



ULTRA LSR

Shrinkage Controlled, Fluid Micro Concrete
for Structural Repairs of All Types

DESCRIPTION

Ultra LSR is supplied as a ready to use blend of dry powders and selected aggregates, which requires only the addition of clean water to produce a highly consistent, fluid micro concrete suitable for all load-bearing situations.

PROPERTIES

The following typical results were obtained at a water powder ratio of 0.133. Test method Typical result
Drying shrinkage to ASTM C157-93

7 days : < 300 micro strain

28 days : < 500 micro strain

Permeability : < 10 mm

(DIN 1048 Part 5)

Flexural strength : > 9 N/mm² at 28 days (BS 6319 Pt.3)

Tensile strength : > 5 N/mm² at 28 days (BS 6319 Pt.7)

Compressive strength : >

39 N/mm² at 3 days

(BS 1881 Pt.1161) >

45 N/mm² at 7 days > 60 N/mm² at 28 days

Water absorption : < 2%

(BS 1881 Pt. 121) Note1:
100mm cubes, air cured @ 25°C

USES

Ultra LSR is suitable for mass infill to structural repairs in all types of load bearing situation. Typical applications would include, but not be limited to, the following :

i) Repairs to columns suffering from major loss of section.

ii) Soft it repairs where heavy load bearing is required.

iii) Repairs to restricted access areas, where use of hand applied mortars would prove impractical. n Repairs requiring high fluidity e.g. heavily congested steel or repairs into Re-entrant angles/ concealed voids.

and Any repairs requiring significant levels of load bearing

ADVANTAGES

Ultra LSR features Dimensional Stability Technology - a new materials technology which controls the rate of drying shrinkage such that, when used correctly :

The dimensions of the repair remain stable; and thus

eliminating failure, due to shrinkage cracking. This in turn leads to a series of associated benefits and Cost effective - shrinkage control enables repairs to be completed eight first time in Enhanced durability works in tandem with extremely low permeability to prolong effective working life.

and Compatibility - aligns performance closer than ever before, to that of host concrete. and User friendly - specifically developed to provide an easy to-apply product, suitable for local conditions. and Definable performance - positive benefits are easily demonstrated via a single, simple measurement.

DESIGN CRITERIA

Dimensional Stability Technology is a major step forward in the general compatibility of repair mortar systems with the host concrete, and the control of shrinkage in particular.

Attention to the basic design criteria given below should ensure that the full benefits of this technology are gained in use :

(i) Ultra LSR is designed for large volume repairs, typically in excess of 50 mm deep. The

Product can be Applied in sections generally between 50 and 200 mm thick, greater thicknesses may be achievable, depending upon repair configuration and location together with the volume of reinforcing steel. Consult the local Ultra Chemicals office for more information.

(ii) In situations where a substrate/repair barrier is required, or enhanced bond strength/working time is required, or where the substrate is likely to be damp (e.g. seawalls, quays etc.), Ultra Corr bond epoxy bonding agent should be used.

(iii) Water addition = 2.7 liters per 20 kg bag under no circumstances should part bags be used or additional water be employed. Either of these two actions will adversely affect material performance, automatically invalidating Ultra Chemicals is standard product guarantee

ESTIMATING SUPPLY

Ultra LSR: 20 kg bags

Coverage Yield and coverage rate listed below are approximate, and will

be wholly dependent upon the general substrate condition. It is recommended, therefore, that site trials over a typical area

are conducted to determine the likely usage/coverage rates for

a particular substrate.

Ultra LSR: 0.9 m² at 10 mm thick (approximately 9.6 liters per 20 kg bag)



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LIMITATIONS

Ultra LSR should not be used when the ambient temperature is below 50C and falling. - Ultra LSR should not be part mixed, nor part bags used.

Ultra LSR should not be exposed to running water either during application or prior to final set.- Water ponding is not recommended for curing

STORAGE SHELF LIFE

Ultra LSR has a shelf life of 12 months if kept in a dry environment, in its original packing. If stored in conditions of high temperature and/or humidity, the shelf life may be reduced to as little as 4 months

STANDARDS COMPLIANCE

Ultra LSR repair micro concrete system complies with the following international standards : ASTM C157-93 : Test for drying shrinkage
DIN 1048 Part 5 : Test for permeability
BS 1881 Pt. 121 : Water absorption.

PRECAUTIONS

HEALTH AND SAFETY

Ultra LSR contains cement powders which, when mixed with water or upon becoming damp, release alkalis

which can be harmful to the skin. During use, avoid inhalation of the dust and contact with the skin or eyes. Wear suitable protective clothing - eye protection, gloves and respiratory equipment (particularly in confined spaces).

The use of barrier creams to provide additional skin protection is also advised. In case of contact with the skin, rinse with plenty of clean water, then cleanse thoroughly with soap and water.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed seek medical attention immediately - do not induce vomiting.

Fire Ultra LSR, is non-flammable and thus presents no fire hazard.

For further information, please refer to the Product Material Safety Data Sheet for Ultra LSR.

Storage:

Avoid to place direct to sun light and always store in shady areas.

ISO Certification:

Our production facility at Pakistan is
ISO 9001:2008
ISO 14001:2004
by BUREAU VERITAS
and UKAS Management

WARRANTY: The Ultra Chemicals, LLC. ("Ultra ") solely and expressly warrants that its products shall be free from defects in materials and workmanship for 12 months from the date of purchase. Unless authorized in writing by an officer of Ultra, no other representations or statements made by Ultra or its representatives, in writing or orally, shall alter this warranty. ULTRA MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Ultra product fails to conform to this warranty, Ultra will replace the Product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Ultra does not authorize anyone on its behalf to make any written or oral statements which in any way alter Ultra's installation information or instructions in its product literature or on its packaging labels. Any installation of Ultra products which fails to conform to such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Ultra's products for the Buyer's intended purposes.