



Terraroc[®]

Concrete Repair Range



Concrete Repair Products

The House of Scandinavian Finishing Materials

Terraroc™

Performance dry-mix products developed for use in a wide range of concrete repair applications.

The Terraco Group with its Swedish roots was established in 1980 and is today a leading producer of an extensive range of environmentally friendly quality finishing products for the construction industry.

Terraroc™ Concrete Repair Range is designed to repair and reface concrete. These shrinkage-compensated concrete repair compounds are produced to the strictest quality standards ensuring uncompromising performance in the most demanding applications.

The Terraroc grades consist of:

- Medium build and high build concrete repair mortars
- High performance micro-concrete repair mortars
- High strength structural repair mortars
- Finishing renders
- Non-shrink cementitious grouts

Concrete Repair Range

Concrete repair compounds

Terraroc MBR



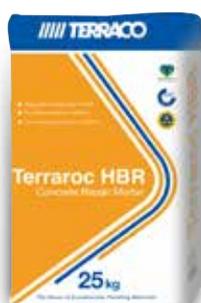
Medium build, shrinkage compensated, **concrete repair mortar** for the permanent repair of concrete.

- For concrete repair.
- Trowel applied, but is also sprayable enabling fast repairs.
- Recommended for medium-build repair work in a single application of up to:

Vertical surfaces	10-50mm
Overhead applications	10-30mm
- Should not be applied in layers of less than 10mm.



Terraroc HBR



High build, polymer modified, **concrete repair compound** with fibre reinforcement ensuring high flexural strength.

- For concrete repair.
- Trowel applied, but is also sprayable enabling fast repairs.
- Recommended for extra high-build repair work in a single application of up to:

Vertical surfaces	15-80mm
Overhead applications	15-40mm
- Should not be applied in layers of less than 15mm.



Terraroc MC



High performance, shrinkage compensated, **micro-concrete repair compound** which is poured in thicknesses in excess of 40mm.

- For partial or total replacement of deteriorated concrete.
- Poured application making it excellent for congested areas where steel reinforcements make access difficult.
- Used to repair columns, beams, parapets and other concrete elements.



Concrete repair compounds

Terraroc PMR



High strength, **polymer modified**, and shrinkage compensated, **structural repair mortar** suitable for repairing all types of concrete.

- For structural concrete repair.
- Trowel applied, but is also sprayable enabling fast repairs.
- Recommended for high-build repair work in a single application of up to:

Vertical surfaces	10-50mm
Overhead applications	10-30mm
- Should not be applied in layers of less than 10mm.



Terraroc FMR



High strength, shrinkage compensated, **structural repair mortar with fibre reinforcement**, suitable for repairing all types of concrete.

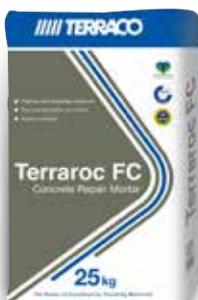
- For high build structural concrete repair.
- Trowel applied, but is also sprayable enabling fast repairs.
- Recommended for extra high-build repair work in a single application of up to:

Vertical surfaces	10-75mm
Overhead applications	10-50mm
- Should not be applied in layers of less than 10mm.



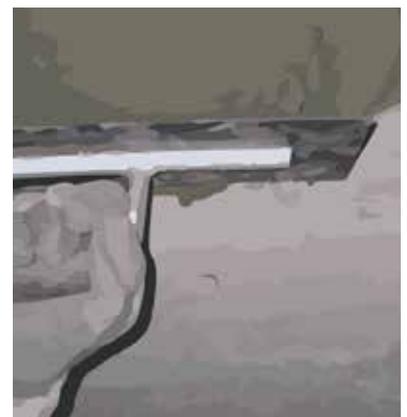
Finish coat

Terraroc FC



Finishing coat rendering compound to reface concrete after repair.

- Used as the final coat in the Terraco concrete repair system.
- Can also be used independently as a thin coat render on concrete from 0.5mm up to 3mm.



Non-shrink grout

Terraroc NS100



A general purpose cementitious non-shrink grout designed for narrow void grouting, flow screeds and anchoring of a wide variety of fixings. Its non-shrink and free flowing properties are ideally suited for ramming, pumping, or pouring.

