



# CHRYSO®XeI A639

## Accelerating admixture

### Uses

- ❑ To accelerate stiffening and early hardening of concrete and mortar that do not contain embedded metal.
- ❑ To accelerate the stiffening and early age strength development of foamed mortar systems.

### Advantages

- ❑ Accelerated stiffening allows earlier demoulding and faster turn around of moulds.
- ❑ Assists in overcoming delays in concrete finishing caused by cold weather.
- ❑ Allows finishing to begin at an earlier stage.

### Standards compliance

CHRYSO®XeI A639 complies with BS 5075 Part 1 as an accelerating admixture and with ASTM C494 as type C.

### Description

CHRYSO®XeI A639 accelerating admixture is based on calcium chloride. It is supplied as a clear solution, which instantly disperses in water.

CHRYSO®XeI A639 enhances the early stages of cement hydration, producing more rapid stiffening and hardening. This allows final finishing or mould stripping to begin at an earlier age without damaging the concrete surface.

### Technical Support

CHRYSO provides a technical advisory service for on-site assistance and advice on admixture selection, evaluation trials and dispensing equipment. Technical data and guidance can be provided for admixtures and other products for use with fresh and hardened concrete.

### Typical dosage

The optimum dosage of CHRYSO®XeI A639 to meet specific requirements should always be determined by trials using the materials and conditions that will be experienced in use. This allows the optimization of admixture dosage and mix design and provides a complete assessment of the concrete mix. A starting point for such trials is to use a dosage within the normal typical range of 1.60 to 3.00 litres / 100 kg of cementitious material, including PFA, GGBFS and microsilica. At temperatures below 4°C, trials should start at the maximum normal dosage.

### Use at other dosages

Dosages outside the typical ranges quoted may be used if necessary and suitable to meet particular mix requirements, provided that adequate supervision is available. Compliance with requirements must be assessed through trial mixes. Contact the CHRYSO® Technical Services Department for advice in these cases.

### Properties

Appearance : clear liquid  
Specific gravity : typically 1.35 at 20°C  
Chloride content : approx. 35% as calcium chloride  
Air entrainment : typically less than 1% additional air is entrained at normal dosages.  
Alkali content : typically less than 5.0 g Na<sub>2</sub>O equivalent / litre of admixture.  
A fact sheet on this subject is available.

### DIRECTIONS FOR USE

#### Compatibility

CHRYSO®XeI A639 is compatible with other CHRYSO® admixtures used in the same concrete mix. All admixtures should be added to the concrete separately and must not be mixed together before addition. The performance of concrete containing more than one admixture should be assessed by trial mixes to ensure the desired combination of effects is obtained.

CHRYSO®XeI A639 can be used with all types of ordinary Portland cements and cement replacement materials such as PFA, GGBFS and silica fume. However, the use of an accelerator may affect sulphate resistance. CHRYSO®XeI A639 should not be used where such properties are desired.

Contact the CHRYSO® Technical Service Department for advice on use with special cements.

#### Dispensing

The correct quantity of CHRYSO®XeI A639 should be measured by means of a recommended dispenser. The admixture should then be added to the concrete with the mixing water to obtain the best results. Contact the CHRYSO® Technical Service Department for advice regarding suitable equipment and its installation.



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### Effects of overdosing

An overdose of double the intended amount of **CHRYSO® Xel A639** will result in greatly increased acceleration, which may make the finishing process difficult.

### Curing

As with all structural concrete, good curing practice should be maintained. Water spray, wet hessian or a Concure spray applied curing membrane should be used.

### Limitations

**CHRYSO® Xel A639** contains calcium chloride and must not be used in concrete or mortar containing reinforcing steel or other embedded metal. In such situations, the alternative chloride free stiffening accelerator, **CHRYSO® Xel A650**, may be a suitable alternative.

The use of concrete accelerators may reduce the sulphate resistance of concrete. **CHRYSO® Xel A639** should not be used in concretes designed for sulphate resistance.

Where the primary purpose of using an admixture is to provide improved strength gain, and acceleration of setting time is not a requirement, then the use of an appropriate superplasticising admixture, such as **Conplast M1** or **Conplast SP430**, will usually provide higher strength gain characteristics at ages of 12 hours and later.

### ESTIMATING – PACKAGING

**CHRYSO® Xel A639** is available in drum or bulk supply. For larger users, storage tanks can be supplied. Details of specific packaging volumes are available on request.

### UN packaging regulations

To comply with current regulations, all products of a hazardous nature that are subjected to a sea crossing as part of their delivery requirements, must be packed in United Nations approved receptacles.

When a known sea crossing is involved, **CHRYSO** will supply in the correct UN packaging. Where **CHRYSO** are required to deliver within the South African mainland, but the purchaser intends to ship on, it is incumbent upon the purchaser to specify that UN packaging is required at the time of placing the order. Otherwise, once received, responsibility rests with the purchaser.

The use of UN packaging may affect the selling price of products. Refer to the local **CHRYSO** office or representative.

### Storage

**CHRYSO® Xel A639** has a minimum shelf life of 12 months provided the temperature is kept within the range of 2°C to 50°C. Should the temperature of the product fall outside this range then the **CHRYSO®** Technical Service Department should be contacted for advice.

**Freezing point** : Below –16°C

Crystallization may occur below –10°C. If crystallization does occur, the product should be reconstituted before use.

### PRECAUTIONS

#### Health and safety

**CHRYSO® Xel A639** does not fall into the hazard classifications of current regulations (see note 1 and 2 below). However, it should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn.

Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately – **do not** induce vomiting.

### PRECAUTIONS

#### Health and safety *cont.*

For further information, consult the Material Safety Data Sheet available for this product.

#### Fire

**CHRYSO® Xel A639** is water based and non-flammable.

#### Cleaning and disposal

Spillages of **CHRYSO® Xel A639** should be absorbed onto sand, earth or vermiculite and transferred to suitable containers. Remnants should be hosed down with large quantities of water.

The disposal of excess or waste material should be carried out in accordance with local legislation under the guidance of the local waste regulatory authority.

Note 1 : CPL Regulations 1984 supply-Schedule 1

Note 2 : HSE publication Guidance Note EH40

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CHEMICAL SOLUTIONS FOR THE  
CONSTRUCTION MATERIALS INDUSTRY



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The information contained in this document is given to the best of our knowledge and the results from extensive testing. However, it cannot under any circumstances be considered as a warranty involving our liability in the case of misuse. Tests should be carried out before any use of the product to ensure that the methods and conditions of use of the product are satisfactory. Our specialists are at the disposal of the users in order to help them with any problem encountered.