

PV™ 100

A unique multi-layer composite pre-applied waterproofing membrane that bonds integrally to poured concrete

Product Description

PV™ 100 pre-applied waterproofing membrane is a multi-layer composite waterproofing material with superior performance, including a layer of high-performance PE film, self-adhesive polymer layer and a unique particulate layer.

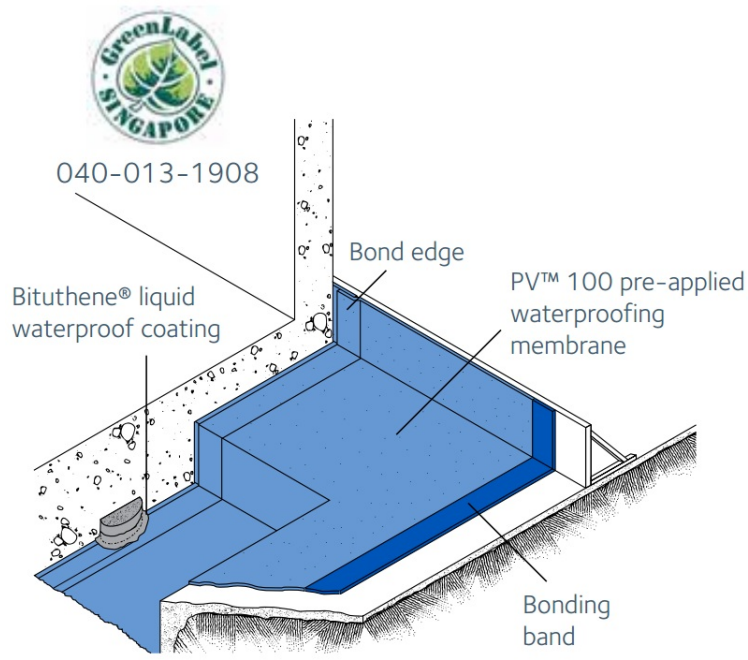
PV 100 pre-applied waterproofing membrane can be applied on a smooth level concrete surface, qualified compacted sand-stone cushion, or used as the waterproof layer of vertical surfaces of temporary and adjacent structures. After pouring concrete directly on to the paved PV 100 preapplied waterproofing membrane, the poured concrete will bond fully and permanently with PV 100 pre-applied waterproofing membrane.

PV 100 pre-applied waterproofing membrane protects concrete foundation against aggressive ground contaminants and is suitable for water and vapour-proofing for all basement grades.

PV 100 pre-applied waterproofing membrane is supplied at a width of 1.0m. Pour concrete after the steel bars are tied up. Please contact your local GCP representative for application details.

Product Advantages

- Forms permanent bond to concrete poured against it.
- Not affected by the displacement of the basal layer/ ground settlement beneath slabs
- Membrane is self-protecting. It can be trafficked immediately after application and does not require the use of protective layer
- Simple and quick to install, requiring no priming or fillets
- Unaffected by wet conditions
- Fully-adhered watertight laps and detailing
- Excellent bonding even under long-term water immersion



Installation

Substrate Preparation

All Surfaces

It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids greater than 12mm.

Hydroduct® drainage composites can provide the membrane with a good surface and facilitate underground structural drainage.

Horizontal Blinding

The substrate must be free of loose aggregate and sharp protrusions. Avoid curved or rounded substrates. The surface does not need to be dry, but standing water must be removed.

Vertical Sheet Piling

Use concrete, or 19mm thick plywood, insulation or other approved facing to sheet piling to provide support for the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 12mm out of alignment.

Membrane Installation

When placing PV™ 100 pre-applied waterproofing membrane, overlap the bonding edge. Use a steel roller to press the bonding edge firmly to ensure complete bonding and to achieve continuity. PV 100 pre-applied waterproofing membrane can be applied at -4°C and above. When installing PV 100 waterproofing membrane in cold or marginal weather, the bonding edge may be heated appropriately with hot air gun or similar devices to remove moisture in order to enhance bonding.

