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Technical Data Sheet

CROSpatch 340 HB
High Build Repair Mortar

CROSpatch 340 HB is a high build, high strength, polymer modified, fibre reinforced, and shrinkage compensated repair mortar.

Recommended Uses:

- Suitable for repairing concrete in horizontal, vertical, and overhead applications.
- Ideal for repairs requiring high compressive strength.
- Repairs to spalled or damaged concrete in buildings, bridges, and infrastructure.
- Suitable for high build applications, where it can be built to thicknesses up to 50mm for vertical applications, and 40mm for overhead applications.
- Can be wet sprayed, which allows for heavier builds of up to 100mm on vertical surfaces.

Advantages:

- **CROSpatch® 340 HB** is classified as Non-Hazardous with respect to Respirable Crystalline Silica (RCS) as it contains less than 0.1% RCS.
- Fibre reinforced to provide optimal strength and performance.
- Compatible with concrete strengths in the range of 30 – 50MPa. For a repair mortar compatible with concrete greater than 50MPa, use CROSpatch 370.
- High compressive strength – typically 50MPa.
- High Flexural Strength – typically greater than 8 MPa.
- Can achieve high build repairs in a single application, saving multiple applications.
- Shrinkage compensated, which will provide long term dimensional stability.
- Complies with AS4020:2018, suitable for use in potable water.
- Complies with AS1530.3:1999 for Ignitability Index (0), Flame Propagation Index (0), Heat Release Index (0) and Smoke Release Index (1).
- Polymer modified, which provides very good adhesion and low permeability to water, CO2 and chloride ions.
- Can be applied by wet spray process, providing higher builds compared to hand application.

Surface Preparation:

All surfaces must structurally sound, clean, and dry. Surface must be free from dust, dirt, wax, grease, asphalt, latex and gypsum compounds, adhesives, paint, curing and sealing compounds and other contaminants which may act as a bond breaker.
Any cracked or weakened surface should be removed and repaired to provide a solid foundation. It is recommended that for large areas a minimum depth of 10mm be prepared as to avoid excessive feather edging or skim coating. If required, cut all edges of the recess to be repaired with a concrete cutting tool, ensuring a straight edge where a minimum depth of 10mm is achieved.
If any corroded steel is present remove all loose scale and corrosion/rust deposits. Grit blasting is effective in removing corrosion, and all steel including re-bars should be cleaned to a bright condition. Immediately after cleaning steel, the steel should be treated with **CROSpatch® ZR Primer**. This will stop further oxidation and corrosion.

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Substrate Priming:

On a well prepared and roughened substrate a bonding primer is generally not required. Ensure the surface is saturated with water, but must be dry on the surface, with no presence of any residual surface water.
A bonding primer is required when trying to achieve improved build thickness. We recommend the use of CROSflow® Primer. Apply the primer to the surface, and before the primer dries, and whilst it is still tacky, apply **CROSpatch® 340 HB**. If the CROSflow® Primer dries before the mortar is applied, it is important that a fresh coat of primer be applied, and that the mortar be applied whilst it is still tacky.

Mixing:

1. **CROSpatch® 340 HB** must be mechanically mixed using a forced action high shear mixing paddle. Do NOT mix by hand, as this can have a significant impact on the consistency, application properties and ultimate strength of the product. Do NOT use a free fall mixer to mix this product.
2. We always recommend mixing only full bags of product. If part bags are to be used for small jobs, ensure the product and appropriate amount of water are weighed out using accurate scales, to maintain the proper mix ratio.
3. Place 3.0 – 3.4 litres of potable water per 20kg bag, into a clean appropriate mixer
4. Start mixer and add **CROSpatch® 340 HB** gradually while mixing.
5. After the addition of all the powder, continue mixing for 2-3 minutes to ensure proper activation of additives and optimal product performance.
6. Do Not add excess water – it will reduce strength, extend drying time and alter the application properties.

Placement:

Apply the mixed **CROSpatch® 340 HB** to the prepared substrate by gloved hand or trowel. First, work a thin layer of the mortar into the primer or pre-soaked substrate and then build the mortar on to this layer. Thoroughly compact the mortar into the prepared and primed substrate and around the exposed steel reinforcement and re-bars. A smooth surface can be obtained using a steel trowel. Ensure not to overwork the surface. **CROSpatch® 340 HB** can be applied in thickness up to 50mm on a vertical surface in a single application, or on an overhead surface up to 40mm in a single application. Thicker sections must be built up in layers, to avoid slumping. In some circumstances, higher builds can be achieved in a single application, depending on the configuration of reinforcing steel.

