

MAKCODE HS

High-Performance 100% Solvent Free Epoxy Floor Coating

Makcote HS is a multi component solvent-free epoxy resin high build coating which produces a slightly textured gloss finish.

Anti-slip grains are used to produce a non-slip finish. **Makcote HS** delivers great chemical and abrasion resistance.

Makcote HS is available in a range of colours by adding colour pots.

It is suitable for floors, walls, food and beverage production areas.

RECOMMENDED USES

- **Makcote HS** is a heavy duty, industrial/commercial coating for concrete floors that is appealing and easy to clean. Highly resistant to chemical attack and the action of forklifts and commercial type traffic.
- When used in conjunction with the appropriate slip resistant fillers, **Makcote HS** is suitable for use in wet areas where strict levels of hygiene and cleanliness are required or where chemicals are manufactured, spilled or are an integral part of the process.
- Used in the food and chemical industry, hospitals, schools, kitchens, high traffic applications and many other installations.
- The use of processed grades of quartz sand anti-slip grits are designed to make safe all types of working areas for staff.
- **Makcote HS** may be used without anti-slip grit (**Makcote F4/F6** Fillers) as a sealer on concrete floors, epoxy floor screeds or as a high-quality protective coating for banded

areas, coves and drains within production areas.

- **Makcote HS** with **Makrete M4/M6** Fillers can also be used as a slip resistant finish.
- As a finish coating in areas requiring seamless flooring and as a chemical protective coating of **Maklevel HD**.
- Suitable for showroom floors or areas where it will be exposed to high density traffic.
- Can be used in conjunction with vinyl/floor flakes (Consult **Makrete**).

FEATURES AND BENEFITS

- Long-lasting and easily maintained with good resistance to many industrial chemicals
- 100% Solids Epoxy
- Has excellent adhesion to most substrates including brick, masonry, concrete blocks, concrete compressed fibre board and stone
- Slip resistance improves safety for plant and personnel
- Provides an attractive gloss finish
- Resists mildew, mould and bacterial growth
- Withstands steam and chemical cleaning
- Non-taint
- Able to achieve R10-R13 depending on anti-slip grit used
- Solvent free, no odour during application
- Available in a range of colours by simply adding desired colour pack
- Provides a sanitary flow in Hospitals, Food Processing Industries, Kitchens, Aviation Hangers
- Abrasion and Chemical Resistance
- Australian Made and Australian Owned

APPLICATION INSTRUCTIONS SURFACE PREPARATION

It is essential that **Makcote HS** is applied to sound, clean dry substrates to achieve maximum adhesion between the floor coating and substrate.

The substrate should be free from all loose materials, old coatings, curing compounds, release agents, laitance, oil and grease should be removed by light grit blasting or grinding to achieve CSP profile of 2-3.

Remove dust and other debris by vacuum cleaning. Substrate moisture content should be <5%.

If moisture reading of concrete substrate is greater than 5% it is recommended that **Makproof Moisture Barrier** be used.

Steel trowel finished floors should be ground back to remove any contaminants to allow for a mechanical key to aid adhesion.

As **Makcote HS** is a relatively thin coating, the substrate must be fine textured. Any surface irregularities may show through causing excessive wear on high spots.

If surface preparation produces an excessively deep profile on the substrate, advice should be sought from **Makrete Building Solutions** Technical Department regarding suitable methods to produce a smooth and level substrate.

A 'scratch coat' of **Makcote Binder** and **Makcote Fillers** is often used to smooth out irregularities.

PRIMING

Makcote HS does not normally require priming. On very porous concrete an additional 3rd coat of **Makcote HS** may be required or the area may need to be primed with **Makrete Epoxy Binder**.

Nonporous substrates should be very lightly ground back to aid absorption and adhesion.

NEW CONCRETE FLOORS:

The concrete substrate should be at least 28 days old and give a moisture content reading not exceeding 5%. If substrate moisture reading is >5% consult **Makrete Building Solutions** for advice. The use of **Makproof Moisture Barrier** is recommended.

OLD CONCRETE FLOORS:

A sound, clean substrate is essential to achieve maximum adhesion. Light grit blasting or grinding should be carried out as for new concrete floors.

Depending on extent of the contamination, oil and grease penetration may be removed by hot compressed air treatment and primed with **Makcote Epoxy Binder**. Adhesion tests must be carried out to confirm sufficient preparation.

