

Unimatch

Class R1 Colour Matched Cosmetic Repair Mortar

Product Overview

Rapid setting cosmetic grade, polymer modified cementitious repair mortar.

Description

UNIMATCH is a single component, cosmetic grade, polymer modified cementitious mortar suitable for the repair of damaged, honeycombed or spalled concrete. It is highly waterproof and exhibits good build characteristics. It can be used in vertical, overhead and other difficult areas of repair without the need for primers or support. Colour and texture matching is achieved by mixing Grey and White grades at different ratios using trial mixes. Coloured aggregates and concrete pigments can also be blended in.

Uses

Class R1 mortar, suitable for repair methods 3.1 as defined by EN 1504-3.

Advantages

- Pre-packaged material mixed with clean water on-site.
- No special primers are necessary.
- Grey & White grades can be blended for colour match.
- Coloured aggregates or pigments may also be added.
- Physical properties are similar to parent concrete.
- Low shrinkage and high bond strength ensure monolithic performance.
- Polymer modified to enhance adhesion.
- Low permeability gives protection from acid gases, moisture ingress and chlorides.
- Achieves rapid early strength development.
- Very low alkali content and chloride-free, negligible risk of alkali silica reactions.

Compliance

- UKCA & CE marked in accordance with EN 1504-3.

Application Instructions

Preparation

Mechanically remove all damaged concrete or failed repairs back to a sound core. Except in new construction, expose the full circumference of the steel reinforcement 25mm behind the bars and 50mm beyond visible corrosion.

On cutting back, feather edges must be avoided. Step the perimeter of the repair to a depth of 10mm preferably using a power chisel or by saw or disc cutting.

The areas to be repaired must be free from all unsound material including laitance dust, oil, grease, corrosion by-products and organic growth.

Smooth surfaces should be roughened and reinforcement cleaned to bright steel using wet grit blasting techniques or equivalent approved methods. Power tools such as a needle gun, angle grinder or wire brush may be used on concrete which is not chloride contaminated.

- The compressive strength of the parent concrete should be minimum 20 MPa.

The prepared substrate should be thoroughly soaked with clean water until uniformly saturated without any standing water.

Treatment of Steel Reinforcement

Treat exposed steel reinforcement with 2 x 1mm coats of **STEEL REINFORCEMENT PROTECTOR 841** applied by brush.

Priming of Concrete

UNIMATCH does not generally require a primer. Highly porous substrates may be primed with a **POLYMER ADMIXTURE 850** slurry coat.

Mixing

UNIMATCH should be mechanically mixed using a forced action pan mixer or in a clean drum using a slow speed drill and paddle. A normal concrete mixer is **NOT** suitable.

Mix with clean water in the ratio of 12-13% by weight or 5-6 parts to 1 part water by volume. Add powder to water to hand mix small quantities to produce a smooth consistency. Mix only sufficient material for use within the working life of the material. Do not attempt to re-mix by the addition of more water after completing the initial mixing.

- Note - These instructions must be adhered to as Flexcrete will not be responsible for failure due to incorrect mixing.

Placing

For small repairs and the initial layer (25mm maximum) of deep repairs, use the mortar as supplied to ensure maximum bond and protection.

Trowel the mortar firmly into place on the dampened surface in layer not exceeding 25mm. Allow to stiffen, typically for 4-5 minutes (dependent upon temperature and water content) before proceeding.

For deeper repairs in excess of 25mm, install in layers to minimise heat generation. Score the surface of each layer lightly and allow to cure for 25-30 minutes before applying subsequent layers.

Use a clean, damp trowel to trim the repair, cut arrises cut and achieve a high quality finish. If a texture finish is required, use either a steel spatula or a polystyrene block without dampening the patch repair.

Curing

Normal concreting procedures must be adhered to. Protect from strong sunlight and drying winds with **CURE-SEAL WB**, polythene sheeting, damp hessian or similar.

Limitations

Do not use **UNIMATCH** when the temperature is below 5°C and falling. Do not use **UNIMATCH** on waterproof concrete without referring to the Flexcrete Technical Department. Not suitable for use on trafficked areas.

Cleaning and Storage

- All tools should be cleaned with water immediately after use.
- **UNIMATCH** can be stored in sealed buckets for 12 months in dry, frost free conditions at 20°C.

Packaging

- **UNIMATCH** is supplied in 25kg plastic buckets.

Yield and Coverage

- 13.5 litres per 25kg.
- 25kg covers 1.35m² at 10mm thickness.

Health and Safety

- Safety Data Sheets are available on request.

Application Top Tips

1. Experiment with blends of Grey and White to provide a colour match before undertaking repairs.
2. Coloured aggregates and concrete pigments can also be used to colour match if required.
3. **DO NOT WET OUT OR PRIME** between layers.
4. For deeper repairs after placement of the initial 25mm as supplied, **UNIMATCH** can be bulked out with aggregates to give economy without affecting the monolithic performance of the repair
5. **DO NOT OVER TROWEL**. If the mortar begins to slump, allow to stabilise and refinish.
6. When finishing, trowel from centre out towards the perimeter working into the edges of the tie hole.
7. Due to the rapid setting nature, only mix as much material as can be used within the working life of the mortar.
8. Cold Weather Working (See separate Guide)
 - ≥3°C. on a rising thermometer.
 - ≥5°C. on a falling thermometer.
9. Hot Weather Working (See separate Guide)
 - Store material in cool conditions to maximise working life.
 - Shade applied material from strong sunlight.
 - Spray apply a second coat of **CURE-SEAL WB**.
 - If possible, avoid extreme temperatures by working at night.

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If the customer has any particular requirements it should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.

Technical Data

Property	Standard	EN 1504 R1 Requirement	Typical Result	
			Grey	White
Compressive Strength Development @ 20°C.	EN 12190	≥ 10 MPa @28 days	2 hours 15 MPa 24 hours 20 MPa 7 days 28 MPa 28 days 41 MPa	2 hours 9 MPa 24 hours 23 MPa 7 days 37 MPa 28 days 41 MPa
Adhesive Bond	EN 1542	≥ 0.8MPa	1.2 MPa	2 MPa
Flexural Strength	EN 196-1		Grey 6.5 MPa	White 8 MPa
Tensile Strength	BS 6319: 7		2.7 MPa	
Coefficient of Thermal Expansion	BS EN 1770	Declared Value	Grey 1.67 x 10 ⁻⁵ °C ⁻¹	White 1.36 x 10 ⁻⁵ °C ⁻¹
Water Permeability	BS 1882: Part 5		Grey 10 mins Zero 2 hours Zero	White 10 mins Zero 2 hours Zero
Mixed Density			2100 kg/m ³	
Mixed Colour			Grey or white	
Min Application Thickness Max Application Thickness			5mm 25mm per layer	
Min Application Temperature Max Application Temperature			5°C 35°C	
Working Life (approx.)			5 - 10 minutes at 20°C	
Reaction to Fire	EN 13501-1		Class F	

The properties given above are obtained from laboratory tests: results obtained from on-site testing may vary according to site conditions.

