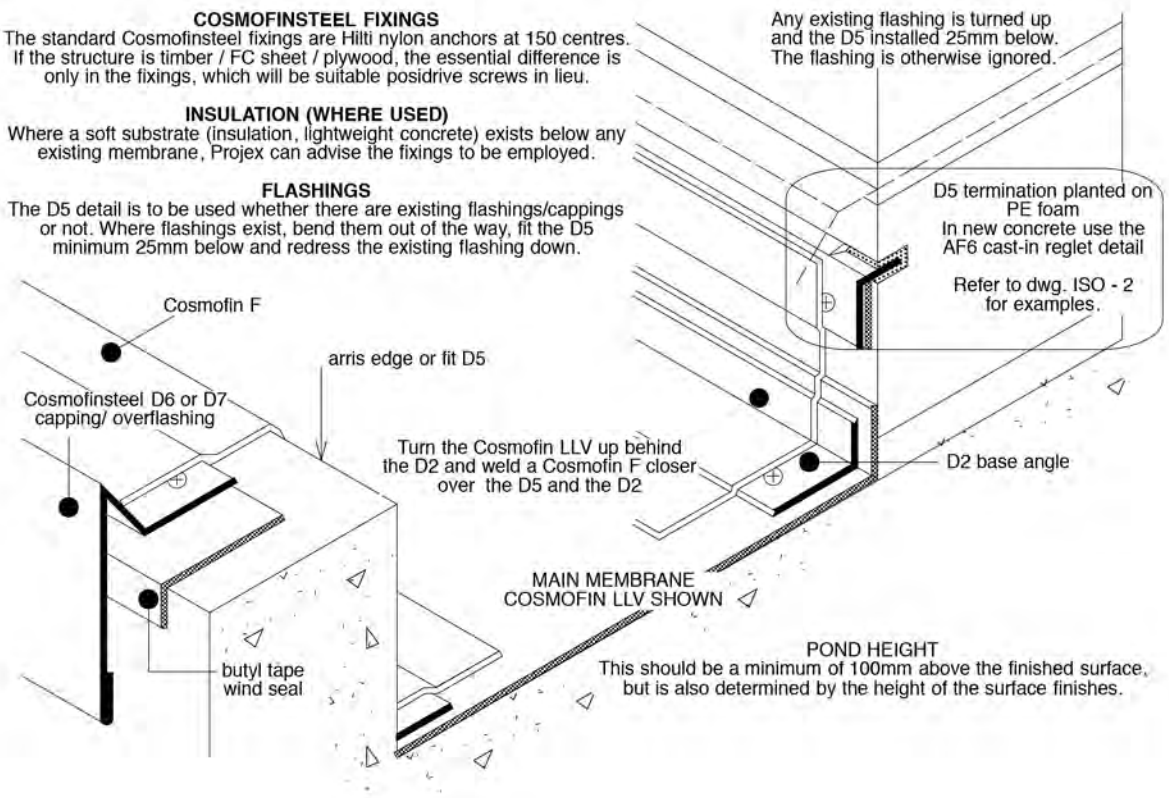
PROJEX GROUP - CONCEPT/SHOP DWG.	**TYPICAL TILED FINISH**	SCALE: N.T.S.
		DATE: 2/12/15
		DWG. No: ISO-D-4

COSMOFINSTEEL FIXINGS
The standard Cosmofinsteel fixings are Hilti nylon anchors at 150 centres. If the structure is timber / FC sheet / plywood, the essential difference is only in the fixings, which will be suitable posidrive screws in lieu.

INSULATION (WHERE USED)
Where a soft substrate (insulation, lightweight concrete) exists below any existing membrane, Projex can advise the fixings to be employed.

FLASHINGS
The D5 detail is to be used whether there are existing flashings/cappings or not. Where flashings exist, bend them out of the way, fit the D5 minimum 25mm below and redress the existing flashing down.