PV 100 Waterproofing Membrane

Place the membrane PE film side to the substrate with particulate layer side up, facing the concrete pour. End laps should be staggered to avoid build up of layers. Accurately position succeeding sheets to overlap the previous sheet 75mm along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. Any initial tack will quickly disappear.

Roll Ends and Cut Edges

Overlap all roll ends and cut edges by a minimum 75mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary.

Remove all floating particulates from the surface of the PV 100 pre-applied waterproofing membrane by brush. Brush a thin layer of Contact Adhesive Primer to cover the particulates on overlap area. When primer dries, apply PV 100 Tape or Grace RA Double-sided Tape or Preprufe Tape by peeling off release paper and fix the adhesive side on substrate. Roll firmly to ensure complete adhesion without creases or voids. Peel off the other layer of release paper and apply another piece of PV 100 to the adhesive tape. Roll firmly to ensure complete adhesion.

Application with Bituthene® Membrane and Joints

If PV 100 pre-applied waterproofing membrane is applied together with Bituthene membranes, or for areas such as construction joints, allow for another 300mm-wide overlap so as to protect PV 100 pre-applied waterproofing membrane from being contaminated. This 300mm-wide membrane can offer overlap with the follow-up waterproofing membrane that is installed.

Pouring of Concrete

The concrete must be poured within 21 days of application of the membrane. During pouring, take care when vibrating concrete to avoid damaging the waterproofing materials.

Formwork Removal

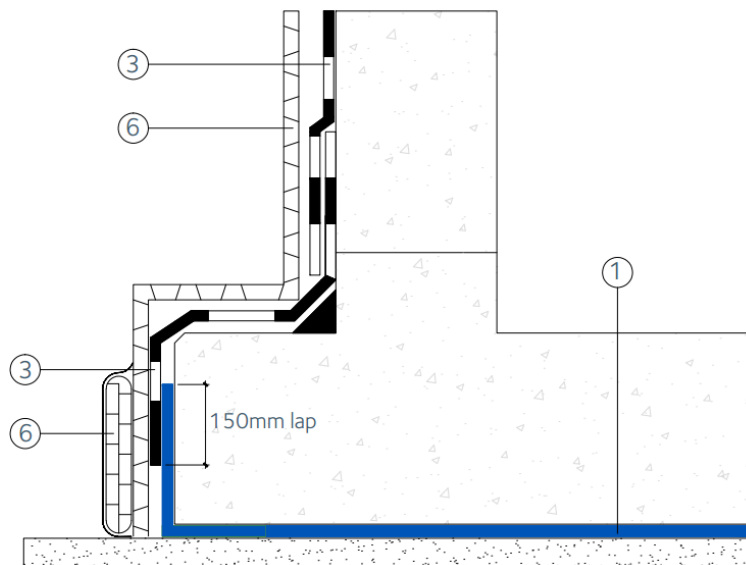
PV 100 pre-applied waterproofing membrane can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. PV 100 pre-applied waterproofing membrane is not recommended for conventional twin-sided wall forming systems.

As a guide, to reach the minimum compressive strength stated above, a structural concrete mix with an ultimate strength of 40N / mm² will typically require a cure time of approximately six days at an average ambient temperature of -4°C, or two days at 21°C. Please contact your local GCP representative for more details.

