

# ENVIROBED HA104® Flowable High Performance Bedding Mortar

**ULTRA  
CRETE**

Bedding Mortars - Cementitious



Specifically formulated for utility reinstatements. Great for bedding large section manhole covers and frames.

- BT LN550 and LN320 compliant
- Combines as a bedding mortar and backfill
- Conforms to HA104/09
- Aids lateral stability
- Can be used in the wet

## Applications

Envirobed HA104® Flowable, part of the Approved Manhole Reinstatement System, is specifically formulated for bedding large section manhole covers and frames conforming to the Highways Agency Design Manual for Roads and Bridges: Mortars for Bedding Ironwork HA104/09. It is suitable for use in wet weather. Superior compressive, tensile and flexural strengths are reached after 3 hours. It provides all the performance of Envirobed HA104® Regular Mortar but is significantly easier to apply. It is therefore ideal for use on larger frames and covers. No hazardous waste disposal is required, unlike traditional resin-based mortars and grouts.

## Technical

Envirobed HA104® Flowable is supplied as a two-component system which contains a blend of special cements, polymer graded aggregates and recycled glass. The combined components provide a high performance flowable mortar, which can can grout the pre-levelled frame to the required depth.

## Preparation

All surfaces should be free from oil, grease, dust or any other visible contaminants. 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 beforehand. Ensure the frame has been placed and correctly levelled.

## Mixing

Envirobed HA104® Flowable must be mixed by drill and paddle or forced action mixer:

**Drill and paddle:** We recommend a grout mixing paddle

with a slow speed drill (around 300-400 rpm), using a wide based mixing vessel such as a Gorilla Tub. Mix for at least 3 minutes. Note: Insufficient mixing will seriously reduce product performance.

**Mechanical mixing:** Pour contents of liquid bottle into mixing tub, leaving a small amount in bottle. Mix for 2 minutes, checking consistency, and then add remainder of liquid if needed. This allows a change in consistency without effecting performance.

## Placing

Prior to using Envirobed HA104® Flowable, internal voids of the frame and brickwork should be dammed with Envirobed HA104® Regular Mortar. This will prevent the Envirobed HA104® Flowable bedding mortar pouring out into the chamber. Wait until the mortar has stiffened (assess by tapping a hammer into the mortar). Envirobed HA104® Flowable should then be prepared. Application should be within 4 minutes of mixing, by pouring from one side of the pre-levelled frame at a time, working all the way around the frame until it flows over the frame haunching to a depth of 20mm. Once the bedding material has reached its initial set, the backfill material UltraCrete QC10/F can be poured around the frame.

## Cleaning

Envirobed HA104® Flowable should be removed from tools and equipment with clean water immediately after use. Cured material can also be removed mechanically.

### Storage

**Powder bag:** Store in closed original bags at temperatures between 5°C and 30°C. Avoid frost and sunlight. This product must be stored in unopened bags, clear of the ground in cool dry conditions and protected from excessive drafts. If stored correctly and used within 6 months of the date shown on the bag, the activity of the reducing agent will be maintained and this product will contain, when mixed with water, no more than 0.0002% (2 ppm) soluble Chromium (VI) of the total dry weight of the cement.

**Liquid additive:** Extreme temperatures can damage this product in its liquid form. Store containers at temperatures between 5°C and 30°C. Liquid should not be exposed to excess heat, cold or frost during storage or when being transported between sites.

### Shelf Life

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.

### Health, Safety and Environmental

Please ensure that appropriate PPE is used when preparing, mixing and applying products. Always wash your hands before consuming food and make sure that materials are kept safely out of reach of children and animals. Please dispose of packaging and waste responsibly and in accordance with local authority requirements. A full material datasheet relating to this product is available from [instarmac.co.uk](http://instarmac.co.uk)

### Quality assurance

All products are manufactured in a plant whose quality management system is certified / registered as being in conformity with BS EN ISO 9001, 14001, and OHSAS 18001. Our products are guaranteed against defective materials and manufacture, and will be replaced or money refunded if the goods do not comply with our promotional literature. We cannot however accept any liability arising from the application or use of our products because we have no direct or continuous control over where and how our products are used. All products are sold subject to our conditions of sale, copies of which may be obtained on request.

### Technical data

Compressive strength (N/mm <sup>2</sup> )	
1 hour	25.00
3 hours	44.00
24 hours	50.00
7 days	54.00
28 days	60.00
Tensile strength (N/mm <sup>2</sup> )	
3 hours	5.20
24 hours	5.50
7 days	5.60
28 days	5.80
Flexural strength (N/mm <sup>2</sup> )	
3 hours	9.5
24 hours	10.00
7 days	10.80
28 days	11.40
Workability*	15 minutes
Set time*	30 minutes
Density	2298kg/m <sup>3</sup>
Coverage	Approx 1 x 400mm x 400mm standard ironwork cover and frame @ 20mm, dependant on bed depth, brickwork and substrate
Yield	Bag and bottle: 8.5 litres, 118 bags/m <sup>3</sup> for the two component pack
Colour	light grey <i>As with all raw materials, colour variation may occur. This does not affect the consistency or characteristics of the product.</i>
Unit/packaging	18kg paper bag & 2.5 litre bottle (48 units per pallet)

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

### Design Manual for Roads & Bridges – Volume 4, Section 2

Complies with Highways Agency Document HA104/09 Part 6.1

Chamber Tops & Gully Tops for Road Drainage and Services.

Which States:

The material should be non-shrink.

The materials should have a minimum workable life of 15 minutes.

The compressive strength should exceed 30N/mm<sup>2</sup> in 3 hours.

The tensile strength should exceed 5N/mm<sup>2</sup> in 3 hours.

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