



**Proteus**  
Waterproofing

# COLD MELT® WATERPROOFING MANUAL



## 1. PRODUCT RANGE AND SYSTEM COMPONENTS

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### Reinforcing Preparation/Primers

**Pro-Prime® SA** is suitable for application on a variety of substrates, in order to give adhesion of the **Pro-Carrier Membrane SA**. Primer can be used on both horizontal and vertical surfaces.

**Pro-Epoxy Primer** is a two pack low viscosity epoxy primer used for metal surface preparation.

**Cold Melt® DPM** (Damp Proof Membrane) should only be used if the full application of **Pro-Carrier Membrane SA** be required when substrate has moisture greater than 75%RH. This product should only be used when recommended by Proteus Field Technicians.

Note: Once the **Pro-Carrier Membrane SA** has been installed, temporary waterproofing is achieved.

### System

**Cold Melt®** is a cold applied, two-part elastomeric polyurethane, waterproofing system. It's a tough and very flexible monolithic waterproofing membrane made from a special blend of rubber crumbs.

**Pro-Carrier Membrane SA** is a self-adhesive bituminous waterproofing membrane that forms a barrier against vapour and gases. Comprising a self-adhesive, low thickness bituminous compound which is self-protected by an aluminium film, it also features glass fibre and polyester reinforcement to provide excellent puncture resistance. It is applied to provide a reinforcing layer to all areas receiving the **Cold Melt®** application.

### Protection Coating

**Cold Melt® UV Top** is a roller applied polyurethane UV protection coating, only to be used if waterproofing membrane is exposed to sunlight/UV radiation.

**Pro-Anti Root** is a loose laid coated non-woven fabric with root inhibition additives. It is used as a protection sheet and root inhibitor beneath green roof system build-ups.

### Delivery and Storage

**Cold Melt®** is supplied in a 5, 10 or 15 kg unit (each unit comes with a pre sized catalyst). The storage life for the compound is 12 months – when stored off the ground in unopened packs in a dry store, under cover between 10°C and 30°C out of direct sunlight. Protect from frost.

### Membranes

The **Pro-Carrier Membrane SA** is delivered to site in rolls in a cardboard box bearing the product name and batch stickers. When removed from the pallet, the material must be stood on end on a flat level surface, under cover and away from exposure to the sun and away from heat sources. Mechanical damage must also be avoided.

### Primers

Product must be stored under cover on a flat, level and clean surface away from sources of direct heat and ignition, including pilot lights and sparks. Keep containers tightly closed when not in use.

## 2. TOOLS AND EQUIPMENT

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This is a basic list of tools and equipment and their operation necessary to install a **Cold Melt®** waterproofing system. Depending on the project, other tools and equipment may be required.

Additionally, these instructions are provided as recommended guidelines to follow to ensure proper performance of the equipment and successful installation of the membrane.

### Equipment

**Cold Melt®** loop roller sleeve

**Cold Melt®** loop roller cage

Impellor paddle

Slotted spatula

Notched blade



**Industrial Drill – Do not use a hand held or battery operated drill**



### Cutting Tools

Cutting tools, such as a fixed blade utility knife, eg Stanley knife, with both straight and hook blades.

Large scissors may also be required.

### Personal Protective Equipment

Gloves, overalls, goggles, masks and other personal protective equipment (PPE) will be required.

## 3. SYSTEM APPLICATION

### General

#### Working conditions

Apply when the substrate and ambient temperature is between +5°C and +30°C. Do not apply membrane if precipitation is expected. Product should be stored as instructed before use so its properties are not impaired.

#### Substrate preparation

For best results ensure that surfaces to be primed are free from oil or dust. Sweep clean where necessary. Apply **Pro-Prime® SA** by roller or brush at a rate of 5 -10m<sup>2</sup>/L (the change in colour will indicate the treated area).

