

# CHEMSPRAY™ 117 Clear Primer

Primer for CHEMSPRAY™ Protective Coatings and Membranes

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## Product Description

One-part, fast-drying, solvent-based, polyurea modified penetrating primer for concrete, masonry, steel and other substrates CHEMSPRAY™ 117 Clear Primer is designed specifically for use with all GCP CHEMSPRAY™ polyurea and hybrid polyurea coatings. It can also be used as primer for AQUAGARD™ M and ULTRAURE™ polyurethane protective coatings and membranes.

## Product Advantages

- Simple application – single pack, fast cure
- Strong physical adhesion to the substrate
- Low viscosity – high substrate penetration
- Promotes adhesion even in cold weather
- Primer is water-resistant and protects the structure in the event of interruption by wet weather
- Aid to minimizing outgassing effects of porous substrates

## Uses

CHEMSPRAY™ 117 Clear Primer is ideally suited as a fast-cure, penetrating primer for dry, sound cementitious substrates. It penetrates deeply into the substrate and is very effective at filling and sealing surface porosity in concrete, reducing or eliminating the occurrence of outgassing and membrane pinholes.

Very porous substrates, that would otherwise require the application of surface sealing fairing coatings, may be filled and sealed simply by the application of two or three coats of primer. CHEMSPRAY™ 117 Clear Primer can also be filled with fine, dry, quartz sand and used as a trowel applied surface filler for repairing large defects such as bug holes. When mixed with standard Portland cement, CHEMSPRAY™ 117 Clear Primer makes an effective repair compound for fine surface defects in concrete.

CHEMSPRAY™ 117 Clear Primer is also suitable for priming freshly blasted steel and other metals, in-situ concrete slabs, off-form concrete walls, pre-cast concrete panels, masonry walls, shotcrete, cement render, light weight aerated concrete and compressed fibre cement sheet.

## Features

CHEMSPRAY™ 117 Clear Primer contains no TDI, MOCA, bitumen or tar-based compounds. Being a solvented polyurea-based material, it has good resistance to humidity during application and forms a strong, well bonded surface that readily accepts our CHEMSPRAY™ membranes and protective coatings.

Fast drying properties allow application of primer in the morning followed by CHEMSPRAY™ membrane application throughout the most suitable time of day – late morning through to early evening, on the same day, when the substrate temperature is constant or decreasing.

## Surface Preparation

See project specific Application Method Statement for detailed requirements.

Generally, for concrete substrates use wet, wet-abrasive or dry- abrasive blasting to remove laitance etc. Patch defects using suitable high strength fairing compound.

Fill all joints, cracks, gaps and form angle fillets in internal corners or penetrations with SILCOR®LM PU sealant. Blast or mechanically clean steel substrates to a 70 to 90µm surface profile, or minimum Class 2.5 “white metal” profile.

## Application Equipment

CHEMSPRAY™ 117 Clear Primer is designed for application by brush, roller or air-less sprayer.

## Application Guidelines

### Substrate

Substrates must be clean, dry, free-of-curing compounds, oil, grease, solvent or other contaminants. Moisture content of concrete must be below 5%.

## Environmental Conditions

The following conditions must be achieved prior to and maintained during CHEMSPRAY™ 117 Clear Primer application.

## Typical Properties

|  |                     |       |
|--|---------------------|-------|
| Appearance                                     | Clear, brown liquid |       |
| Mix Ratio - Polyamine : Iso (by volume)        | Not applicable      |       |
| Viscosity (@ 25°C) - ASTM D2196                | 60 – 100            | mPa.s |
| Specific Gravity (@ 25°C) - ASTM D1475         | 0.95                | g/ml  |
| Recommended Substrate Application Temperatures | 5 - 60              | °C    |
| Tack Free Drying Time (@ 60% RH)               |                     |       |
| - @ 5°C Substrate Temperature                  | 6                   | hours |
| - @ 15°C Substrate Temperature                 | 3                   | hours |

|   |   |                   |
|---|---|-------------------|
| - @ 25 °C Substrate Temperature   | 2   | hours             |
| - @ 40 °C Substrate Temperature   | 1   | hours             |
| - @ 60 °C Substrate Temperature   | 0.3   | hours             |
| % Solids (v/v)  | 63.36   | %                 |
| VOC Content   | 348.1   | %                 |
| Typical Applied Rate per Coat   | 0.30  | kg/m <sup>2</sup> |
| Application Window<br>- Apply Chemspray membranes or additional primer within     | 6   | hours             |
| Hardness (minimum) - ASTM D2240   | 90  | Shore °A          |
| Water Absorption - (maximum, 23°C, 24 hours) - ASTM D471                          | 0.06  | %                 |
| Pull-Off Strength (minimum) - ASTM D4541  |   |                   |
| - Concrete (Dry) (Substrate Failure Occurred)                                     | 2.45  | MPa               |
| - Steel (90µm blast profile)  | 3.43  | MPa               |
| Lineal Shrinkage  | Negligible  |                   |
| Resistance to Weathering - ASTM G-23 (Type DH Weatherometer - 2000 hour exposure) | No chalking, blistering or flaking. Slight darkening of surface colouration, cracking and down glossing occurred. Fully protect against UV exposure using GCP Ultraure A-80 UV stable top coat. |                   |

## Application Equipment

Only apply primer to substrate that will be membrane coated within 6 hours. Apply CHEMSPRAY™ 117 Clear Primer to prepared substrate at an application rate of 0.3kg/m<sup>2</sup>. Allow to cure to a just touch dry finish. Do not apply more primer than is necessary. Do not allow primer to pond. Finish primed surface should have a pinhole free, satin finish (not glossy, not dry or flat).

