

## PRODUCT DATA SHEET

# SikaEmaco® S 920 UW

(formerly MEmaco S 920UW)

Non-shrink, cementitious micro-concrete for under water applications

### DESCRIPTION

SikaEmaco® S 920 UW is a ready to use, cementitious micro-concrete, which on mixing with the specified quantity of water provides a flowable consistency with resistance to cement wash-out when placed under water, achieving high early and final strength characteristics. To compensate for shrinkage, the material is designed to undergo controlled expansion in the plastic state.

### USES

SikaEmaco® S 920 UW is recommended for repairing structures under water and in tidal zone by grouting and jacketing. The material is suitable for use under both stationary and moving waters.

Typical applications include:

- Underwater micro concrete for Repairs
- Repairs to bridge and jetty piers
- Repairs to concrete piles
- Strengthening of piers by jacketing
- Repair of pier footings damaged by scouring
- Grouting of Sluice gate guides

### CHARACTERISTICS / ADVANTAGES

- Shrinkage compensated
- Resists cement wash out
- Free flowing - optimum contact area
- Resists ingress of water borne corrosive agents
- Good bond strength
- Pre-packed and pre – formulated
- No added chloride – Does not add to chloride load on structure

### PRODUCT INFORMATION

<b>Packaging</b>	25kg bag
<b>Shelf life</b>	6 months from date of production
<b>Storage conditions</b>	Store under cover, out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advices consult Sika Technical Services Department.
<b>Appearance / Colour</b>	Grey powder
<b>Density</b>	2.25kg/l

## TECHNICAL INFORMATION

<b>Compressive strength</b>	3days	15 Mpa (Compressive strength tested under water)
	7days	35 Mpa (Compressive strength tested under water)
	28days	50 Mpa (compressive strength tested under water)

## APPLICATION INFORMATION

<b>Yield</b>	Each 25kg bag of SikaEmaco® S 920 UW, when mixed with 4L of water shall yields 13.2 L grout.
<b>Mixing ratio</b>	W/P ratio, by weight 0.16

## BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### SURFACE PREPARATION

Correct substrate preparation is critical for optimum performance.

Surfaces should be structurally sound, clean, and free from loose particles, barnacle growth, or any other contaminant.

Remove cement laitance, mould release agent, curing membrane, and other contaminants from the surface using pneumatic tools, manual wire brushing or other such effective methods.

Roughen concrete profile to a surface level difference of at least 5mm between trough and ridge.

Repair any cracks using an underwater grade crack injection system. Contact your local Sika representative for advice.

### Formwork

Proper design of formwork is essential for effective jacketing and grouting.

The formwork can be made out of timber, steel or any other suitable material depending on the site circumstances. Where the profile and shape of the underwater repair are not important, cloth forms can be used. The forms must be grout tight, strong, and well braced to withstand the water pressure and the fluid pressure of the material till it sets.

Provide for adequate gap between the formwork and the substrate to accommodate tremmie pipe, while repairing a vertical surface.

Seal all the gaps in the formwork and those between the formwork and concrete surface, with a suitable under water setting material or with SikaEmaco® S 920 UW mixed to a stiff consistency.

## MIXING

Mechanical mixing is necessary. For a large batch use an approved mixer and for a small batch (up to two bags at a time), use a heavy-duty, slow speed (approx. 600 rpm) drill fitted with a stirrer.

Ensure that the mixing capacity is adequate for continuous completion as interruptions in placing could result in air pockets and cause blockage in the tremie pipe used for placing.

The quantity of water required to produce a flowable grout from a 25 kg bag is approximately 4.0 litres. Place approximately 80% of mixing water in the mixer. Keeping the mixer running, add SikaEmaco® S 920 UW slowly. Mix for at least 3-4 minutes until a lump free mix is obtained.

Add the remaining water while continuing to mix until the desired consistency is achieved.

## APPLICATION

Place the mixed material within 30 minutes after mixing.

SikaEmaco® S 920 UW can be placed to a thickness of up to and 150mm under water in a single pour.

Note: In case of thicker section above 150mm add 8mm – 12mm sized aggregates. The ratio of aggregated added to SikaEmaco® S 920 UW shall not exceed 1:1 by weight. Water addition may be affected by temperature and pour conditions on site. Trials are recommended to determine the correct water requirement for such applications.

Using a tremie pipe, place SikaEmaco® S 920 UW into the space confined by the formwork within the pot life of the mixed material (when the mixed material is still fluid). Where situation demands, use double diaphragm air operated pump to pump the material directly into the tremie funnel. A hand operated pump or manual placing can also be employed.

Note: The pump is required only to convey the material from the mixing site to the placing site and not to build up pressure.

It is necessary for the repaired region to be periodically inspected for any leaks during and immediately after jacketing / grouting by a trained diver.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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### Product Data Sheet

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