

# MasterFill ER 1311

Structural low viscosity epoxy crack injection system

## Material Description

MasterFill ER 1311 is a two component Solvent free ultra low viscosity epoxy liquid adhesive for pressure injection grouting. It is used for structural injection and grouting repairs, general concrete repairs, as a primer for porous concrete or as a sealer for floor toppings

## Areas of Application

- Structurally re-bonding cracked concrete sections.
- Filling porous or honeycombed concrete or grout.
- Anchoring bolts, dowels and reinforcing bars.
- Grouting areas pre-packed with aggregate to form bearing supports.

## Characteristics and Benefits

- Ultra-low viscosity - ensures deep penetration into narrow cracks.
- Unique surface tension - promotes capillary action for self-injection into fine cracks.
- High tensile strength - provides strong, durable repairs.
- Excellent bond strength - ensures reliable adhesion to structural substrates.
- Deep crack penetration - effectively repairs even the narrowest cracks.
- Self-injection action - reduces the need for manual pressure during application.
- Long-lasting structural repairs - enhances durability and performance.
- Suitable for critical repair work in demanding conditions.

## Properties

Mixed resin and hardener technical characteristics	
Compressive Strength ISO 604	105 MPa @ 7 days
Flexural Strength ISO 178	95 MPa @ 7 days
Tensile Strength ISO 527	60 MPa @ 7 days
Elongation ASTM D638	10% (average)
Bond Strength	2.7 MPa (due to concrete failure)
E-Modulus	1.4 GPa
Water Absorption	0.7%

Application Properties	Results
Mixing Ratio	1 part Part A : 3 part Part B
Solid Content	100%
Viscosity	100 MPa.s @25°C
Pot life	60 minutes @ 25°C
Full Cure	24 hours @ 25°C
Recommended crack width (mm)	≥0.2mm

## Application

For detailed application methodology, please refer to "Epoxy Crack repair and injection- MasterFill ER systems" application guide.

## Preparation

Evaluate joint or crack for injection. Drill holes either side of the crack, sloping towards the crack at an angle of approximately 45°, beginning at a distance of 120 - 150mm from the crack. Insert packer at a depth of approximately 100mm. If using surface mounted packers place them over the prepared crack using and approved epoxy paste.

The spacing of the packers will vary depending on the crack.

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## Mixing

MasterFill ER 1311 is supplied in precisely proportioned packaging ready for mixing. It is critical to the successful use of this product that part portions are not mixed. Add the two components together being sure to add the complete proportion of Part B to Part A. Mix together using a slow speed mixer (400rpm) for at least 3 minutes or until a uniform mixture is achieved.

## Application

Commence from the widest part of the crack and proceed injecting outwards along the crack in each direction.

Turn on pump and slowly increase pressure to a maximum of 10 - 15 bar. Stop pumping for every litre injected and allow 1 - 2 minutes for reaction. Start and stop injection until the packer will no longer accept material or if the specified pressure has been reached. Move to the next packer and repeat injection process. Continue injection until crack is full and has been adequately sealed. Monitor the effectiveness of the work and allow to settle for 2 - 3 days before returning to site and completing additional injection if required.

## Estimating Data

As bonding primer: 4-8 m<sup>2</sup> per litre (as kit)

As Crack injection system: 20 Lm x 0.5mm x 100mm per litre

## Packaging

MasterStrength ER 1311 is available in 2 & 20 litre kits:

20LT Kit	
Part A	15 litres
Part B	5 litres
2LT Kit	
Part A	1.5 litres
Part B	0.5 litres

## Storage & Shelf Life

Store in cool and dry warehouse conditions. Shelf life in these conditions is 12 months in unopened original bags. Precautions For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Safety Data Sheet (SDS) from our office or website.

## Specification Clause

A two component solvent free ultra low viscosity epoxy liquid adhesive for pressure injection grouting.

The suitable product meets the technical performance requirement in Properties section of this document.

MasterFill ER 1311 from Master Builders Solutions or equivalent can be used as the suitable product.

# MasterFill ER I311

Structural low viscosity epoxy crack injection system

## Disclaimer

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### STATEMENT OF RESPONSIBILITY

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