For very porous substrates, dilute CHEMSPRAY™ 117 Clear Primer by up to 10% with xylene solvent. Apply one coat and allow to cure to a just touch dry finish. If pinholes and porosity have not sealed completely, re-apply primer until pinholes are sealed. Do not apply more primer than is necessary. Do not allow primer to pond. Finish primed surface should have a pinhole free, satin finish (not glossy, not dry or flat).

#### NOTE:

Any primed area not coated with membrane within 6 hours of application must be reactivated as follows:

- Thoroughly solvent wipe the primed surface with MULITEK™ Xylene.
- As soon as xylene has dried, re-prime with a light coat of CHEMSPRAY™ 117 Clear Primer at a rate of approximately 0.15kg/m<sup>2</sup>.
- Allow to cure to a just touch dry finish. Do not apply more primer than is necessary. Do not allow primer to pond. Finish primed surface should have a pinhole free, satin finish (not glossy, not dry or flat).
- Any applied primer that has not been re-primed within 72 hours of application, must be fully removed by diamond grinding and the substrate re-primed as detailed above.

## Clean-up

Clean up liquid leakage or spills before hardening occurs using solvents such as xylene, MEK or acetone. Fully-cured primer residues can be removed from metal components and equipment using NMP Hot Cleaner. However, this cleaner will swell or dissolve many polymers such as neoprene, butyl and Viton rubbers, fibre packings, etc. All plastic and rubber components must be removed before immersion in heated NMP Hot Cleaner. Fluorocarbon polymers such as Teflon are impervious and can be immersed if required. NMP Hot Cleaner cleans most effectively when heated to 80°C. It can be used cold, but will only dissolve residues extremely slowly.

## Storage

CHEMSPRAY™ 117 Clear Primer polyamine and isocyanate components should be stored between 15°C and 25°C. Drums must remain tightly sealed against moisture ingress. Under these storage conditions these materials will have a shelf life of 12 months. Storage at temperatures other than detailed can result in degradation and crystallisation in the drum, rendering the materials unusable. Ingress of humidity or water into the drums during storage or use will also make the materials unusable.

## Handling

Refer to CHEMSPRAY™ 117 Clear Primer Material Safety Data Sheet (MSDS). Operators must have full awareness of the material safety requirements before any work is undertaken. CHEMSPRAY™ 117 Clear Primer polyamine component is a mild irritant. Avoid contact with skin or eyes. CHEMSPRAY™ 117 Clear Primer isocyanate component contains methylenebisphenyl diisocyanate (MDI). It is an irritant and allergic sensitiser to skin and respiratory systems. Avoid contact with skin or eyes. Avoid breathing vapour or spray aerosol. Suitable organic vapour respirators or air-fed hoods must be worn during use. Other required PPE includes butyl or nitrile gloves, safety goggles or full-face shield, coveralls and chemical resistant safety boots.

## Coverage

Typical coverage rate for quality, well compacted concrete is 0.3kg/ m<sup>2</sup> (0.3 litres/m<sup>2</sup>). However, poor quality or poorly finished, porous concrete may require 3 or more primer applications to produce a well primed, pin hole free surface ready to receive CHEMSPRAY™ coatings.

## Product Risk

The CHEMSPRAY™ 117 Clear Primer system is not intended for use by other than experienced operators. The data herein requires experience and knowledge to attain correct interpretation and outcome. The user must undertake all relevant tests to determine the suitability for the intended application, as such determination of fitness of purpose for product use, is the sole responsibility of the purchaser.

## Packaging

CHEMSPRAY™ 117 Clear Primer 18kg pails

## Health and Safety

In case of spills and accidents, refer to the MSDS of the products or when in doubt contact your local GCP representative. Always wear protective clothing, gloves and protective goggles when handling chemical products. For full information, consult the relevant MSDS.

## Limitations

Information contained in this document does not cover all possible application scenarios or imply product suitability for an application. Please contact your local GCP representative or the GCP Technical Department for further information.

## Warranties

GCP and contractors recognised by GCP as experienced in the application of GCP products will provide warranties for individual projects. Warranty periods offered are dependent on project details and complexity. Requests for very long warranty periods may necessitate increased membrane thicknesses to ensure longevity. Contact your local GCP representative for further details.

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