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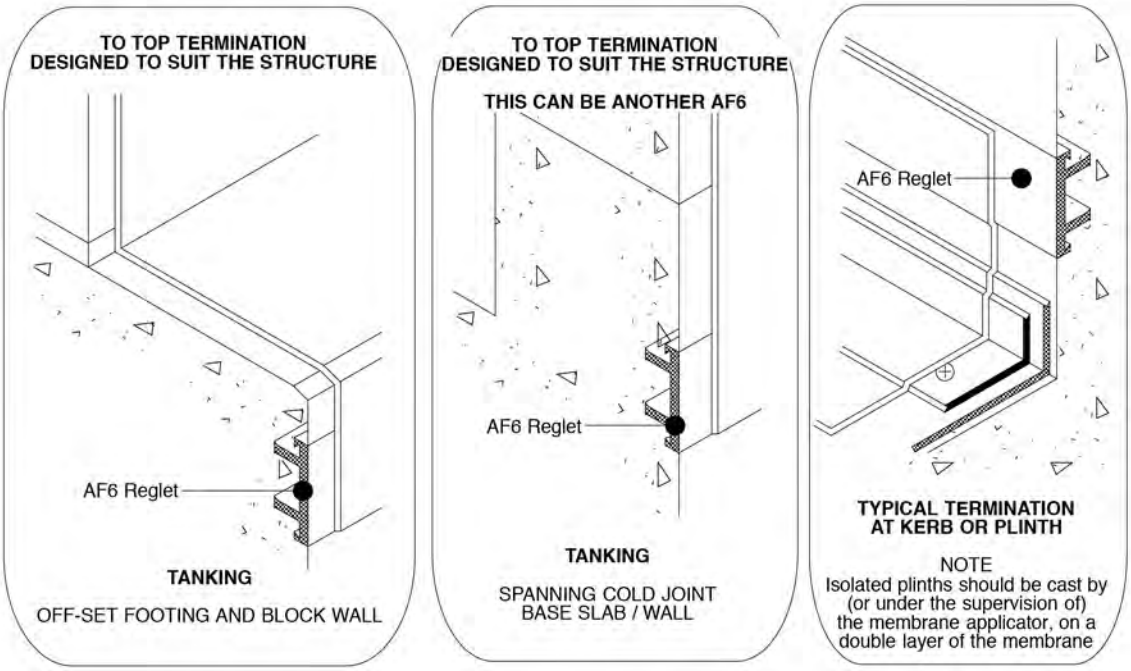
PROJEX GROUP - CONCEPT/SHOP DWG.

TYPICAL TERMINATIONS
WALL (D5) AND PARAPET (D7)
New or retrofit to concrete or masonry

SCALE: 1:2

DATE: 2/12/15

DWG. No: ISO-D-1



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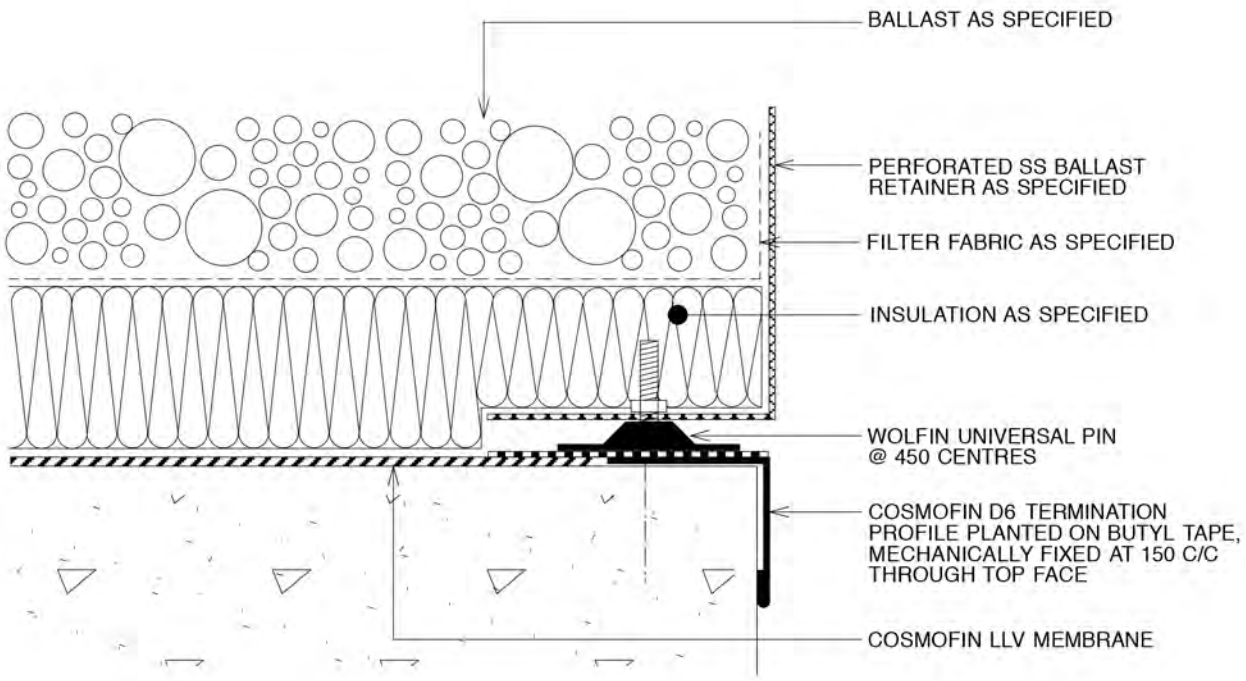
PROJEX GROUP - CONCEPT/SHOP DWG.

