

# Chemqua ECS

3-component, self-levelling, water thinnable epoxy  
cementitious floor screed mortar

## Product Description

Chemqua ECS is a 3-component self-leveling, odour-free, VOC-free water-based epoxy cementitious floor screed mortar.

## Storage Conditions/Shelf Life

12 months from the date of manufacturing if stored properly in undamaged seal packaging, at a temperature between 5°C-30°C. It should be kept in a cool, well-ventilated area, away from heat, direct sunlight, sparks and children.

## Uses

- As a temporary moisture barrier on new concrete
- As a levelling screed for chemtop and chemqua topcoats
- As a floor repair mortar
- Slabs without a damp proof membrane and a risk of rising moisture
- Places where chemical odour occurs during application are unacceptable especially in closed spaces

## Product Data

<b>Appearance / colour:</b>	Chemqua ECS [R] Resin:	White liquid
	Chemqua ECS [H] Hardener :	Clear liquid
	Aggregates:	White powder

## Salient Features

- Good adhesion to damp surfaces.
- VOC free, odourless
- Prevents blistering of resin based topcoats caused due to rising water..
- vapour from damp concrete
- Easy to apply and self levelling
- Water vapour permeable but impenetrable for liquids
- Can apply on wet concrete
- Outstanding bonding to wet and dry concrete
- Coefficient of expansion and contraction similar to concrete.

## Chemical Resistance

Property	Test Method	Value and Unit
Mixing Ratio	NA	Pre weighed kit
Pot Life @ 30°C	CPI 1002	30-35 minutes
Surface Dry	CPI 1002	4-5 hours
Hard Dry [Open for foot traffic]	CPI 1002	24 Hours
	CPI 1002	
Coverage for 2mm	CPI 1010	5-6 Sq.m area@ 2000 microns thickness

### Technical information

Property	Test Method	Value and Unit
Compressive strength	ASTM C 579	>540 Kg/cm <sup>2</sup> after 28 days
Flexural Strength	ASTM C 580	>140 Kg/cm <sup>2</sup> after 28 days
Tensile Strength	ASTM C 307	>80 Kg/cm <sup>2</sup> after 28 days
Pull off Adhesion test	ASTM D 4541	Concrete Failure@ 18/cm <sup>2</sup>
Abrasion Resistance[Taber]	ADTM D 4060	60 mg loss
Shore Hardness	ASTM D 2240	D 80
Vapour Permeability	ASTM: E96:90	15-20 gm/m <sup>2</sup> mm/24 hr
Shelf Life	ASTM: E96:90	12 months in original unopened Container when stored between 5- 40°C

## Method of Application

All Chemsol Products are recommended to be applied only by Approved Applicators and should be handled after using proper PPEs like Gloves, mask, goggles, etc.

## Application Conditions



**Substrate temperature: 10-40 °C**



**Substrate moisture content:** - Substrate moisture content: - It Can be applied on green or damp concrete provided there is no standing water/ponded water but it is recommended to wait for 72 hours after casting the cement so as to allow the concrete to shrink so that the cracks generated in concrete during shrinkage are not carried to the epoxy coating.



**Relative humidity: 80%max**

Note: The substrate temperature must be at least 30 °C above the prevalent dew point temperature to reduce chances of condensation on the floor.

## Substrate Quality

The concrete substrate must be sound and of sufficient compressive strength (minimum 200 Kg/cm<sup>2</sup>) with a minimum pull-off strength of 15 Kg/cm<sup>2</sup>. The substrate must be clean, dry, and free of all contaminants such as dirt, oil, grease, coatings, surface treatments, etc. If required, apply a test area first. In case the application is on green/damp concrete, ensure that there is no standing/ponding water on the surface.

## Substrate Preparation

All Chemsol Products are recommended to be applied only by Approved Applicators and should be used after using proper PPEs as Gloves, masks, goggles, etc.

## Substrate Quality

Concrete substrates must be prepared mechanically using abrasive blast cleaning, Scarifying or grinding equipment to remove cement laitance and achieve an open-textured surface. Remove weak concrete and expose surface defects such as blowholes and voids. Repairs to the substrate, filling of blowholes/voids, and surface levelling must be carried out using appropriate products. Ensure that the dust, loose and friable material is completely removed from all surfaces by brush and vacuum before application of the product.

The concrete substrate has to be primed or levelled with Chemqua Prime in order to achieve an even surface. Allow the primer to cure for 5-6 hours. After this, apply a screed coat of ChemQua ECS.

## Mixing

Stir the resin part mechanically. Add hardener to it and stir continuously for 2 minutes until a homogeneous mass is obtained. Add aggregates to this mixture and continue stirring for a further 3 minutes with a motorised helical paint stirrer until a uniform mix has been obtained. Overmixing must be avoided to minimise air entrainment. Note that the mixture has a stipulated pot life, hence the laying should immediately commence after mixing the contents.

## Cleaning of Tools

This system involves an epoxy cement hybrid chemistry; thus, it requires 28 days for full cure. However, due to the use of complex quick-set technology, it achieves 50% strength in 3 days and 90% strength in 7 days. The application of vapour permeable top coats can immediately be done after the surfaces are tack-free; however, for the application of vapour impermeable topcoats like Chemtop, Floorchem, Chemdeck, etc., you have to wait till the moisture content drops below 5. %The following schedule can be used as a guideline for the same

Temp.(deg C)	Wait time
10°C	48 hours
20°C	36 hours
30°C	36 hours

Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically.

## Packing

Chemqua ECS Resin, Hardener, and aggregates are available in a pre-weighed kit which covers a 5-6 sq m area with an approximate thickness of 2 mm.

## Handling & Safety

Keep the containers tightly sealed when not in use. Avoid skin contact and inhalation of fumes (if any). While spraying, it is advised to wear a mask. If it comes in contact with the body, wash affected parts with plenty of soap and water. In case of persistent irritation, contact a physician.

**Disclaimer:** The Information provided is based on our experience, thorough investigations & sophisticated testing methods, but due to the vast number of applications and usage methods, Chemsol Polymer Industries cannot accept responsibility of any kind for any particular result. It is the responsibility of the user to verify the suitability of the product for their end use and in accordance with the rules and regulations of that country /territory. All information provided pertaining to our products should be treated only as a guidance tool without any guarantee or warranty of any sort.

\* All CPI test methods are our scientifically designed internal test methods which can be shared upon request.

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