



# SC - 40

SHOT CRETE 40 is a ready-to-use, cement-based spray/hand applied repair mortar with reduced rebound loss. It gives high early strength and reduced rebound allows for maximum application thickness with resistivity values in the range accepted for cathodic protection (CP) overlays. It is suitable as a repair mortar for most structural and load bearing structure.

## RECOMMENDED APPLICATION

- Repairs to the underside of bridge decks, bridge piers and beams, tunnels, drains, sea walls and culverts.
- Refurbishment of columns, bridges, tunnels and retaining walls.
- Single high build application.
- Mass in fill to large areas.
- Repairs to irregular profiles.

## BENEFITS & KEY FEATURES

- VERSATILE**
- EASY TO USE**
- SPRAYABLE**
- SPEEDY REPAIRS**
- FACTORY MIXED**
- LOW RESISTIVITY**
- SHOTCRETE SYSTEM**
- GOOD WORKING TIME**
- CONTROLLED SHRINKAGE**

## TECHNICAL SPECIFICATION

Appearance	Grey Granular Powder
Dry Bulk density	Approx. 1700-1800 kg/m <sup>3</sup>
Wet density	Approx. 2300-2400kg/m <sup>3</sup>
Water Ratio	17 -18 % of Powder material
Compressive Strength (BS 1881 Pt. 1161) 70mm cubes for CT.	40 Mpa @ 14 Days 50 Mpa @ 28 Days
Flexural Strength (BS 6319 Pt. 3)	>7.5 N/mm <sup>2</sup> @ 28 Days
Tensile Strength (BS 6319 Pt. 7)	>2.5 N/mm <sup>2</sup> @ 28 Days

PACKAGING	COVERAGE	SHELF LIFE
25 kg	13.5 Ltr yield / per 25 kg bag It also depends on the consistency and quantity of coarse aggregate added. * Part Mixing of bag is strictly prohibited.	12 months from date of packing. It must be seal pack & stored under proper condition. Store in a cool & dry place, keep away from direct sunlight.

## CURING

- The concrete curing agent can be used.
- Supplementary curing such as wet hessian or polythene sheets must be used.

## HEALTH & SAFETY

- Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment during application
- In case of contact with skin, rinse with plenty of clean water and then cleanse with soap water
- In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.

## DIRECTION FOR USE

### SURFACE PREPARATION



- Defective concrete surfaces treated to their sound base. Smooth surfaces should be mechanically roughened. Corroded reinforcing steel should be exposed around its whole circumference and cleaned to remove all loose scale and corrosion deposits. It is important to clean the steel to a bright condition. The proper anti-corrosion treatment should be carried out before application. It is important to clean the steel to a bright condition. Zinc primer should be applied to the reinforcing steel. Several hours before placing, the concrete substrates should in SSD conditions.

- Alternatively, all prepared concrete substrates should be primed with a slow setting epoxy primer on a dry substrate for better bonding.

## DIRECTION FOR USE

### MIXING AND PLACING



- Prepare the surface to be shotcrete by removing all unsound concrete, dirt, dust and debris. For structural repairs to existing concrete members, saturate the properly prepared concrete surface for a minimum of 7 hours before shot-creating.
- Add 4.25 to 4.5 ltr water to 25 kg bag .water ratio is approx. 17 - 18 % of powder material.

- Mix with a high torque (400/500 rpm) rotary drill fitted mixer with a mixing paddle.
- Do not attempt to add more water to mix. Mix the required quantity only.
- The adequate mixing capacity and labour availability should be there for continuous applications
- Mix continuously for 5 minutes, ensuring a smooth, even consistency of the mix.
- The mixed material should be applied immediately after mixing.

## DESIGN CRITERIA

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

(1) Recommended limits for a single spray application are:

- Minimum applied thickness:40 mm.
- Overhead sections: up to 150 mm thick.
- Vertical sections: up to 200 mm thick.

(2) Water addition - between 4.25 & 4.5 liters per 25 kg bag. Under no circumstances should part bags be used or additional water is employed. Either of these two actions will adversely affect material performance and will invalidate the specification of products given.