TYPICAL TERMINATIONS
(AF6 Reglet)

SCALE: N.T.S.

DATE: 2/12/15

DWG. No: ISO-D-2



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WOLFIN MEMBRANES AUSTRALIA - CONCEPT/SHOP DWG.

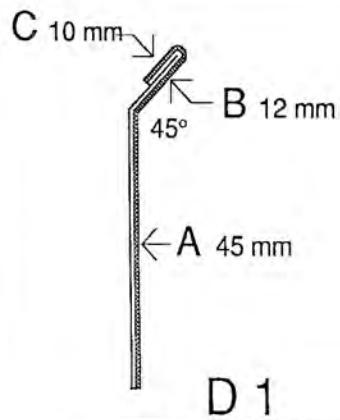
REV: FEB 2016

TYPICAL BALLAST / BALLAST & INSULATION RETAINER DETAIL AT FREE EDGE

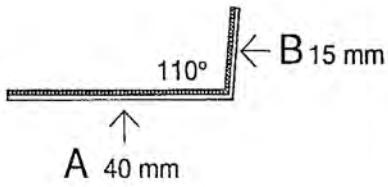
SCALE: 1:2

DATE: FEB 2016

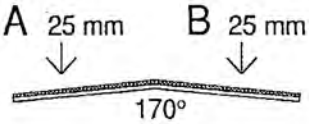
DWG. No: SD - 18A



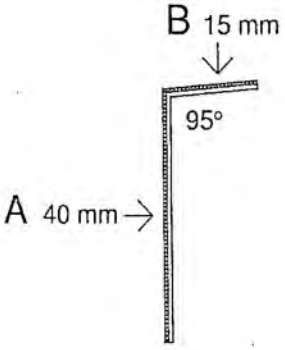
D 1



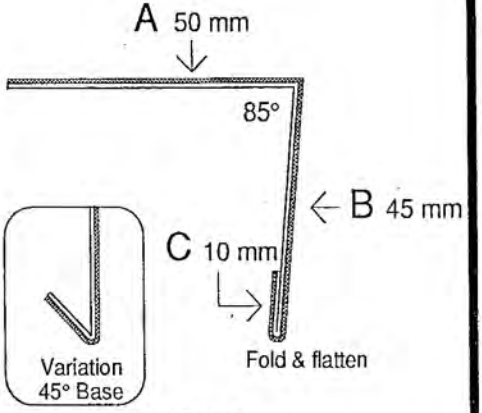
D 2



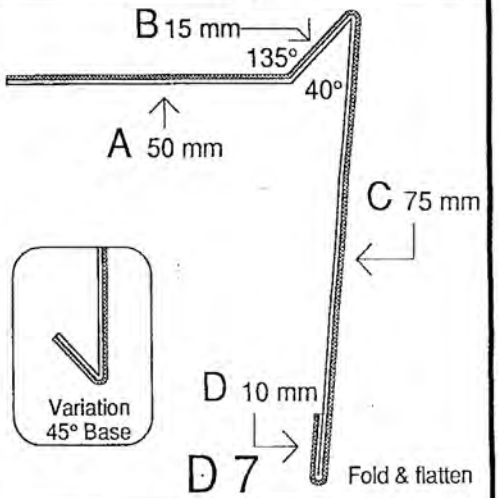
D 3



D 5



D 6



D 7

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COSMOFIN STEEL PROFILES

A, B, C, D and angles are shown at the Standard sizes. If they are different, the different sizes must be shown on the order

SCALE: 1: 2

DATE: Sept. 1997

DWG. No: DS - 1

Technical Information
COSMOFIN FG LL V

COSMOFIN FG LL V is a monomer plasticised, high UV stabilised (LL) PVC waterproofing membrane with integrated glass fleece reinforcing and a polyester fleece backing, based on the long term proven recipe of COSMOFIN. COSMOFIN membranes are produced by extrusion method.

