

# CEMLEVEL 10

SELF LEVELING, CEMENTITIOUS FLOORING SYSTEM FOR DOMESTIC AND COMMERCIAL USE.



## PRODUCT

CEMLEVEL 10 is a machine or hand applied screed formulated from special cement, aggregates, supplementary binders and chemical additives. It is supplied as a pre-blended, dry powder designed for application at thickness between 3 -30 mm in one operation. Normal application thickness is 6 -8 mm.

## ADVANTAGES

CEMLEVEL 10 enables fast track construction with installation rates of up to 300 m<sup>2</sup> per hour at 6 mm thick. Under normal conditions access onto the floor is available after 1 -3 hours and the final flooring can be laid after 7 days (for a 10 mm layer) providing that the substrate is suitably dry. The obtained surface is so smooth that vinyl or carpet can be laid directly onto it and at the same time, provides a durable surface for use in commercial and domestic areas.

CEMLEVEL 10 combines rapid hardening and self-flowing properties with low shrinkage.

## APPLICATIONS

CEMLEVEL 10 is designed as an underlayment screed for use on concrete floor to receive tilings, carpeting and to cover under floor heating coils. For lightweight concrete, the layer thickness is limited to between 6 -10 mm. CEMLEVEL 10 is designed for application at thickness between 3 -30 mm. CEMLEVEL 10 does not contain casein and other protein bearing additives, making it particularly suitable for use in hospitals and food preparation or storage areas.

## SUBSTRATE

CEMLEVEL 10 is principally designed for application on concrete substrates. Uneven substrates can be leveled with CEMLEVEL 10. Weak or soft substrates, such as asphalt, which may be subject to movement under imposed load (either in use of during material curing), must be removed.

Contraction joints, construction joints and cracks in the substrate which may be subject to movement after installation of CEMLEVEL 10 must be maintained as joints in the new surface.

## SURFACE FINISH

In appearance, CEMLEVEL 10 can be compared to ordinary concrete flooring. As an underlayment, CEMLEVEL 10 is compatible with most commonly used adhesives and soft floor finishes as well as with hardwood flooring, ceramic tiles and athletic flooring.

## PROPERTIES

Depending on the raw materials used, the properties of the hardened material after 28 days at ambient temperature of  $26^{\circ} \pm 2^{\circ}\text{C}$  and a water content of 18% should be:

### Technical Data:

Flexural strength	(ASTM C348 : 1995)	$> 6 \text{ N/mm}^2$
Compressive strength	(ASTM C109 : 1992)	$> 30 \text{ N/mm}^2$
Adhesion to concrete	(ASTM D4541 : 1985, Modified)	$1.0 \text{ N/mm}^2$
Shrinkage	(ASTM C157 : 1989)	
(28 days + 28 days) in limewater		+0.012 %
28 days limewater + 28 days air-cured		-0.02 %
QUV Acc. Weathering	(ASTM G53 : 1993)	1000 hours, No cracks, Grey scale: Min 3
<b>Abrasion Resistance</b>	(SS301 : 1985)	
Air-cured		$1,380 \text{ mm}^3$
Accelerated Weathering		$1,724 \text{ mm}^3$
<b>Dart Impact</b>	(ASTM D2794 : 1989)	
Air-cured		No crack, 6.7 mm
Accelerated Weathering		No crack, 7.0 mm
<b>Slip Resistance</b>	(BCRA Tortus)	
Air-cured		$\mu = 0.81$ (dry), $\mu = 0.76$ (wet)
Accelerated Weathering		$\mu = 0.79$ (dry), $\mu = 0.76$ (wet)
pH value		Approx. 11
Bulk Density		Approx. $1800 \text{ kg/m}^3$
Wet density		Approx. $2000 \text{ kg/m}^3$
Cure time (foot traffic)		1 -2 hours
Cure time (final covering)		Approx. 7 days

The cure times given above are for a 10 mm layer and are dependent upon temperature relative humidity and the moisture content of the substrate. CEMLEVEL 10 will not burn, propagate flame or produce smoke.

### WATER RESISTANCE

After curing, CEMLEVEL 10 can be exposed to water spillage without damage. However, saturation with water over longer periods may reduce the strength to less than its normal value with full strength returning within 24 hours of drying out.

### CHEMICAL RESISTANCE

CEMLEVEL 10 has a chemical resistance similar

to that of dense concrete. If the floor is likely to be continuously exposed to chemicals, the surface must be protected.

### COVERAGE

Depending on the surface to be treated. Normal approximately 10 kg of dry powder per square metre, corresponding to a layer of 6 mm thickness,

is required. Dry powder consumption is 1.7 kg per mm thickness per square metre.

## **INSTALLATION**

### **Preparation of substrate:**

The surface to be treated must be hard, sound and free from surface contamination. All dust and debris should be vacuumed from the surface. Concrete laitance and old coatings should be removed mechanically e.g. by enclosed shot blasting, scabbling or scarification. Concrete contaminated by oil or grease may require flame gunning and/or treatment with a proprietary degreaser.

### **Priming:**

Cemix Multibond should be applied to the prepared surface at 1 litre per 8 sq.m on smooth concrete or 1.5 litres per 8 sq.m on porous substrates using a soft brush and allowed to become touch dry (1 -2 hours under normal conditions) before the CEMLEVEL 10 application.

### **Mixing:**

CEMLEVEL 10 should be applied by means of appropriate mixer pump or manually by hand. Only clean potable water should be used.

For mixer pump, a water rate of approx. 5 litres per 25 kg (20%) should be used.

Use of mechanical mixer is recommended. Mixing time is between 3 -4 minutes depending on the type of mixing equipment used. CEMLEVEL 10 should be used within 20 minutes.

### **Application:**

For large areas, pumping is recommended for better productivity though hand application may be feasible. For corridor areas, hand application is to be recommended. Door thresholds, stairs, drains and gulleys should be insulated using foam barrier strips, and larger areas should be divided into bays. The width of a bay to be pumped is determined by the pumping capacity of the pump mixer and the thickness of the layer to be applied, but normally it does not exceed 10 -12 metres.

The mixed material is pumped onto the surface through the discharge hose, which is moved across the surface at a constant pace when a screed of uniform thickness is required. Under normal conditions the 1 mixer pump will deliver a nominal 6 -7 mm layer of material. Levels may be corrected

by applying greater or lesser amounts of material as required, and falls may be maintained by pumping from the higher to the lower end. The freshly applied material may be lightly troweled with a serrated steel spatula to assist dissipation of surface bubbles and lines left by the hose. The semi-hardened material may easily be formed or cut allowing any necessary adjustments to be made.

## **FLOOR TOLERANCES**

A level survey of the existing surface is recommended prior to the application of CEMLEVEL 10. In order to achieve the required tolerance, large deviations in the existing surface should be pre-Leveled prior to the application of CEMLEVEL 10.

## **PACKAGING**

CEMLEVEL 10 is supplied as premixed powder in 25 kg bags & 10 kg bags.

## **STORAGE**

Storage life is 6 months if product is kept in dry place.

## **CLEANING**

All tools and equipment should be cleaned promptly with water.

## **DISCLAIMER**

*Please Note: Recommendations and advice regarding the use of this product are to be taken as a guide only.*

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