



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

## Epicon Injection Resin Data Sheet

### Specification notes

Product: **Epicon Injection Resin**

Supplier:

**Arcon Construction Supplies**

**19-20 Prestwood Court**

**Leacroft Road**

**Warrington**

**WA3 6SB**

Tel: **01925 852225**

Email: [mail@arconsupplies.co.uk](mailto:mail@arconsupplies.co.uk)

Web: [www.arconsupplies.co.uk](http://www.arconsupplies.co.uk)

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# Epicon Crack Injection System



## Nufins

### Epoxide Resin Crack Injection System

#### Description

A solvent free epoxide crack injection resin available in either a low viscosity grade where maximum penetration is essential or a thixotropic grade for use where maximum flow is undesirable. Suitable for injecting cracks in concrete, masonry and brickwork to consolidate the structural element and eliminate water penetration. Epicon Crack Injection is designed to comply with the requirements of EN1504 Part 5.

#### Advantages

- Solvent free non-shrink system.
- Excellent bond strength with in-built flexibility.
- Suitable for use on damp structures.
- Available in two grades to cover most applications.
- Injection kit available to allow repairs to be completed quickly and simply.
- Will penetrate gaps of width 0.2mm and above.
- Excellent performance in harsh environments.
- Good chemical and water resistance.
- Thixotropic grade is suitable for vertical cracks and can be used in inverted situations, where access is limited.
- Complies with the requirements of EN1504 Part 5.

#### Technical Information

	Low viscosity Grade	Thixotropic Grade
Viscosity - 5°C	695 Cps	>10 000 Cps
Viscosity - 10°C	450 Cps	>10 000 Cps
Viscosity - 20°C	270 Cps	>10 000 Cps
Specific Gravity	1.06	1.10
Workable Life	20-30 Minutes	30 Minutes
Pot Life	30-60 Minutes	45 Minutes
Cure Time	24 Hours	24 Hours
Yield	945 cc/kg	910 cc/kg
Compressive Strength	70 N/mm <sup>2</sup>	70 N/mm <sup>2</sup>
Tensile Strength	30 N/mm <sup>2</sup>	30 N/mm <sup>2</sup>
Flexural strength	50 N/mm <sup>2</sup>	50 N/mm <sup>2</sup>

All tests conducted at 20°C, unless otherwise stated.

#### Surface Preparation

All surfaces should be free from chemical contamination, oil, grease and debris. Oil and grease can be removed by using Desolve. Concrete should be scarified or acid etched using Chemclean to remove any laitance. All surfaces should be free from standing water.

#### Application Instructions

1. Mix the Formfil by placing a small amount of the resin paste onto a flat board, approximately the size of a golf ball. Squeeze out a strip of hardener approximately 25mm long and mix thoroughly with a putty knife until a smooth even colour paste is obtained.
2. Use the Formfil to bond on the injection nozzles using the locating pins to ensure the correct positioning and to seal the surface of the crack.
3. Ensure the nozzles do not become blocked with Formfil.
4. Nozzles should be bonded at between 200mm-500mm centres depending on the width and depth of the crack.
5. Formfil will harden in approximately 20 minutes after which time injection can commence.
6. Mix the Epicon Crack Injection Resin by adding the entire contents of the hardener tin to the base tin and slowly stir until the materials are thoroughly mixed. A pallet knife may be needed for the Thixotropic grade, to scrape the hardener out of its tin.
7. Place the mixed resin into the assembled cartridge onto which is fixed the plastic tubing and the tube clamp. Fit into the skeleton gun.
8. Fix plastic tubing to the first inject nozzle and release the tube clamp, gently injecting the resin.
9. When the resin appears at the second nozzle cease injecting and plug the first nozzle. Repeat the operation for the subsequent nozzles.
10. Clean all equipment with Nuwash.
11. After 24 hours remove the nozzles and make good any surface defects with Formfil.