Avoid puddling of the primer. Drying time will be affected by surface porosity, film thickness and temperature and can vary between 30-60 minutes. **Pro-Prime® SA** will remain tacky even after dry. To test, use the back of a glove or dry object to press into the primer and remove; there should be no transfer of primer when the primer is ready.

It is essential that sufficient drying time is allowed as any entrapment of solvent will result in blistering/delamination. Only prime areas that will be covered within 2-3 hours. Avoid walking over, as far as is practical, areas already primed.

## Installation

### Application

All surfaces on which **Pro-Carrier Membrane SA** have to be installed must be dry, clean and free of impurities. If the surface is porous, apply a coat of **Pro-Prime® SA** as per instructions. To achieve the best results always start by laying the rolls from the lowest point and work upwards, being careful not to create counter-gradient overlaps. The membrane must be overlapped at the edge by at least 6/8 cm and at least 15 cm at the ends. After installation, press the membrane well by hand, heavy broom or roller being very careful not to trap air pockets. The membrane features an outer polyester film and cannot therefore be exposed directly to the sun for prolonged periods.

Apply **Cold Melt®** immediately using the notched blade to the specified coverage rate. The use of a looped or spiked roller will reduce the appearance of trowel/squeegee marks.

Apply **Cold Melt®** to all prepared deck surfaces @ 2.5kg/mtr<sup>2</sup> and allow to cure. Vertical surfaces may require two coats @ 1.25kg/mtr<sup>2</sup> each. EXPOSED SURFACE (only). Apply one coat **Cold Melt® UV Top** 0.75kg/mtr<sup>2</sup>.

*Note: If the roof is to be insulated with **Proteus Pro-Therm Insulation XPS** inverted insulation, contact Proteus Waterproofing for further guidance.*



## 4. DETAIL WORK/PITCH POCKETS

For simple details, **Pro Prime SA** and **Pro-Carrier Membrane SA** are applied to substrate before application of **Cold Melt®**. For complex details, **Cold Melt®** pitch pocket detail is used.



### Pitch Pockets

Where there is an irregular shaped penetration through the roof structure, a pitch pocket detail can be used to achieve a watertight detail. Apply the **Cold Melt®** membrane up to the designated penetration detail. Install prefabricated sections of timber to create a former to the detail. Ensure there are no gaps between timber sections. Apply petroleum jelly to the inside surfaces of the timber former. When fully prepared, pour **Cold Melt®** membrane into the former. Apply in layers of 10mm thickness, until a satisfactory approved depth has been achieved. Where the pitch pocket detail is applied over a bolt head a minimum cover of 20mm of **Cold Melt®** must be achieved. Please ensure the former is a minimum of 50mm wider than the footprint of the penetration.

## 5. MIXING

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All materials are provided in pre-proportioned units. Mixing of part units is **not** recommended due to the possibility of proportional errors. Mixing the resin component is recommended before adding the hardener component. Mix both units together using a low speed impellor paddler for a minimum of two minutes or until a homogeneous mix is obtained and then decant the mixed material into a second mixing vessel and mix for a further minute.

*Note: Make sure the corners/sides of the bucket are clear. Any residue must not be used but poured or scraped into future **Cold Melt**® units to ensure all material is fully blended.*



## 6. OVER-COATING

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Over-coating must take place within 3 days. If the 3 day over-coating window is exceeded, dressed surfaces must have **Pro-Reactivation Primer** applied. Allow the **Pro-Reactivation Primer** to fully cure before proceeding.

## 7. APPLICATION

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For detailed areas, prime all surfaces to receive the waterproofing membrane.

### Upstands / Angle Changes

Pre-cut lengths of **Pro-Carrier Membrane SA** to the appropriate size to accommodate the upstand detail. Dress **Cold Melt**® membrane up the upstand using either a notched blade or a wooden trowel. Dress down onto the field area membrane a minimum of 200mm, ensuring a thorough bond is achieved.