Terraroc NS 100 is designed for use in the following areas:

- Narrowing void grouting (flowable state);
- Grouting of anchor bolts for steel columns and manholes;
- Installation of fencing, boundary or sign posts;
- Where grouting of between 10 to 100mm is required;
- Concrete floor repairs and screeds;
- Precast concrete;
- Machine and pump plinths.



Other products (used in the Terraroc System)

Epiprime ZR



A high performance anti-corrosion 2-component primer based on metallic zinc which gives maximum corrosion protection to steel reinforcement bars in concrete.

- Suitable for use as a primer in both maintenance and new construction.
- Can also be used as a primer for bridges and structural steel work.



Terrabond A



Highly concentrated bonding agent.

- For pre-treatment of porous, but firm, surfaces of concrete as an adhesion promoting and sealing agent.



Terraroc Concrete Repair Systems

As a general guideline the following steps are taken when repairing concrete using the Terraroc Concrete Repair System for:

A. Concrete repairs - Terraroc MBR, Terraroc HBR

1. Remove all defective concrete back to reinforcements.
2. Do not apply at temperatures below 5°C.
3. Treat reinforcements with Epiprime ZR.
4. The repair area should be a minimum depth of 10mm (MBR) / 15mm (HBR)
5. Avoid feather edging.
6. Thoroughly wet surface with clean water and apply a coat of Terrabond A by scrubbing it well into the surface to improve adhesion even further.
7. Allow surface to become tacky before applying the suitable Terraroc concrete repair compound (MBR / HBR) by steel trowel / spray.
8. Where very thick sections are required, allow the initial layer of Terraroc concrete repair compound to set, scratch the surface to provide a mechanical key and prime with Terrabond A before applying the next layer of Terraroc concrete repair compound.
9. Finish / reface the repaired surface with Terraroc FC up to 3mm using a steel trowel once the Terraroc concrete repair compound has been allowed to cure.

B. Replacement of deteriorated concrete - Terraroc MC

1. Remove all defective concrete back to reinforcements.
2. Do not apply at temperatures below 5°C.
3. Treat reinforcements with Epiprime ZR.
4. Place form-work and treat with suitable release mould agent.
5. The substrate must be saturated with water several times before Terraroc MC is poured.
6. Ensure all excess water is removed before pouring.
7. Avoid feather edging.
8. Terraroc MC should be placed within 30 minutes of mixing.
9. Cure according to normal concrete practice.
10. Form-work can be removed when strength has reached approximately 10 N/mm².
11. Finish / reface the repaired surface with Terraroc FC up to 3mm using a steel trowel once the Terraroc concrete repair compound has been allowed to cure.

C. Structural repairs – Terraroc PMR, Terraroc FMR

1. Remove all defective concrete back to reinforcements.
2. Do not apply at temperatures below 5°C.
3. Treat reinforcements with Epiprime ZR.
4. The repair area should be a minimum depth of 10mm.
5. Avoid feather edging.
6. Thoroughly wet surface with clean water and apply a coat of Terrabond A by scrubbing it well into the surface to improve adhesion even further.
7. Allow surface to become tacky before applying the suitable Terraroc concrete structural repair compound (PMR / FMR) by steel trowel / spray.
8. Where very thick sections are required, allow the initial layer of Terraroc concrete structural repair compound to set, scratch the surface to provide a mechanical key and prime with Terrabond A before applying the next layer of Terraroc concrete structural repair compound.
9. Finish / reface the repaired surface with Terraroc FC up to 3mm using a steel trowel once the Terraroc concrete repair compound has been allowed to cure.

D. Non-shrink grout – Terraroc NS 100

1. Ensure adequate labour is at hand to have continuous mixing and placing of Terraroc NS 100.
2. Remove excess water from substrate if saturated with water, and if temperature is above 33°C place grout immediately after mixing.
3. When grout is partially set, trim edges and float to desired finish.

Bulking of Terraroc NS 100 for floor screeds:

- a. For screeds of between 20 – 50mm, Terraroc NS 100 can be bulked using clean silica sand (0.6 – 1.2mm) at a mixing ratio of 1:1.
- b. For screeds above 50mm, Terraroc NS 100 can be bulked with clean 10mm graded stone at the ratio of 1:1.
- c. The stone size should never exceed one third of final thickness of floor.
- d. When bulking with silica aggregate or stone the quantity of water required will be between 9% and 10% (4.5 - 5.0 L per 50 kg mix).

Curing

Keep surface damp and covered with plastic sheeting or damp hessian cloth. The surface can also be kept damp with a fine water spray. The curing must be continuous for 3 days.