COSMOFIN FG LL V is certified, approved and classified according to:

- EN 13956 CE-Waterproofing of Roofs
- EN 13501-1 (Class E)
- ENV 1187 / EN 13501-5 B_{ROOF} (t1)

Characteristics of COSMOFIN FG:

- Glass fleece reinforcement
- High tensile strength
- Polyester fleece backing
- With LongLife (LL) equipment
- Suited for hot air and solvent welding
- Mouldable when warm (COSMOFIN F)
- Cold resistant
- Recyclable
- Free of cadmium and lead stabilizers
- Resistant to plant roots according to FLL testing and EN 13948 (Type FG)

Membrane type and application areas:

COSMOFIN FG LL V:	integrated reinforcement, tests/test conditions according to EN 13956
Membrane width:	1.060 mm / 1.650 mm
Nominal thickness:	1,5 mm / 1,8 mm / 2,0 mm
New building and refurbishment:	Fully or strip adhered, lose laid under ballast
Colour:	Lt. Grey

System parts and accessories:

- Internal and external corners
- Homogeneous material for detail forming
- Composite Metal Sheets (Plates / coils)
- Stainless steel drainage and ventilation elements
- Lightning Rod Protection Tubes
- Area adhesive (Terokal TK 400, Terokal 3958)
- WITEC Walkway, membrane for maintenance paths
- WITEC KV pro, protection fleece for the installation under ballast
- Joint adhesives (Terokal 914, Terotech Spray Adhesive)

Product information COSMOFIN FG according to EN 13956

EN 13956
Exposed application (fully or stripwise adhered)
Under ballast (gravel, green roof, …)

This Technical data sheet was produced according to the latest technical knowledge and standards of Wolfin Bautechnik.
Technical changes due to further developments are possible.

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11/2014

Characteristic	Testing standard	Unity	Details	Results* 1, 5 mm	Results* 1, 8 mm	Results* 2.0 mm
Visible defects	EN 1850-2	-	passed	passed		
Length	EN 1848-2	m	MDV		15	
Width		m	MDV	1,65		
Straightness		mm	MLV	≥50		
Flatness		mm	MLV	≥10		
Mass per unit area	EN 1849-2	kg/m²	MDV		2,2	
Water tightness	EN 1928 B	kPa	MLV	passed		
Reaction to fire	EN 13501-1	-	s. 5.2.5.2	Class E		
Joint peel resistance	EN 12316-2	N/50 mm	MLV	≥185		
Joint shear resistance	EN 12317-2	N/50 mm	MLV	≥ 600		
Tensile strength	EN 12317-2	N/50 mm	MLV	≥ 400		
Elongation		%	MLV	≥ 30		
Resistance to impact Method A Method B	EN 12691 EN 12691	mm mm	MLV MLV		≥ 500 ≥ 500	
Durability of water tightness against aging	EN 1296 EN 1928	_	passed	passed		
Durability of water tightness against chemicals	EN 1847 EN 1928	_	passed	passed		
Nail tear resistance	EN 13859-1	N	MLV	≥ 400		
Tear resistance	EN 12310-2	N	MLV	≥ 250		
Resistance to root penetration	EN 13948 / FLL	-	passed	passed		
Dimensional stability	EN 1107-2	%	MLV	≥0,5		
Foldability at low temperature	EN 495-5	ºC	MLV	≥-25		
UV exposure	EN 1297	visual	passed	passed		
Hail resistance	EN 13583	m/s	MLV	≥17		
Water vapour permeability	EN 1931	-	μ = MDV or 15.000	25.000 ± 5.000		

Explanation: MDV = Manufacturer's declared value
MLV = Manufacturer's limiting value
* Values in new conditions
** Valid for the respective proofed roof structure

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Technical Information
COSMOFIN FG LL

COSMOFIN FG LL is a monomer plasticised, high UV stabilised (LL) PVC waterproofing membrane with integrated polyester fabric reinforcement based on the long term proven recipe of COSMOFIN FG.
COSMOFIN membranes are produced by extrusion method.