EPOXY SCREEDS:

Makcote HS may be applied to **Makrete's** epoxy resin screeds. High spots or trowel marks should be rubbed down and dust and other debris removed by vacuum cleaning.

Overcoating times are important and other preparation such as light sanding of the existing epoxy surface may be applicable - contact **Makrete Building Solutions** for advice.

MIXING

Stir the base and hardener components prior to mixing. Add 2 x 500g Colour Pots to the base component and mix thoroughly using a low-speed heavy duty electric drill and suitable spiral mixer for 1 minute. Add hardener component and mix for a further 3 minutes.

Do not add solvent to the mix.

Adding solvent can affect the cure and intercoat adhesion and is not required with this new formulation.

IMPORTANT:

Once mixed the product should be poured into flat, open paint trays to maximise pot life working time.

Holding the product in the original mixing can will lead to an exothermic reaction which will significantly reduce the pot life.

APPLICATION

1st Coat:

Following the required preparation, apply **Makcote HS** by brush or roller at a rate of 4 - 5 m²/litre.

When a slip resistant finish is required, the appropriate grit should be applied as soon as sufficient area has been coated.

The **Makrete M4/M6 Fillers** should be lightly and uniformly broadcast over the wet **Makcote HS**.

The size and distribution rate of the grit should be in accordance with that prior agreed to by the client or their representative. If any areas have lost their gloss, re-coat lightly before applying grit.

When the first coat has cured Makcote HS should be applied for application of total film thickness or 450-550 micron after 2 coats or 225-275 micron per coat.

Once cured, it is important that all loose grit can be removed by sweeping or vacuuming. It is also recommended that the first coat be solvent wiped to remove any contamination which could affect the intercoat adhesion of the second coat.

Makcote Thinners should be used for this, and cleaning rags changed frequently.

For wall applications the application rate is reduced to 100-150 micron to avoid sagging.

2nd Coat:

Mix the components as before and using a paint roller apply a coat over the grit. It is important that this final coat be uniform, but the exact rate of application may be varied to suit the finish required.

A heavy final coat will give an easily cleanable floor, but a light coat will give the best slip resistance in wet conditions. Brushes / rollers to be washed thoroughly at least once each hour, using **Makcote Thinners**.

Ensure all solvent is removed before reusing. Brushes / rollers to be discarded after use. At temperatures of 20°C - 30°C foot traffic may be permitted after 24 hours, and light vehicular traffic after 72 hours; however, in cold weather a longer period before use may be required.

Do not apply below 10°C.

Allow 5 - 7 days before subjecting to chemical attack or abrasion.

COLD SUBSTRATES AND COOL CLIMATE CONDITIONS

Makcote HS cure rates will be significantly reduced if substrate surface or ambient temperature is below 5°C.

If **Makcote HS** is applied in cold or cooler climate conditions, substrate temperatures can produce amine blush, resulting in an oily residue and/or areas of uncured tacky discoloration (usually off white or yellow).

Allowing the product to stand for approximately 5 – 10 minutes after mixing will assist in accelerating the drying reaction. This will assist in activating the chemical reaction.

Store **Makcote HS** in a 20°C environment 24 hours prior to use.

Always provide adequate ventilation during the curing cycle.

Exposure to water prior to full cure may result in a slight discolouration or white stain on the surface.

Do not apply to exterior applications exposed to direct sunlight.

Makcote HS should not be applied to any surface subject to hydrostatic pressure or back water pressure – this may result in delamination of coating.

LIMITATIONS

- Do not apply in low temperature below 10°C
- Do not apply in moisture or high humidity
- Do not apply in cold condition <10°C as the curing rate will be significantly affected
- Do not apply in elevated temperatures >35°C
- Do not dilute with solvents
- Do not use material that has thickened or showing signs of cure
- Epoxy may discolour in the presence of sunlight (a UV stable polyurethane coating is required if exposed to direct sunlight) – recommend **Makcote PU**
- Do not apply over concrete that has been treated with any curing compound

Care should be taken in selecting colours as some will darken and develop a brown tinge when exposed to sunlight or certain chemicals. This effect is noticeable on white, light coloured and grey systems; on brown, yellow and red colours it is less noticeable.

To protect the **Makcote HS** from discolouration add or apply 2 coats of **Makcote PU** over the cured surface.

Makcote HS is not recommended for exterior use where it is subject to sunlight or in applications involving prolonged chlorinated water immersion. Contact **Makrete Building Solutions** for detailed information.