Building of multiple layers should be done by allowing the first layer to set (approx 5-6hrs), providing a scratch coat on the surface and then priming with CROSflow® Primer. Ensure the primer is still tacky when the additional layer is applied.

For spray applications, higher builds can be achieved. For additional information on spraying, contact Crosbe Technical Services.

Curing:

Curing should be conducted in accordance with good concreting practice. Crosbe recommend the use of a suitable curing compound, which needs to be compatible with any subsequent coating being applied over the mortar. Consult the supplier of the curing compound or contact Crosbe Technical Services if unsure.

Overcoating with decorative finishes:

CROSpatch® 340 HB is a very durable finish, designed to provide long term protection to the background substrate it has been applied to. In certain applications, a decorative coating will be required to provide an aesthetic finish to the overall area, including the repaired section. If any curing compounds were applied to aid in curing of the repair, these need to be removed first. Crosbe recommend the use any water-based coating systems, which are suitable to be used in the environment which they are being applied, and the preparation of the repaired section should be in line with normal concrete preparation methods. If in doubt, contact Crosbe Technical Services for additional advice.

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Temperature Considerations:

The mechanism of interaction between cement and water is temperature sensitive. The set time is delayed at low temperatures and is accelerated at high temperatures. To avoid significant change in setting times, the recommended water temperature, ambient and substrate temperature ranges are:
Water Temperature Range: 15 – 25˚C. Working with temperatures outside of this range will also impact the fluidity of the product.
Ambient Temperatures: Do not apply at a temperature less than 5˚C. For temperatures down to 5˚C it is suggested to use warm water (up to 25˚C) to help accelerate cure under these conditions. Above 30˚C, consider using cooled water (down to 15˚C) for mixing the product. Do not apply in temperatures above 35˚C.
Substrate Temperature: Do not apply onto a surface which has a temperature less than 5˚C or above 35˚C.

CROSpatch 340 HB - Product Data:

Property	Test Method		Result
Compressive Strength (MPa)	AS1478.2	24 Hours	20 - 24
		7 days	38 - 42
		28 days	50 - 54
Flexural Strength (MPa)	AS1012.11	28 days	>8
Setting Time (min)	AS1012.18	Initial Set	4 Hours
		Final Set	5 Hours
Fresh Wet Mix Density	AS1012.5		1750 kg/m^3
Drying Shrinkage	AS1478.2		< 600 Microstrains @ 28 days
Working Time (min)			30
Yield / 20 kg Bag with 3.2L Water			Approx. 13.3 Litres
20 kg bags Per Cubic Metre			75

The performance data is typical and based upon controlled laboratory conditions, with product mixed at 16% water. Actual performance on the job site may vary from these values based on actual site conditions.

Packaging:

20kg Polyethylene (PE) bags.

Shelf Life & Storage:

Shelf Life:
The shelf life of the product is 18 months from the date of manufacture, if stored indoors in accordance with recommended storage conditions.

Storage:
Store in dry conditions, in unopened and undamaged PE bags or Bulk Bags, and in temperatures below 30C. If stored in excessive temperature conditions, externally exposed to the elements or in high humidity conditions, the shelf life may be reduced.

Safety Data:

This product may cause irritation and an allergic reaction to the skin. It may cause serious eye injury and irritation to the respiratory system. In case of contact with the eyes rinse with running water (15 mins) including removal of contaminated clothing. Wear protective gloves, clothing, eye and face protection. Avoid inhaling dust/fume/gas/mist/vapours/spray. Ensure adequate ventilation during mixing and application. A class P2 dust mask is recommended for use when handling powdered material, and whilst grinding or scabbling floors. For detailed information, refer to the SDS for CROSpatch® 340 HB, available at www.crosbe.com.

Contact Crosbe:

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Important Notice:

A Safety Data Sheet (SDS) is available from the Crosbe website (crosbe.com). Please read the SDS carefully prior to using this product. In an emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia).

Product disclaimer:

Recommendations and advice regarding the use of this product are to be taken as a guide only. The manufacturer of this product and any of its affiliate companies cannot be held responsible for any loss or damage arising from the incorrect usage of this product. The use of this product is beyond the manufacturers control, and liability is restricted to the replacement of material should the product be proven faulty. The information contained herein is to the best of our knowledge, true and accurate. We reserve the right to update information without prior notice. No warranty is implied or given to its completeness or accuracy in describing the performance or suitability of the product for a particular application.