

# BUILDING CHEMICALS SPECIALISTS

## UNIPLAST C09

Set Retarding / Water Reducing / Plasticising Concrete Admixture

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### USES

- To reduce the w/c ratio of a concrete mix and to improve workability.
- To improve set retardation of concrete in high temperatures.
- To extend working time.
- To help maintain the workability of ready mixed concrete deliveries in hot weather.
- To increase early compressive strengths.

### ADVANTAGES

- Chloride free, safe to be used in reinforced and prestressed concrete.
- Specified strength grades can be achieved at reduced cement content.
- Reduces concrete permeability and limits water absorption, thus enhancing concrete durability.
- Achieved water reduction improves significantly compressive strengths at all ages.
- Allows workability to be increased without adding extra water, thereby maintaining strength levels.
- Minimised transportation delay problems maintain placeability and reduces the risk of pump blockage

### STANDARD COMPLIANCE

UNIPLAST C09 complies with **CYS EN934-2:2009 +A1:2012 Table 10 - Specific requirements for set retarding /water reducing /plasticizing admixtures (at equal consistence).**

UNIPLAST C09 is certified by **CERTIF** (Certification Organization) with the Certificate of the **Factory Production Control** with Certificate Number **1328 - CPR - 0063** and bears **CE marking**.

### PROPERTIES

Appearance: **Liquid**  
Colour: **Brown**  
Specific Gravity: **1,185± 0,01** at 20°C  
pH: **6,75 ± 1,0**  
Chloride Content: **Chloride Free**

### PRODUCT DESCRIPTION

UNIPLAST C09 is a blend of lignosulphonates, glucosides and other inorganic and organic chemicals which is easily dispersed in water.

UNIPLAST C09 entrains less **than 2%** of additional air to concrete at normal dosages.

UNIPLAST C09 disperses the fine particles of cement in the concrete mix, enabling the water content to perform more effectively thus improving concrete consistency and increased workability. This allows water reduction and increases compressive strength.

The initial hydration of the cement is delayed, resulting in a delay in the setting time of the concrete with no negative effect on subsequent stiffening and strength gain.

### DOSAGE

Trials should be carried out with the proposed concrete mix in order to determine the optimum dosage of UNIPLAST C09.

Suggested starting point dosages are **0.10 to 0.35 litres / 50 kg of cement**. Higher dosages may be used under adequate supervision and will impart superplasticising properties and extended workability.

UNIPLAST C09 is compatible with all types of cement which are produced in Cyprus and performs extremely well with **microsilica**. It can also be combined with all other Concrete Admixtures manufactured by our company

The level of retardation obtained may be varied by altering the dosage of UNIPLAST C09 used, which will also alter the lever of water reduction obtained.

Retardation is also affected by factors other than the admixture, depending on the mix design and conditions involved. High temperatures will require increased dosages.

### DISPENSING

UNIPLAST C09 is measured using a suitable dispenser. To obtain the best results it should always be added to the concrete mix dissolved in the water.

An overdose of double the intended amount of UNIPLAST C09 will result in retardation. Provided that adequate curing is maintained, the final strengths of the concrete will be achieved. Overdose however might cause increased air entrainment.

### CURING

Good curing will always lead to low permeability concrete and good curing practice should be always maintained especially at high temperatures and when increased dosages of UNIPLAST C09 are used. Curing membrane, water spray or wet hessian should always be used.

## COMPARATIVE RESULTS between control (only water) & Test with UNIPLAST C09 at equal consistence

	Dosage C09 (Litres)	Cement Content (Kg/m <sup>3</sup> )	W/C ratio	Reduce Water %	Air Content (%)	Slump (mm)	Compress. Strength in 28 days (N/mm <sup>2</sup> )
<b>Control (only water)</b>	-	350	0,62	-	1,9	120	30,0
<b>Test (with C09)</b>	1,5	350	0,54	13%	3,0	120	40,0

### PACKAGING - STORAGE

UNIPLAST C09 is delivered in **210** Litres metal drums, **1000** Litres plastic containers and **8000** Litres metal storage containers.

UNIPLAST C09 has a minimum shelf life of 12 months provided is stored between **2° C** and **40° C**. The material freezes at **-4° C**. It is necessary to protect material from direct sunlight and frost.

### PRECAUTIONS

UNIPLAST C09 is water based and is non-flammable.

UNIPLAST C09 should not be swallowed. Contact with skin and eyes should be avoided. In the event that it comes in contact with the skin rinse thoroughly with plenty of water. In case of contact with eyes rinse immediately with water and seek medical attention immediately.

For more information on secure management and storage please request the **SAFETY DATA SHEET**.



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