Makcote HS should not be applied on to surfaces known to suffer from rising damp or having a moisture content reading greater than 5%.

Makcote HS should be applied only when the substrate temperature and the ambient temperature is above 10°C.

Makcote HS is not recommended as an application over tiles without appropriate surface preparation (Refer to **Makrete** Technical Department).

Makcote HS. Some solvents, including acetone and methylated spirits will significantly affect the curing and intercoat adhesion of epoxies.

EXPANSION JOINTS

Expansion joints in the existing concrete substrate must be retained or not filled in.

Makrete have a range of joint sealants specially designed for flooring. (Refer to **Makrete** Technical Department).

PACKAGING

Makcote HS is supplied in 20 Litre containers.

SHELF LIFE

Makcote HS has shelf life of 12 months if stored in the original sealed packaging in dry, low humid environments. Do not use if there are any lumps in the product.

CLEAN UP

Makcote HS should be removed from tools and equipment with clean water immediately after use. Hardened material can only be removed mechanically.

HEALTH AND SAFETY INFORMATION

Avoid contact with skin. Protective gloves and clothing are recommended when mixing or using this product. Please refer to full Safety

Data Sheet for this product, which is available from **Makrete Building Solutions**.

TECHNICAL SPECIFICATIONS - PERFORMANCE CHARACTERISTICS

Typical Properties	
Colour	Neutral Base (Colour packs are available)
Appearance	Beige flowable liquid
Finish	Gloss with a very light texture
Mixing Ratio	2:1 by volume Resin/Hardener (+ appropriate colour pack to suit kit size)
Volume Solids	100%
Weight Solids	100%
Dry Film Thickness (2 coat application)	400-500 microns
Pot Life	Approx. 45 mins @ 25°C
Service Temperature	< 60°C
Tack Free Time	5-8 hours @ 25°C
Specific Gravity	Approx. 1.05 (Clear) @ 25°C Approx. 1.15 (Coloured) @ 25°C with colour pot
Viscosity	Approx. 1000cps
Re-coat time	24 hours to 48 hours @ 10°C
Full cure	7 days @ 25°C
Foot traffic	24 hours @ 25°C
Vehicle traffic	72 hours @ 25°C
Compressive Strength	75 MPa
Flextural Strength	42 MPa
Tensile Strength	25 MPa
Coverage	4-5 m ² /Litre – First Coat 2-3m ² /Litre – Second Coat with the use of anti-slip grains Makrete M4/M6 Fillers

CHEMICAL RESISTANCE

Chemical	Concentration	Resistance
Toluene	100%	Excellent
Sulphuric Acid	30%	Excellent
Acetic Acid	5%	Excellent
Skydrol	100%	Excellent
Sodium Hydroxide	30%	Excellent
Sodium Chloride	100%	Excellent
Ammonia	20%	Excellent
Kerosene	100%	Excellent
Used Sump Oil	100%	Excellent
Petrol	100%	Excellent
Hydrochloric Acid	32%	Excellent
Lactic Acid	10%	Excellent
Vegetable Oils	100%	Excellent
Nitric Acid	25%	Good
Citric Acid	10%	Excellent
Acetic Acid	10%	Excellent
Phosphoric Acid	50%	Good
Bleach	5%	Excellent
Bleach	Concentrated	Poor

Resistant to a wide range of chemicals. Resistance to spillages (examples only).

Surface staining may result from exposure to some aggressive chemicals. Good housekeeping practice requires spills to be quickly removed and washed. All spills should be removed immediately. Any prolonged exposure may cause degradation of the coating.

CONTACT & TECHNICAL SUPPORT
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PRODUCT	MAKCODE HS
Issue Date	MAY 2023
Issue No:	1
Item Code	MAKC54 – Neutral MAKC55 – Koala Grey
Size	15 Litre Container

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time.

The TDS should be carefully read and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied.

Our responsibility for products sold is subject to our standard terms and conditions of sale. Makrete does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

The information and any recommendations relating to the application and end-use of all MAKRETE products are provided in good faith based on MAKRETE's knowledge and experience of the products. In applications, the differences in materials, and variances of substrates and actual site conditions can vary such that no warranty in respect of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be taken as inferred either from this information, or from any written recommendations, or from any other advice offered by MAKRETE. The proprietary rights of third parties must be observed. All orders are accepted subject to our sale terms and conditions.

It is recommended that all products be properly stored, handled and applied in accordance with the printed literature (TDS).

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.