Care must be taken where grout is covered by hessian cloth or plastic, ensure that these surfaces are kept damp. On exposed vertical surfaces a curing compound can be applied.

Technical Information

Technical Data	Terracoc MBR Medium Build	Terracoc HBR High Build	Terracoc MC Micro Repair Compound	Terracoc PMR Structural - Polymer Modified	Terracoc FMR Structural - Fibre Modified	Terracoc FC Finish Coat	Terracoc NS 100 Non-shrink Grout
Colour	Grey	Grey	Grey	Grey	Grey	Grey and White	Grey
Compressive Strength	7 days: 18 N/mm ² 28 days: >25 N/mm ²	7 days: 30 N/mm ² 28 days: >30 N/mm ²	7 days: 45 N/mm ² 28 days: >55 N/mm ²	7 days: 45 N/mm ² 28 days: >44 N/mm ²	7 days: 50 N/mm ² 28 days: >50 N/mm ²	n/a	1 day: 25 N/mm ² 7 days: 53.5 N/mm ² 28 days: >50 N/mm ²
Flexural Strength	28 days: >5 N/mm ²	28 days: >4 N/mm ²	28 days: >9 N/mm ²	28 days: >8 N/mm ²	28 days: >7 N/mm ²	n/a	7 days: 7.3 N/mm ² 28 days: >7 N/mm ²
Tensile Strength	28 days: 2 N/mm ²	0.76 N/mm ² Con A	1.26 N/mm ² Con A 0.60 N/mm ² Con B 1.49 N/mm ² Con C	1.62 N/mm ² Con A 1.64 N/mm ² Con B 2.00 N/mm ² Con C	28 days: 6 N/mm ²	n/a	n/a
Set Time	Initial: 2 hours Final: 4 hours 30 min	Initial: 3 hours Final: 5 hours 30 min	Initial: 5 hours Final: 8 hours 30 min	Initial: 3 hours Final: 5 hours	Initial: 3 hours Final: 5 hours	1-2 hours	Initial: 5 hours Final: 8 hours BS EN 196-3-95
Wet density	2000 kg.m ³	2100 kg.m ³	2250 kg.m ³	2000 kg.m ³	2120 kg.m ³	n/a	2320 kg/m ³ 80 x bags Terracoc NS 100 will yield 1m ³
Water demand	18% 4.5Lt water / 25kg bag	19% 4.75Lt water / 25kg bag	13% 3.25Lt water / 25kg bag	15% 3.75Lt water / 25kg bag	20% 5Lt water / 25kg bag	26% to 28% 6.5-7Lt water / 25kg bag	12% to 13% 3-3.25Lt water / 25kg bag
Application thickness	Vertical: 10-50mm Overhead: 10-30mm	Vertical: 15-80mm Overhead: 15-40mm	>40mm	Vertical: 10-50mm Overhead: 10-30mm	Vertical: 10-75mm Overhead: 10-50mm	0.5-3.0mm	n/a
Expansion characteristics	n/a	n/a	n/a	n/a	n/a	n/a	Controlled expansion will occur in the unset material to ensure that the grout when cured will continue to occupy the original volume within the confines of the void in which it is placed. ASTM 940
Application method	Trowel / Spray	Trowel / Spray	Poured	Trowel / Spray	Trowel	Trowel	Poured / Trowel
Consumption rate	1.9kg/m ² /mm	1.8kg/m ² /mm	2.1kg/m ² /mm	1.9kg/m ² /mm	1.9kg/m ² /mm	1.5kg/m ² /mm	2.2kg/m ² /mm
Yield	25kg powder + 4.5Lt water gives appx. 13.5Lt mix	25kg powder + 4.75Lt water gives appx. 14Lt mix	25kg powder + 3.2Lt water gives appx. 12.5Lt mix	25kg powder + 3.75Lt water gives appx. 13.5Lt mix	25kg powder + 5Lt water gives appx. 13.5Lt mix	25kg powder + 6.5Lt water gives appx. 17Lt mix	25kg powder + 3Lt water gives appx. 11.5Lt mix
Packaging	25kg Paper bags	25kg Paper bags	25kg Paper bags	25kg Paper bags	25kg Paper bags	25kg Paper bags	25kg Paper bags
Storage (in unopened container)	12 months	12 months	12 months	12 months	12 months	12 months	12 months



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