Where terminating vertically, all upstands should be a minimum of 150mm above the finished roof level and should be mechanically restrained beneath a termination bar and suitably sealed.



### Cover Flashings

Pre-cut any chases prior to application of the system. Cut new 25mm deep chases in all masonry upstands. These should provide a minimum of 150mm upstand above the finished level of the roof. The new waterproofing is to finish flush with the bottom of the cut chase and mechanically restrained along the leading edge using a suitable termination bar or install the new flashing, dressing into the chases provided. Cut, joint and dress the new flashing neatly.

Temporarily secure the flashing and then point with a suitable sealant.

## Rainwater Outlets



Install a rainwater outlet of the required diameter prior to installation of the **Cold Melt**<sup>®</sup> membrane. Apply **Pro-Prime**<sup>®</sup> SA first, followed by **Pro-Carrier Membrane SA**, to the primed concrete surface ensuring a full bond. Dress the **Pro-Carrier Membrane SA** onto the membrane flange a minimum of 100mm. Please note; a slight water check could be created when dressing onto the membrane flange.

## Rooflights

Rooflights shall consist of a pre-fabricated timber, masonry or concrete upstand kerb. Apply the **Cold Melt**<sup>®</sup> membrane to the upstand kerb prior to installing the specified rooflight.

## Gutters

Internal gutters shall be waterproofed in the same manner as the main flat roof area, taking care to ensure all laps are fully sealed.

## Membrane Termination

The waterproofing system must be suitably terminated to the surrounding construction to prevent water penetration 'behind' the new waterproofing system.

Depending upon the nature of the installation and construction, the membrane should be protected with a 'Cover Flashing'. Alternatively, the membrane may be secured with a 'Termination Bar' which is then weatherproofed by pointing a suitable mastic sealant along the top edge between the construction and the Termination Bar.

The waterproofing should finish on the vertical a minimum of 150mm from the finished roof level, in accordance with 'BS 6229:2003 Flat roofs with continuously supported coverings code of practice'. In the case of roofs with paving or other coverings such as a green roof, the 150mm should be from the uppermost finished level, and not the level of the waterproofing.

## Flashings

Lead flashings should be installed in accordance with codes of practice and recommendations of the Lead Sheet Association. The flashings should provide sufficient coverage of the waterproofing, extending down a minimum of 75mm over the waterproofing system.

## Termination Bar

Depending on the method of installation and the type of termination bar used, the waterproofing membrane may first require mechanical restraint using a fixing bar. The termination bar is mechanically fastened to the wall at regular fixing centres. A suitable mastic sealant is applied behind the lip of the termination bar just prior to the final tightening of the fasteners. This provides a compression to the sealant ensuring that the detail is sufficiently weatherproof.

## 8. COMPLETION

### Quality Assurance

Please note, the validity and the extent of the Proteus warranty will only apply where **Cold Melt**<sup>®</sup> components and accessories (or products made by others approved by Proteus prior to commencement of works) have been used. Any alterations to agreed system specifications shall render any warranty offer null and void.

Furthermore, should the **Cold Melt**<sup>®</sup> system fail to be installed in accordance with the current guidelines (unless otherwise agreed), the warranty offer shall be rendered null and void.

### Integrity Testing

Upon completion of the **Cold Melt**<sup>®</sup> roof, it is the contractor's responsibility to arrange an independent non-destructive integrity test to ensure the roof system is 100% watertight.

If the independent report shows failure points, these should be repaired and the roof retested. The independent third-party report showing that the system is 100% watertight should be forwarded to Proteus Industrial Technologies Ltd when requesting a Proteus warranty.

### Hand-over

It is recommended that the roofing sub-contractor advises the main contractor or client when the roof area is 100% watertight and has received formal certification to that effect. The roofing sub-contractor should formally handover the designated roof area at this point. Subsequent damage sustained by the membrane after this point which is found to be a result of the main contractor's or client's activities should not be the responsibility of the roofing sub-contractor.





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