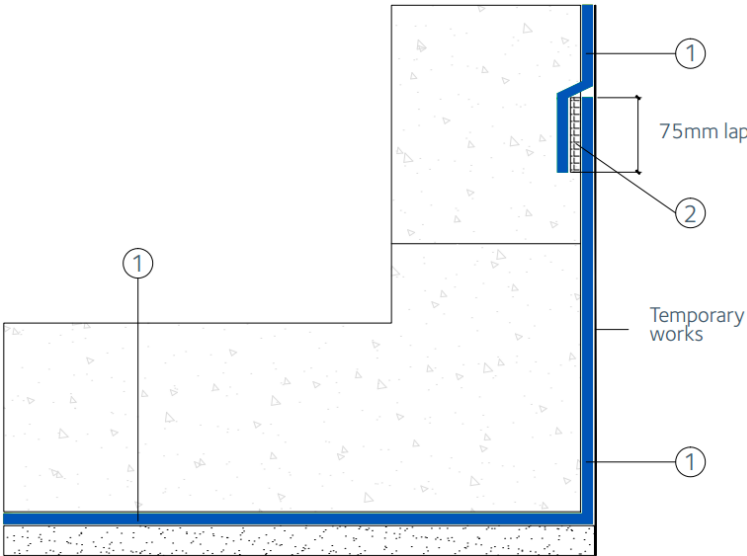
Physical Properties

PROPERTY	TYPICAL VALUE	TEST METHOD
Colour	White	
Thickness	1.2 mm	ASTM D 3767
Tensile Strength, Film	27.6 Mpa	ASTM D 412 Modified
Elongation	400%	ASTM D 412 Modified
Low Temperature Flexibility	-25oC, Pass	ASTM D 1970
Water Migration/Resistance to Hydrostatic Head	>60M	ASTM D 5385 Modified
Crack Cycling	Pass	ASTM D 836 / ASTM C 1305 Modified
Peel Adhesion to Concrete, No Treatment	880 N/m	ASTM D 903 Modified
Dimension Stability	< 1%	ASTM D 1204
Puncture Resistance	800N	ASTM E 154

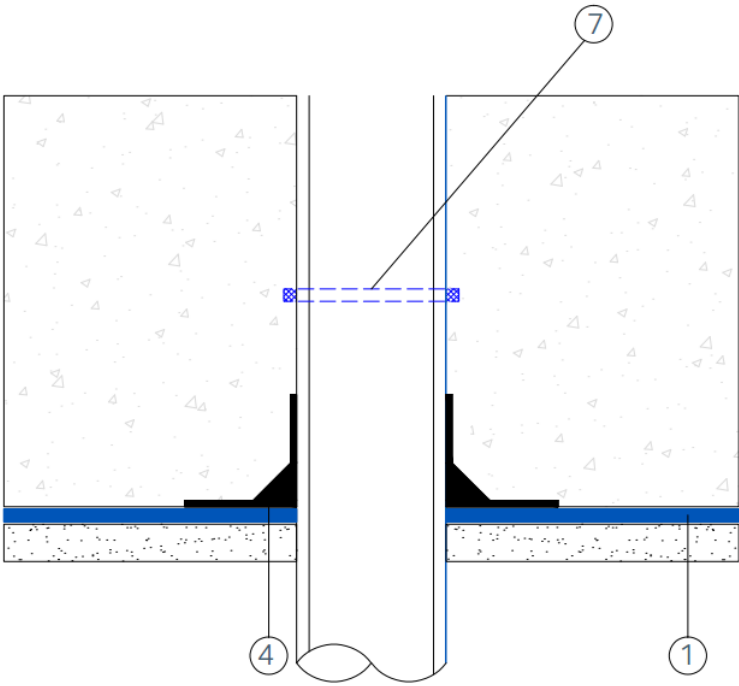
Details of foot of the wall foundation for drainage



