STRUCTUROC H ULTRA

High Strength Rapid Setting Mortar
For Horizontal Repairs

STRUCTUROC H ULTRA is a rapid setting, high early strength repair mortar that produces a fast, permanent repair of concrete. STRUCTUROC H ULTRA is dimensionally stable, shrinkage and crack resistant and forms an integral bond with the existing concrete to restore its structural integrity. STRUCTUROC H ULTRA is designed for horizontal repairs and can be placed at thicknesses ranging from 3 mm (1/8") up to 50 mm (2") in a single lift. This product can be extended with up to 50% of clean dry granitic or clean pea gravel aggregate to then produce a rapid setting concrete for repair.

USES

Repair of spalled and damaged concrete floors due to wear, abrasion, temperature and other damage factors.

TYPICAL USES:

- Fast repair and return to service of damaged industrial concrete floor
- Repairs to concrete floors prior to the installation of SOLHYDFLOW self-leveling products
- Repair and creation of concrete slopes, drains and trenches
- Repair of concrete walls, bases and columns
- Repair of bridge decks, parking decks and ramps
- Repair of balconies

SURFACE PREPARATION

Proper repairs depend upon a solid bond between mortar and base surface. Thoroughly clean and roughen subject area. Remove any curing compound, grease, oil, loose carbonated concrete, dirt, dust, etc. from exposed slab. Sawcut area perimeter to a depth of at least 6 mm (1/4"). Use water under moderate pressure to flush and further clean area. If possible, saturate area at least 12 hours prior to applying mortar. During application, area should be saturated but free of standing water.

PRODUCT FEATURES

- Easy to pump & pour and easy to finish
- Meets or exceeds requirements of ASTM C928/C928M-09
- Permanent repair of concrete
- Excellent bond strength
- Dimensionally stable, resistant to shrinkage and cracking
- Can be applied at variable thicknesses
- Freeze/thaw resistant
- Extremely resistant to wear and abrasion
- Rapid and early strength
- No bonding agent required
- Easy to use
- Meets MTQ requirements
- Can be overcoated within 12 hours after placement
- Accept foot traffic after 2hrs and heavy traffic after 6-8 hrs

PRIMING

No primer required.

PHYSICAL MATERIAL PROPERTIES @ 21°C (70°F)

COMPRESSIVE STRENGTH ASTM C-109-93, 2" (50 MM) CUBES		
1 hour	13.8 MPa	(2,000 psi)
3 hours	27.6 MPa	(4,000 psi)
1 day	36.5 MPa	(5,300 psi)
3 days	53.7 MPa	(7,800 psi)
7 days	55.2 MPa	(8,000 psi)
28 days	66.6 MPa	(9,600 psi)

FREEZE/THAW RESISTANCE ASTM C666 B MODIFIED	
Cycles	**Durability factor (RDF)**
300	94.0 %

FLEXURAL STRENGHT ASTM C78		
7 days	8.2 MPa	(1,200 psi)

RAPID CHLORIDE PERMEABILITY ASTM C-1202	
28 days	≤1,000 coulombs

HARDENING	
Working time ASTM C-191	25 minutes
Initial set time ASTM C-191	35 minutes
Final set time ASTM C-191	45 minutes

BOND STRENGTH ASTM C-882		
1 day	17.9 MPa	(2,600 psi)
7 days	20.7 MPa	(3,000 psi)

SCALING RESISTANCE ASTM C-672		
50 cycles	0	Loss 84 gr/m^2

LENGTH CHANGE ASTM C157 WITH C928 MODIFICATION		
Time	**Air cure**	**Water cure (immersion)**
7 days	- 0.0520 %	- 0.0005 %
28 days	- 0.0620 %	- 0.0140 %

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PRODUCT MIXING

- Place mixers close to repair area.
- Approximate initial set of STRUCTUROC H ULTRA is 35 minutes @ 21ºC (70º).
- Therefore mix only an amount that can be placed and finished before initial set.
- Always mix by adding the dry product to the mixing water.
- For every 2.3 L to 2.4 L (0,60 US gal to 0,63 US gal) of water add a bag of STRUCTUROC H ULTRA.
- Use a mortar mixer or 3/4" Heavy Duty drill with mixing paddles.
- Place the measured water into a clean mixing container.
- Slowly and gradually add the powder while mixing for a minimum of 2 to 3 minutes in order to otain a uniform consistency.
- Dispense directly into worksite or wheelbarrows.
- Discard any material that stiffens.
- Do not retemper.
- For large pours or for temperatures that are below 5ºC (40ºF) or above 35ºC (95ºF), contact your local BMQ SOLUTIONS representative.

PRODUCT APPLICATION

PLACING

No bonding agent is required with STRUCTUROC H ULTRA. Immediately upon completion of mixing, place material in repair area. Place from one side of site only; not toward middle from opposite directions.

FINISHING

Level and screed material to proper height. Float edges with wooden or magnesium trowel only.

CURING

As soon as the repaired surface has sufficiently hardened apply water and wet burlap or rags to finished area and cover with polyethylene or keep water ponded on patch, for a minimum of 2 hours.

ESTIMATING / YIELD

STRUCTUROC H ULTRA in 22.7 kg (50 lbs) bag yields 12 L (0.42 ft3) of material when mixed with 2.3 L to 2.4 L (0,60 US gal to 0,63 US gal) of clean potable water and will cover approximately 0.95 m2 (10 ft2) at a thickness of 12 mm. This product, when extended with 50% of 10mm granitic or clean pea gravel aggregate, will yield 16 L (0.56 ft3) of material.

COVERAGE PER 22.7KG (50LB) BAG:

Nominal Thickness	*Approximate Coverage*
6 mm (1/4")	1.9 m² (20 ft²)
12 mm (1/2")	0.95 m² (10 ft²)
25 mm (1")	0.47 m² (5 ft²)

PRECAUTIONS / RESTRICTIONS

- Apply to pre saturated surface only
- Do not apply on fresh concrete
- Do not use bonding agent
- Do not apply at temperature under 5ºC (41ºF)
- Do not add admixture to this product
- Do not use limestone as fill aggregate

PACKAGING

STRUCTUROC H ULTRA:

bags 22.7 kg (50 lbs)
Qty: 56 bags per pallet

RECOMMENDED TOOLS

The following tools will assure a cost effective, satisfactory installation:

- Steel, Wooden or Magnesium Trowels
- 3/4" Heavy Duty drill with mixing paddles
- Mortar mixer (for large volume)

CLEANING

Use water to clean all tools immediately after use.

STORAGE

Store in cool dry area avoiding all moisture.
Can be kept in unopened bags for 12 months.

SAFETY

See Material Safety Data Sheet.
Contains Portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water. Avoid breathing dust.

ELIGIBLE LEED® CREDITS : 3

Regional Materials (MR 5.1 & 5.2): 2 Points
Low Emitting Materials (EQ 4.1): 1 Point

BMQ SOLUTIONS WARRANTS that the product conforms to its chemical description and is reasonably fit for the purpose stated on its Technical Data Sheet when used in accordance with its directions. BMQ Solutions makes NO OTHER WARRANTY either expressed or implied.
Buyer assumes all risk in handling.

For Professional Use Only