

CAT. No. CONREP-13-2011

ISOCRETE 100

Structural Micro-Concrete

ISOCRETE 100 is a ready to use blend of special cement, microsilica, graded high-crushing strength aggregates and various polymer additives and only requires the addition of water to produce a very high strength very low water-cement ratio, repair micro - concrete. **ISOCRETE 100** develops high mechanical properties similar to conventional epoxy systems but without the added cost.

ADVANTAGES

- Polymer-modified, one component, Fiber reinforced.
- Exceptional mechanical strengths.
- Self levelling and pumpable.
- Rapid strength gain.
- Low alkali content.
- Excellent thermal compatibility with concrete.
- Low permeability. Resists penetration of most chemicals, oils and salt.
- Dimensionally stable.
- Abrasion resistant.
- Non-shrink

USES

ISOCRETE 100 is specially formulated for permanent repairing of concrete structures requiring exceptional mechanical properties, low water impermeability and rapid strength gain. It can be applied at thickness ranging from 30 – 250 mm in one layer. **ISOCRETE 100** can also be used as a levelling and reprofiling grout for concrete pile caps. **ISOCRETE 100** is suitable for repairing concrete floor beams, floor slab and columns.

SPECIFICATION

ISOCRETE 100 exceeds the strength requirement of ASTM C 387 for high early strength concrete. It also complies with the requirement of EN13813 class C 70 (compressive strength) and F10 (flexural strength).

TYPICAL PROPERTIES

- Compressive strength (70 x 70mm cube):
 - 24 hours 30 N/sq.mm.
 - 3 days 42 N/sq.mm.
 - 7 days 52 N/sq.mm.
 - 28 days 60-70 N/sq. mm.
- Flexural Strength @ 28 days.....10 N/ sq.mm.
- Abrasion Resistance
(ASTM C 779 method C).....0.63mm depth of wear
after 20 minutes.
- Water Absorption
(ISAT BS1881).....0.0010mL/sqm./sec
after 2 hours

- Wet Density..... 2200 kg/ cubic meter.
 - Thermal coefficient of expansion.....0.000011/ degree Celsius.
 - Setting Time (ASTM C 403)
 - Initial.....5 hours
 - Final.....8 hours
- Linear length change 28 days (ASTM C 157)..... 0.010%
Water- Powder Ratio.....0.13

DIRECTIONS FOR USE

1. SURFACE PREPARATION

Outline and mark the area to be repaired using a chalk or any temporary marker. Enlarge the area beyond the initial size to ensure that any weak or questionable concrete is removed. Mark the area to the nearest square or rectangle. Using a concrete saw, cut- through the marked area to a depth of 15mm to avoid feather - edging. After saw- cutting, chip concrete down to sound base using light pneumatic chipping tools or chisel- hammer. All unsound or damaged concrete should be removed until only sound, clean roughened concrete is exposed.

Oil or grease deposits should be removed using Isola chemical degreaser. If the rebar is exposed. Inspect the rebar for corrosion. Remove any corrosion deposits by grit blasting or by rotary wire brush paying particular attention to the back of the exposed rebar. Wash the concrete finally with clean water preferably by jet spray followed by oil-free compressed air.

2. STEEL COATING

After cleaning the rebars to near white standard of cleanliness, coat the rebars with **EAT RUST** one component zinc rich epoxy primer. Allow to dry until tack free.

3. PRIMING

Before applying primer, saturate the repair area with cool, clean water for at least 20 minutes. After this period, remove any free-standing water, ideally substrate should be in saturated surface-dry condition.

Prepare bonding-slurry primer by mixing 5 parts ordinary cement, 1 part ISOBOND Xtra and 1.5-2.0 parts water by volume. Apply bonding slurry primer liberally onto the damp substrate. Immediately place ISOCRETE 100 while slurry is still wet and tacky.

4. MIXING

One bag of **ISOCRETE 100** will require 3.9 liters of clean water. Use mixers with rotating paddles inside a stationary drum. Do not use free fall mixers. First put the required amount of water into the mixer followed by **ISOCRETE 100**. Mix for 3 minutes until homogeneous. Mixing of part bags should not be allowed.

5. PLACING

After mixing, simply pour (or pump) **ISOCRETE 100** onto the repair area filling the cavity to the desired level. Do not use vibrator nor place in layers. Light rodding can be employed. After levelling and after the concrete has slightly hardened, the surface may be finished to desired texture with a steel trowel, wood float or brush.

6. CURING

As with all cement – based products, **ISOCRETE 100** should be cured immediately after finishing. Cover with wet hessian/ PE plastic and maintain wet atmosphere for at least seven days. Alternatively, apply a curing compound (e.g. ISOCURE WB, ISOCRYL 100).

7. SPECIAL CONDITIONS

During hot weather, special precautions should be undertaken.

When working in sun – exposed condition keep the bags stored under a shade and use cool water. Erect temporary shade or wind barrier over micro-concrete. For large pours, as soon as the surface of the patch has initially hardened, flood the surface with sufficient water for at least 24 – hours afterwards, proceed with normal curing using Isocure WB.

PACKING COVERAGE

ISOCRETE 100 is packed in 30-kg plastic bag and when mixed with 3.9 liters of water will yield 15 liters of repair micro-concrete.

HEALTH/ SAFETY

Contains cement which can be harmful to the skin when wet. Avoid inhalation of dust. The use of dust mask is recommended. Any skin contact should be washed clean with water and soap. Users are advised to wear protective hand gloves, coveralls and eye goggles. Refer to MSDS for more safety instructions.

SHELF LIFE

Twelve months when stored in covered, dry warehouse condition although some lumps may occur which is normal for cementitious products. Lumps if any should be removed by screening.

Revised: 15.01.2023

Technical information, data are to be considered as typical values and not sales specification. Actual measured values may vary due to factors beyond our control. Indications concerning function and application of the products are empirical. Although the information is believed to be accurate, there is no warranty by ISOLA. None of the recommendations becomes part of the warranted quality of the products. Due to the fact that the conditions of individual use are beyond ISOLA's direct and continuous control, ISOLA disclaims all responsibility in connection with the use of its products and does not warrant against any loss direct or consequential

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