**Technical Properties of Epicon Crack Injection Resin.**

Properties	Standard	Performance Requirement	Declared Value Low Viscosity	Declared Value Thixotropic
Appearance			Amber Liquid	Pale Amber Paste
Working time (@ 21°C)	EN ISO 9514		20-30 Minutes	30 Minutes
Pot Life (@ 21°C)	EN ISO 9514		30-60 Minutes	45 Minutes
Temperature for application			Between +5°C & +35°C	Between +5°C & +35°C
Viscosity	EN ISO 3219		695 Cps @ 5°C 450 Cps @ 10°C 270 Cps @ 20°C	>10,000 Cps @ 5°C >10,000 Cps @ 10°C >10,000 Cps @ 20°C
Compressive Strength	EN 12190		70 N/mm <sup>2</sup> @ 24 Hr	70 N/mm <sup>2</sup> @ 24 Hr
Tensile Strength	BS6319-7		30 N/mm <sup>2</sup>	30 N/mm <sup>2</sup>
Flexural Strength	BS6319-3		50 N/mm <sup>2</sup>	50 N/mm <sup>2</sup>
Tensile Bond Strength to Concrete	EN12618-2	Substrate Failure	Substrate Failure	Substrate Failure
Slant Shear Adhesion - Concrete	EN12615	Substrate Failure	Substrate Failure	Substrate Failure
Glass Transition Temperature	EN12614	≥ 40°C	≥ 40°C	≥ 40°C
Total shrinkage	EN12617-1	< 3.0%	0.0%	0.0%

Technical data shown are statistical results and do not correspond to guaranteed minima. Tolerances are those described in appropriate performance standards.



Kingston House, 3 Walton Road, Pattinson North, Washington, Tyne & Wear, NE38 8QA, United Kingdom  
 T: +44(0) 191 416 8360 F: +44(0) 191 415 5966 W: [www.nufins.com](http://www.nufins.com) E: [info@usluk.com](mailto:info@usluk.com)



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### Storage

Epicon Injection Resin should be stored at room temperature. If stored in cold conditions the components should be warmed prior to use as this will greatly aid mixing and injection. Epicon Crack Injection resin should be stored away from foodstuffs and out of reach of children.

Formfil is inflammable (flash point is 31°C). Due precautions should be taken when handling and storing this material shelf life is 12 months when stored in a cool dry place.

### Packaging

Epicon Crack Injection resin is available in 0.25kg and 0.5kg units, yielding 0.23 litres and 0.46 litres respectively.

### Health and Safety

Epicon Crack Injection Resin is capable of irritating unprotected sensitive skin. We therefore recommend the use of a barrier cream and the wearing of goggles and gloves.

When using Formfil do not smoke or allow naked flames during use. When sanding Formfil a suitable mask should be worn. Formfil is capable of irritating unprotected sensitive skin. We therefore recommend the use of a barrier cream and the wearing of goggles and glove.

### Limitations

If injecting below 5°C contact Nufins technical department. As with all Epoxy products an exotherm will be generated, which will is volume dependent.

### Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors. Technical representatives are available to provide additional information and arrange demonstrations.

### Epicon Crack injection resin Kit

#### Description

A prepacked kit containing Epicon Crack Injection resin is available as either Low Viscosity or Thixotropic resin, together with all the ancillary equipment required to enable small scale crack injection to be carried out.

Kit Consists of:

Item	Quantity
10" Skeleton Gun	1
Empty Cartridges Complete	4
Injection nozzles	20
Nozzle Plugs	20
Nozzle locating Pins	20
Plastic Tubing	1.0 meter
Injection Resin	4 x 250g
Formfil	750g
Tube of Formfil Hardener	1
Nuwash	1 litre
Plastic Scrappers	2
Pairs of Plastic Gloves	2



Kingston House, 3 Walton Road, Pattinson North, Washington, Tyne & Wear, NE38 8QA, United Kingdom  
T: +44(0) 191 416 8360 F: +44(0) 191 415 5966 W: [www.nufins.com](http://www.nufins.com) E: [info@usluk.com](mailto:info@usluk.com)

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