

**High Performance Mortar for Bedding Ironwork**

**Information**

**Ultracrete Envirobed HA104** is a revolutionary, next generation, environmentally friendly alternative, to resinous-based materials. Specifically formulated for the bedding of ductile ironwork conforming to the Highways Agency Design Manual for Roads and Bridges "Mortars for bedding ironwork to HA104/02". With superior compressive, tensile and flexural strengths reached after just 3 hours the product has the ability to provide the strength but none of the environmental hazards of traditional resin based materials and can be used even in wet weather conditions.

**Technical**

**Ultracrete Envirobed HA104** is supplied as a two-component bag and bottle system, consisting of a blend of special cements, polymer graded aggregate and recycled glass. When the two are combined they provide a high strength mortar, which can be used from depths of 10 – 50mm in one pass. Greater depths can be achieved if necessary by using layer upon layer method.

**Preparation**

All surfaces should be free from contamination of oil, grease, dust or any other visible contaminates. Remove all loose particles and work on a sound substrate. Pre-soak the area with clean water prior to application to aid bond, remove ponded water.

**Mixing**

**Envirobed** can be used at variable consistencies allowing flexibility of use.

- **Envirobed** is best mixed using a slow speed drill and paddle or forced action mixer.
- Add **Envirobed** liquid to the gauging mark shown on the bottle.
- Add **Envirobed** powder gradually and mix for 2 minutes.
- Check consistency of mixed product.
- If more liquid is required add up to the remaining amount and mix for a further 30 seconds.
- Only add liquid required, make any additions sparingly, small amounts will change consistency.

**Mixing by Hand**

- **Envirobed** can be mixed by hand, however it is vital to ensure adequate vigorous mixing to ensure liquid polymer becomes active. Add liquid and powder as per machine mixing instructions, it is preferable to use a tall flat based tub and a small spade to rapidly work the product for at least 3 minutes.

**Note:** Insufficient mixing will seriously reduce the performance of the product.



**Features & Benefits**

**Envirobed HA104** is a cement and polymer mortar specifically formulated for bedding ironwork.

- Ultracrete Envirobed **can be used in wet weather conditions.**
- Can accommodate depths from 10-50mm in one pass.
- Conforms to Department of Transport Design for Roads & Bridges; 'Mortars for bedding ironwork HA104/02.
- Specifically developed for ductile ironwork and problem covers and frames.
- Early tensile strengths provide significant resistance to heavy trafficking (5.8N/mm<sup>2</sup> tensile after 3 hours.
- Rapid compressive strength, typical gain 50N/mm<sup>2</sup> after just 3 hours.
- Excellent bond strength.
- Manufactured under a Quality Management System BS EN ISO 9001: 2000.

**Recommended Applications**

Rapid installation of manhole frames, gully grates. Ideal for installation of ductile ironwork.

**Related Products**

- |                             |   |
|-----------------------------|---|
| <b>Ultracrete M60</b>       | Rapid strength Bedding Mortar.                    |
| <b>Ultracrete QC10</b>      | Rapid strength backfill concrete.                 |
| <b>Ultracrete IRR</b>       | Permanent cold lay macadam (Type 2, 3 & 4 Roads). |
| <b>Ultracrete SCJ</b>       | Bitumen cold joint sealer.                        |
| also                        |   |
| <b>Ultracrete Instaline</b> | Thermoplastic road marking repair.                |
| <b>Ultracrete Instaband</b> | Skid resistant Overbanding tape.                  |

## Placing

Apply **Ultracrete Envirobed** over a pre-soaked area, place material immediately after mixing. Firm well into position by use of a float or trowel. Clean any mixing apparatus immediately after use. Ironwork should be placed upon the mortar bed and levelled as soon as possible, once initial set has been achieved do not disturb the frame. Initial set is achieved in 15 minutes.

## Precautions

- Wear protective clothing and gloves.
- Avoid skin and eye contact.
- Avoid inhalation of dust.
- Wet cement may cause skin irritation.
- Mix only enough material to apply instantly.
- Do not part mix.
- Never re-mix.
- Wash tools frequently.

## Health & Safety

Operatives should wear protective clothing and work in well-ventilated conditions. This product contains cement which, when mixed is alkaline and may in some cases cause skin irritation.

If product enters the eyes, wash thoroughly with clean water. If discomfort continues seek medical advice. In common with all powder products, the material should be mixed carefully, avoiding the raising of dust.

## Typical Lab Results – Envirobed HA104 (NAMAS Accredited)

Age	Compressive Strength (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Flexural Strength (N/mm <sup>2</sup> )
3 hours	50.0	5.8	9.8
24 hours	55.0	6.4	11.4
7 days	63.0	6.9	12.6
28 days	65.0	7.1	13.8
<b>Bond Strength</b>	3.5 N/mm <sup>2</sup>		
<b>Workability</b>	15 minutes*		
<b>Set Time</b>	30 minutes*		

\*Depending on temperatures – test carried out at 20°C. Cool temperatures retard, warm temperatures accelerate.

<b>Unit/Packaging</b>	20kg bag & 2.5 litre poly bottle on shrink wrapped pallets.
<b>Storage</b>	This product must be stored in unopened bags, clear of the ground in cool dry conditions between 5°C – 25°C and protected from excessive drafts.
<b>Shelf Life</b>	6 months in above conditions. Please note: the use of this product after the end of the declared storage period may increase the risk of an allergic reaction. High temperatures and high humidity will lead to a reduced shelf life.
<b>Density</b>	2.298kg/m <sup>3</sup> .
<b>Yield</b>	9.86 litres, 102bags/m <sup>3</sup> .
<b>Colour</b>	Light Grey.

For updated Material Safety Data information visit [www.instarmac.co.uk](http://www.instarmac.co.uk)

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