



constructive solutions

# Fosroc Renderoc LA80

**Single component free-flowing low alkali, high strength micro-concrete**

## Uses

The fluid nature of Renderoc LA80 obviates the need for compaction and vibration even where access to the repair zone is restricted or where reinforcement is congested. The product is ideal for the reinstatement of large, structural sections of concrete as well as for many smaller locations where difficulties of access make hand or trowel-applied mortars impractical.

## Advantages

- Dual expansion system compensates for shrinkage in the plastic and hardened states.
- Low alkali content minimises risk of alkali-silica reaction.
- Exceptional bond to concrete substrates without independent primer.
- Suitable for placement by pumping or pouring techniques into restricted locations.
- Self-compacting nature eliminates honeycombing and displaces air without vibration.
- High strength and low permeability provide maximum protection against carbon dioxide and chlorides.
- Pre-bagged to overcome site-batched variations - only the site addition of clean water is required.
- Contains no chloride admixtures.

## Description

Renderoc LA80 is supplied as a ready to use blend of dry powders which requires only the site addition of clean water to produce a free-flowing, shrinkage compensated, high strength micro-concrete suitable for large volume concrete repairs at nominal thicknesses in excess of 50mm. The material is based on Portland cement, graded aggregates and additives which impart controlled expansion in both the plastic and hardened states.

## Design criteria

Renderoc LA80 is designed for large volume repairs typically in excess of 50 mm deep. The product can be applied in sections generally up to 150 mm thick although greater thicknesses may be achievable dependent on the configuration of the repair location and the volume of exposed reinforcing steel. Consult the local Fosroc office for further information.

## Properties

The following results were obtained at a water:powder ratio of 0.140 and temperature of 25°C.

Test method	Typical result
<b>Flow properties</b> (UK Dept of Transport BD 27/86 Clause 4.6 [b]):	500 mm within 10 seconds
<b>Setting time (BS 4550)</b> Initial:	7 hrs 30 minutes at 25°C
Final:	10 hours at 25°C
<b>Compressive strength</b> (BS 1881 Pt 116-restrained):	55N/mm <sup>2</sup> @ 3 days 70N/mm <sup>2</sup> @ 7 days 80N/mm <sup>2</sup> @ 28 days >80N/mm <sup>2</sup> @ 56 days
<b>Water absorption ISAT</b> (BS 1881 Pt 5:1970) 10 minutes:	0.0120 ml/m <sup>2</sup> /sec.
2 hours:	0.0012 ml/m <sup>2</sup> /sec.
<b>Coefficient of thermal expansion:</b>	10 to 12 x10 <sup>-6</sup> /°C
<b>Modulus of elasticity</b> (BS 1881 Pt 121:1983 cylinders cast under restraint and wet-cured):	32 kN/mm <sup>2</sup> at 28 days
<b>Bond strength (BS 6319 slant/shear - substrate pre-soaked, non bonding aid):</b>	60 N/mm <sup>2</sup> at 28 days
<b>Alkali content:</b>	The calculated equivalent sodium oxide content of Renderoc LA80 is approximately 2.5 kg/m <sup>3</sup>
<b>Fresh wet density:</b>	Approximately 2480 kg/m <sup>3</sup> dependent on actual consistency used.
<b>Flexural Strength:</b> BS6319 Part 3:1983:	3 days @ 6.5 N/mm <sup>2</sup> 7 days @ 9.0 N/mm <sup>2</sup> 28 days @ 12.5 N/mm <sup>2</sup>

## Specification clauses

### Fluid micro-concrete repair system

The fluid repair system (micro-concrete) shall be Renderoc LA80, a single component, low-alkali cement-based blend of powders to which only the site-addition of clean water shall be permitted. The micro-concrete shall exhibit a 3 day compressive strength not less than 45 N/mm<sup>2</sup> and a 28 days compressive strength of 80 N/mm<sup>2</sup> (at 25°C).

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## Application instructions

### Mixing

It is essential that machine mixing capacity and labour availability is adequate to enable the placing operation to be carried out continuously. Measure 3.5 litres of drinking quality water and pour three-quarters into the mixer. With the machine in operation, add one full 25 kg bag of Renderoc LA80 and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes until a smooth even consistency is obtained. Note that powder must always be added to water. The quantities mixed may be scaled up as required.

When the drill and paddle mixing method is used, the complete 3.5 litres of water should be placed in the mixing drum. With the paddle rotating, add one full 25 kg bag of Renderoc LA80 and mix for 2 to 3 minutes or until a smooth even consistency is obtained.

Refer to your local Fosroc office for detailed method statement specifying surface preparation, priming, mixing, application and cleaning methods..

### Limitations

Renderoc LA80 should not be used when the temperature is below 5°C and falling. Do not mix part bags. The product should not be used to reinstate horizontal areas where the surface would remain unrestrained during cure. It should not be exposed to moving water during application. If any doubts arise concerning temperature, application or substrate conditions, consult the local Fosroc Office.

### Estimating

#### Supply

Renderoc LA80:	25 kg bags
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#### Coverage

Renderoc LA80:	Approx. 12.0 litres/25 kg bag
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**Note:** The coverage figures for liquid products are theoretical - due to wastage factors and the variety and nature of possible substrate, practical coverage figures will be reduced.

## Storage

### Shelf life

Renderoc LA80 has a shelf life is 12 months if kept in dry store in the original, unopened bag.

### Storage conditions

Store in dry conditions in the original, unopened bags or packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced to 4 to 6 months.

## Precautions

### Health and safety

Renderoc LA80 contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately - do not induce vomiting.

### Fire

Renderoc LA80 is non-flammable.

## Additional information

Fosroc manufactures a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete. This includes hand-placed and spray grade repair mortars, fluid micro-concretes, chemical resistant epoxy mortars and a comprehensive package of protective coatings. In addition, a wide range of complementary products is available. This includes joint sealants, waterproofing membranes, and grouting, anchoring and specialised flooring materials.



### Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the recent version.**

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