COSMOFIN FG LL V is certified, approved and classified according to:

- EN 13956 CE-Waterproofing of Roofs
- DIN V 20000-201 (Dachabdichtungen)
- DIN 18531 (Waterproofing of Roofs)

- EN 13501-1 (Class E)
- DIN 4102-1 (B2)
- ENV 1187 / EN 13501-5 B_{ROOF} (t1)
- DIN 4102-7 (External Fire)

Designation according to DIN V 20000-201: **DE/E1 PVC-P-NB-V-(PW)-1,5 (1,8 / 2,0)**

Characteristics of COSMOFIN FG:

- Polyester fabric reinforcement
- High tensile strength
- With LongLife (LL) equipment
- Suited for hot air and solvent welding
- Resistant to plant roots according to FLL testing and EN 13948

- Mouldable when warm (COSMOFIN F)
- Cold resistant
- Recyclable
- Free of cadmium and lead stabilizers

Membrane type and application areas:

COSMOFIN FG LL:	integrated reinforcement, tests/test conditions according to EN 13956
Membrane width:	1.060 mm / 1.650 mm
Nominal thickness:	1,5 mm / 1,8 mm / 2,0 mm
New building and refurbishment:	Mechanical fastening, loose laid under ballast
Colour:	grey, further colours on request

System parts and accessories:

- Internal and external corners
- Homogeneous material for detail forming
- Composite Metal Sheets (Plates / coils)
- Stainless steel drainage and ventilation elements
- Lightning Rod Protection Tubes

- WITEC Walkway, membrane for maintenance paths
- WITEC KV pro, protection fleece for the installation under ballast
- Joint adhesives (Terokal 914, Terotech Spray Adhesive)

Product information COSMOFIN FG according to EN 13956

EN 13956
Exposed application (mechanical fastening)
Under ballast (gravel, green roof, …)

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Technical changes due to further developments are possible.

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11/2014

Characteristic	Testing standard	Unity	Details	Results* 1, 5 mm	Results* 1, 8 mm	Results* 2.0 mm
Visible defects	EN 1850-2	-	passed	passed		
Length	EN 1848-2	m	MDV	20	17,5	17,5
Width		m	MDV	1,06 / 1,65		
Straightness		mm	MLV	≥50		
Flatness		mm	MLV	≥10		
Mass per unit area	EN 1849-2	kg/m²	MDV	1,9	2,3	2,5
Water tightness	EN 1928 B	kPa	MLV	passed		
External fire performance	EN V 1187	-	Annex E	B_{Roof} (t1)** Resistant to flying sparks and radiation heat according to AbP		
Reaction to fire	EN 13501-1	-	s. 5.2.5.2	Class E		
Joint peel resistance	EN 12316-2	N/50 mm	MLV	≥300		
Joint shear resistance	EN 12317-2	N/50 mm	MLV	≥ 800		
Tensile strength	EN 12317-2	N/50 mm	MLV	≥ 1000 / ≥900		
Elongation		%	MLV	≥ 10		
Resistance to impact Method A Method B	EN 12691 EN 12691	mm mm	MLV MLV	600 600	≥ 700 ≥ 700	750 750
Resistance to static load	EN 12730 Method B	kg	MLV	≥ 20		
Durability of water tightness against aging	EN 1296 EN 1928	_	passed	passed		
Durability of water tightness against chemicals	EN 1847 EN 1928	_	passed	passed		
Nail tear resistance	EN 13859-1	N	MLV	≥ 400		
Tear resistance	EN 12310-2	N	MLV	≥ 250		
Resistance to root penetration	EN 13948 / FLL	-	passed	passed		
Dimensional stability	EN 1107-2	%	MLV	≥1.0		
Foldability at low temperature	EN 495-5	°C	MLV	≥-25		
UV exposure	EN 1297	visual	passed	passed		
Hail resistance	EN 1297	m/s	MLV	≥25		
Water vapour permeability	EN 1931	-	μ = MDV or 15.000	25.000 ± 5.000		

Explanation: MDV = Manufacturer's declared value
MLV = Manufacturer's limiting value
* Values in new conditions
** Valid for the respective proofed roof structure

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COSMOFIN WARRANTY

On completion of the work Cosmofin provide a warranty to the client valid for the nominated time period, that the materials as supplied are in full accordance with the specification & warranted against defects from the manufacturer.

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