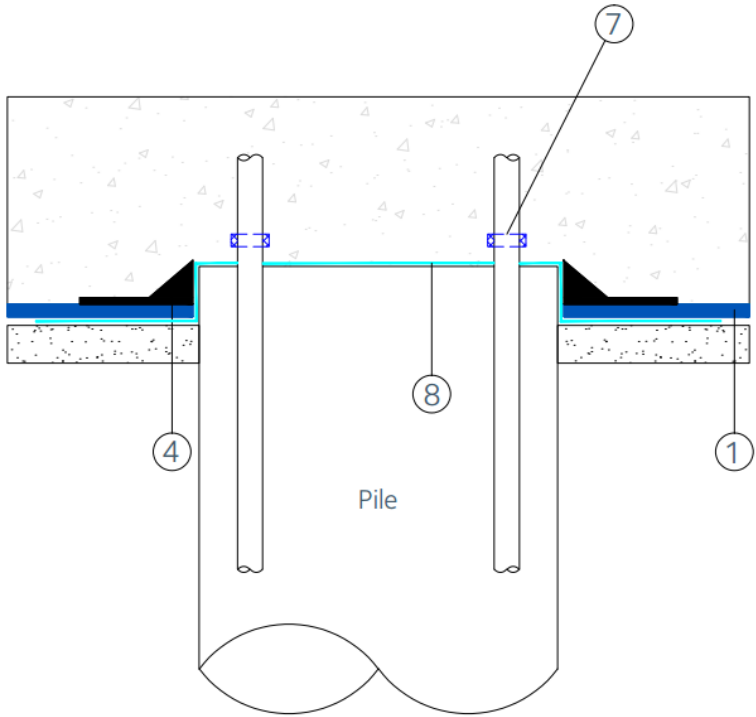
Details of wall foundation attached with temporary works



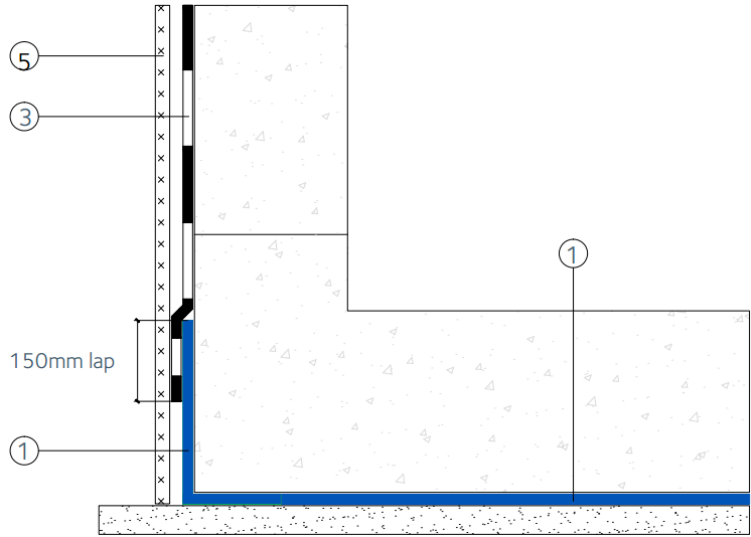
Pipe hole



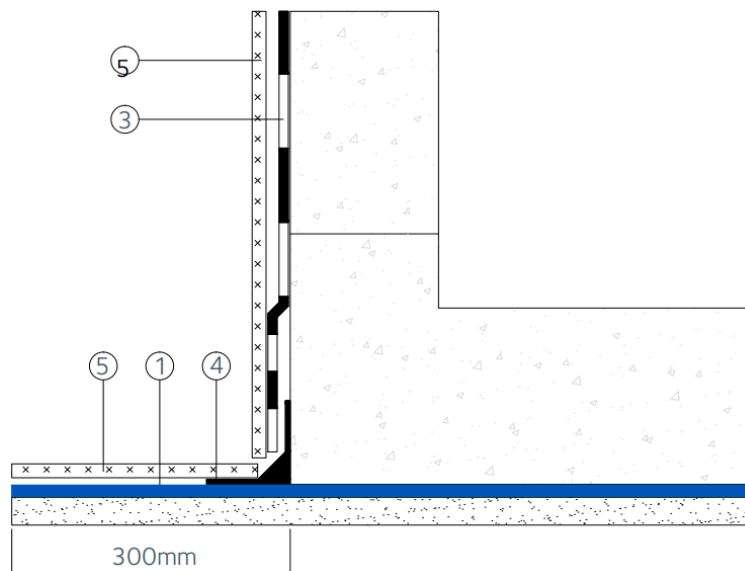
Pile details



Details of wall base detail



Details of wall foundation for replacement of earlier formwork stripping



1	PVTM 100 Pre-Applied Waterproofing Membrane	5	Protection Board
2	PVTM 100 Tape, Preprufe® Tape	6	Hydroduct® Drainage Sheet
3	Self-Adhesive Water Membrane or Grace RA Double-Sided Tape with Contact Adhesive Primer	7	De Neef Swellseal Mastic
4	Bituthene® Liquid Membrane	8	Betec® M-5 Crystallisation

The above drawings are typical examples and not details of the works. For details or assistance, please contact GCP Technical Services.

