

BLUSKY™XCEM MC40

Single Component General Purpose Pre-mixed Flowable Micro Concrete

Description

BLUSKY™XCEM MC40 is a single component cementitious, polymer modified repair mortar to provide high strength properties. This is used as a micro concrete material to repair damaged concrete especially in restricted accessible areas. It is based on cement, graded aggregates and special additives. **BLUSKY™XCEM MC40** can be applied in thickness up to 100 mm thickness. It is suitable to apply by trowel, knife, hand or pump. More layer thickness can be achieved in repeated layers. It is used as a pre-mixed mortar for concrete repairs and structural strengthening.

Indicative Characteristics

Appearance	Free flowing grey powder
Compressive Strength, N/mm² (Typical) at 27°C, as per IS 4031	Free flowing Mix (W/P= 0.15), Typical
3 days	15
7 days	30
28 days	40
Free linear Expansion, ASTM C 827	0-2%
Coefficient of Thermal Expansion, per °C	11-12x10 ⁻⁶ (Similar to Concrete)
Young's Modulus, N/mm²	27000
Fresh wet density, kg/m³	2100-2250
Material required for 1m³ Volume of Grout, kg	1850-1950
28 days Comp. Strength, Blended with 50% 10mm aggregate	43 N/mm ² (Typical) at 27°C

Note: Compressive strength is determined by using 7cm cube specimen at laboratory controlled condition, Water demand may vary depending upon site condition.

The information contained in this technical data sheet is given to the best of our knowledge and the results from extensive testing in order to remain as objective as possible. However, it cannot, in any case be considered as a warranty involving our liability in case of misuse or any different use of our products from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users. Consult the latest update of the technical data sheet on our website www.bluskyscpl.com

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Domains of Application

BLUSKY™XCEM MC40 is a cementitious repair compound which is used to reinstate damaged and deteriorated concrete for structural repairs and strengthening.

Method of Application

Surface Preparation

Surface laitance and unsound concrete must be chipped away and smooth surface should be made reasonably roughed to provide proper bonding between old concrete to new micro concrete. After cleaning, saturate the concrete surfaces with clean water. Ensure that the formwork has suitable drainage outlet for excess water so that no free standing water is present on surfaces before applying of **BLUSKY™XCEM MC40**.

Mixing

Use mechanical mortar mixers, preferably of the slow speed (250-350 rpm) paddle mixer or revolving drum type mixer. Hand mixing rarely achieves the desired result. Allow approx 5 minutes for mixing. Thorough mixing is essential for achieving maximum results. Add **BLUSKY™XCEM MC40** slowly into recommended amount of clean water in a mixer. Use as little water as is required for ease of placement.

For Flowable Mix: 3.50 – 4.25kg of water to 25 kg of XCEM MC40 (W/P Ratio : 0.14 to 0.17)

For Plastic Mix: 3.00 – 3.75kg of water to 25 kg of XCEM MC40 (W/P Ratio : 0.12 to 0.15)

Job placing conditions, including temperatures may require mixing water adjustments as may be essential for practical purposes. Small trial batches to ascertain the best working consistency for the operation are recommended.



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Application

In order to prevent air voids apply mixed **BLUSKY™XCEM MC40** from one side or corner only. **BLUSKY™XCEM MC40** should be placed within half an hour of mixing. During that time keep material in mixer well agitated. After half an hour discard any mix that shows signs of stiffening. Flowable mix may be used with low pressure cement grouting equipment or may be hand rodded into restrained sections. High points must be adequately vented to allow entrapped air to escape. Plastic mortar may be rodded into place or trowel handled where freedom of movement permits. Consistency can range from thick cream to smooth plastic. For large volume of placement areas **BLUSKY™XCEM MC40** may be pumped with a heavy duty diaphragm pump, screw or any other standard pump.

BLUSKY™XCEM MC40 shall be used in the thickness range of 20mm to 100mm in single pour. For thickness of a section is more than 100mm, 40-50 % (by weight of **BLUSKY™XCEM MC40**) 6-10mm down washed coarse graded aggregate shall be used to reduce temperature built up in the hardened micro concrete.

Curing

Curing is essential part of **BLUSKY™XCEM MC40** system. After completion of concreteing work the open edges shall be cured by applying suitable **BLUSKY™CURE-W** or any other effective curing membrane manufactured by **BLUSKY™**. Other curing methods, such as covering with plastic sheet, wet hessian cloth are also accepted.

Advantages

- Controlled expansion to ensure positive surface contact and low water permeability.
- Chloride and iron free, hence no rusting or staining on exposed edges.
- Pre-mixed, addition of water is only needed.
- Easy to pour free flowing and self leveling nature; it can be pumped or poured into restricted locations.

Shelf Life & Storage

12 months from the date of manufacturing when stored in un-opened, original sealed and dry condition at a temperature range from +5°C to 40°C

Packing

25kg waterproof laminated HDPE bag

Safety

- Wear hand gloves, safety shoes and safety goggles while using and handling the product.
- In case eyes or mouth are affected wash with plenty of clean water and seek medical treatment immediately.

Before use, refer to the Material Safety Data Sheet. The MSDS is available on www.bluskyscpl.com

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