DATA SHEET

HYCHEM SF12

Fast cure Novolac epoxy coating with high chemical resistance

HYCHEM EPOXY SYSTEMS

HYCHEM SF12 is a 95% solids, fast cure epoxy coating with exceptional chemical resistance to acids, alkalies, oils, fats & solvents. Its rapid cure rate allows foot traffic within 5 hours and the product can be used at temperatures as low as 5°C. The low solvent, low odour content allows the product to be used in relatively confined spaces.

USE

HYCHEM SF12 is typically used as a top coat for epoxy toppings in the food & liquor industry. It is also recommended as a final seal coat for toppings exposed to acids and caustic solutions in bunded areas as well as areas exposed to solvent spillage & hot fats.

FEATURES AND BENEFITS

- Resistant to mineral acids, dilute organic acids, caustics & fats
- Cures at temperatures down to 5°C
- Light traffic within 5 hours when applied at or above 25°C
- High dft with good wear resistance
- Available in R9 to R13 anti-slip finish
- Available in wide colour range
- Convenient 2:1 volume mix ratio

TYPICAL APPLICATIONS

- Abattoirs, poultry and smallgoods industry
- Beverage manufacturing, beer, wine, juices and soft drinks
- Butchers and bakeries
- Chemical bunds & battery rooms
- Dairies and dairy products food manufacturers
- Fish markets
- Food service counters in fast food outlets & supermarkets
- Kitchens & bars in hotels and restaurants
- Margarine & oil products processors
- Snack food manufacturers and cereal processors

In fact, anywhere a quick curing, hard wearing concrete floor coating is required.

TYPICAL PHYSICAL PROPERTIES

Viscosity Resin	11,000 MPa's
Hardener	250 -300 MPa's
Specific Gravity Resin	1.40
Specific Gravity Hardener	1.04
Specific Gravity Mixed	1.3
Work time @ 20°C	20 minutes
Re-coat time @ 20°C	5 hours
Return to service	12 hours
Full chemical exposure	3 days
Mix Ratio	2:1
Volume solids	96%
Film thickness per coat	200–300 microns
Colour stability	Yellows on exposure
Slip Resistance ANZ4586:2004	R10-R13 dependant on anti-slip

CHEMICAL RESISTANCE

The chemical resistance of coatings can be determined from absorption based wt gain exposures to a range of key chemicals from which conclusions can be reached as to behavior against a wide range of similar generic materials. The table below shows results which indicate that HYCHEM SF12 has superior chemical resistance to conventional room temperature cure epoxy coatings. A value of 100 equals a an absorption of 3%.

CHEMICAL	HYCHEM SF12	
Xylene/Butanol	Good	60
20% Caustic soda	Unaffected	0
10% Acetic acid	Very good	35
20% Phosphoric acid	Very good	35
60% Sulphuric acid	Very good	25
16% Sodium hypochlorite	Unaffected	0

APPLICATION GUIDELINES

Surface Preparation

The existing surface needs to be free of fats, oils, curing agents, surface laitance and other recognisable contaminants. Shot blasting or diamond grinding are the preferred techniques. The finished, prepared surface must have a tensile shear strength capable of absorbing the shear stresses applied by the epoxy coating as a result of thermal movement. The German Standard DIN 1048 measures this property and a result of 1.5 MPa minimum is expected of a properly prepared surface.

MIXING & APPLICATION

Resin and hardener need to be mixed according to the ratios stated on the container labels. Mix only the quantity of product that can be applied within the work life of the product. The work life is temperature dependant and will halve with an increase of 10°C and double with a decrease of 10°C.

The mixed product is applied by roller, selection of roller is dependant on the type of finish required.

HYCHEM SF12 is available in neutral or ready pigmented. If neutral, a 750ml pigment pack needs to be added to the 5.4 litre resin pack prior to blending with the hardener. HYCHEM SF12 is applied by roller at a coverage rate of 3-6 sqm/litre depending on whether the surface has been trowelled, broadcast or is smooth. Anti-slip additive may be cast into the smooth coat as required. For broadcast methods, please refer to the technical data sheet for HYCHEM E300 SL or E300 SLF.

STANDARDS COMPLIANCE – AS/NZ 4586

HYCHEM SF 12 has been tested for its anti-slip properties against AS/NZ 4586. The classification for compliance depends on the quantity and size of anti-slip additive used on the surface. When tested using the ramp method, indicative results are:

HYCHEM SF 12

- With 100 mesh alumina added, yields a classification of R10
- With 80 mesh alumina added, yields a classification of R11
- With 46 mesh alumina added, yields a classification of R12
- With 24 mesh alumina added, yields a classification of R13

Comparitive values using the "on site" wet pendulum methods are given in the Handbook associated with the standard. HYCHEM SF12FG which contains alumina 100, yields a classification of "V" which is rated to be similar to R11 using the ramp method.

ENVIRONMENTAL HAZARDS & CONDITIONS

Low surface temperatures and high humidity can result in water condensation on the uncured surface. This results in a white film and is known as carbonation. Whilst this film is very thin and causes no chemical damage it can be unsightly on dark surfaces. Normal surface traffic will remove this film over time.

HYCHEM epoxy products are designed for maximum chemical resistance, all colour pigments are epoxy based. Whilst every effort is made to meet a customers colour requirement, the colour supplied does not purport to meet any recognised colour standard and it is the customers responsibility to ensure that the colour is suitable for the intended use. Within chemical environments, some colours may be adversely affected by chemical exposure, eg. Phosphoric acid and oxide based colours. Exposure to UV light will yellow high chemical resistant products. No guarantees as to colour stability can be given.

SAFETY PRECAUTIONS

- Wear gloves, eye protection and overalls during mixing and application.
- Ensure there is adequate ventilation and avoid breathing the vapour

PACKAGING

HYCHEM SF 12 is available in a 6 litre kit pigmented to colour, containing 6 litres of resin and 3 litres of hardener. It is also available as 5.5 litres of neutral resin and a 500ml colour packs.

WARNING – ENVIRONMENTAL CONDITIONS

Epoxy products are sensitive to the prevailing temperature and humidity at the time of application.

- High temperatures will shorten the pot life and application may become difficult due to insufficient time being available to lay the product.
- Low temperatures and high humidity will result in the epoxy reacting with moisture to produce a white powdery finish. The tendency to surface whiten depends on the hardener being used and is a common ocurrence at temperatures below 16 degC. The use of epoxy coatings below 10 degC is not recommended as this blooming effect can generally not be prevented at temperatures below this point.
- The white surface finish does not affect the structural strength and on site performance but can affect the adhesion of further surface coats.
- Chemical spillage of acids and sanitizing agents may attack the pigments used in the coating and result in discolouration.
- Differing epoxy products have differing resistance to chemicals, always ensure that the correct product is chosen for the service environment to be encountered.

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