Supply

Thickness	1.2mm
Roll size	1.0m x 25m
Roll area	25m ²
Roll weight	39 - 41kg
Edge/end laps	75mm

Health and Safety

Refer to relevant Material Safety Data Sheet. Complete rolls should be handled by a minimum of two persons.

Storage

Dry conditions below +40°C. Store indoors or under cover on pallets. Do not double stack pallets.

PV™ 100 Tape

Self-adhesive, cold-applied, double-sided waterproofing tape for pre-applied membrane detailing and repair

Product Description

PV™ 100 Tape is a specially formulated, two-sided, reinforced, pressure-sensitive tape. The under-side of the tape has a highly-aggressive, pressure-sensitive adhesive which is designed to adhere to penetrations, protrusions and GCP waterproofing membranes. It is cold-applied with Contact-Adhesive Primer for detailing and repair of PV 100 pre-applied waterproofing membrane.

A thin flexible film is sandwiched between the two layers of pressure-sensitive adhesive. The tape develops a continuous, mechanical bond with the concrete that is cast against it.

Applications

For use as detailing and repair aids for PV100 pre-applied waterproofing membrane and other GCP waterproofing membranes.

- End lap, T-joint lap
- Inside and outside corner
- Repair
- Other applications

Product Advantages

- Excellent bond with membrane — Excellent bond between the tape and membrane with contact adhesive primer.
- Integrated waterproofing system — Fully integrated with cast concrete. The risk of water migration or leakage can be significantly reduced.
- Easy Installation — Easy to apply. Quick and simple installation with low equipment requirement.

Technical Services

For assistance with working drawings for projects and additional technical advice, please contact GCP Applied Technologies.

Quality Assurance

GCP Applied Technologies (China) Company Limited Ezhou Branch is the manufacturer of PV 100 Tape. GCP Applied Technologies (China) Company Limited Ezhou Branch is certified to ISO 9001 Quality Systems, ISO 14001 Environment Management Systems, and OHSAS 18001 Occupational Health and Safety Management Systems.

Supply

Thickness (Nominal)*	0.4mm
Roll size	80mm x 20m
Rolls per carton	16 rolls
Storage	Keep ventilated and dry. Avoid long-term storage above 40°C. Avoid exposure to rain.

Installation

Before applying Contact-Adhesive Primer on the particulate surface of PV 100 pre-applied waterproofing membrane, brush off all floating sands on end-lap area or repair area. Brush a thin layer of Contact-Adhesive Primer on the particulate surface of PV 100 pre-applied waterproofing membrane. When the primer is dry, unroll the tape and adhere to the membrane. Use heavy, hand pressure or a hand roller to maximise adhesion. Remove the release liner during application.

For advice on other applications, e.g. corner, pile, penetration or repair, please refer to detail drawings or contact GCP Technical Services.

PV 100 Tape is not designed to be exposed to direct sunlight. A piece of PV 100 membrane exceeding the tape area is to be installed to offer adequate protection against UV light. Contact GCP Technical Services for clarification when in doubt.

Health and Safety

Please refer to relevant Material Safety Data Sheet (MSDS).

gcpat.vn | For technical information: asia.enq@gcpat.com

Australia 1800 855 525 New Zealand +64 9 448 1146 China Mainland +86 21 3158 2888 Hong Kong +852 2675 7898

India +91 124 402 8972 Indonesia +62 21 893 4260 Japan +81 3 5226 0231 Korea +82 32 820 0800 Malaysia +60 3 9074 6133 Philippines +63 49 549 7373 Singapore +65 6265 3033 Thailand +66 2 709 4470 Vietnam +84 8 3710 6168

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