

## VARAPLAST LMP

### LIQUID MORTAR PLASTICISER

#### DESCRIPTION

**VARAPLAST LMP** is a liquid ultra stable micro air entraining mortar plasticiser designed to enhance the workability and freeze - thaw resistance to brick and block laying mortars. **VARAPLAST LMP** may be used to replace or supplement the use of lime, and is designed to cope with variations in cement and aggregate sources and quality.

#### USES

**VARAPLAST LMP** is an admixture for mortars that improves the workability of brick laying and plastering mortars and increases their resistance to freeze - thaw cycles. **VARAPLAST LMP** is particularly valuable in cold weather, for damp or exposed work, or when restricted site or safety conditions do not permit storage of lime.

#### ADVANTAGES

- ◆ Ultra stable bubble structure.
- ◆ Uniform air entrainment.
- ◆ Compatible with most types of Portland Cement and difficult sands.
- ◆ Increased resistance to damage by freeze / thaw cycles.
- ◆ Reduced segregation and bleed.
- ◆ Greatly improved plasticity.
- ◆ Reduced permeability.
- ◆ Non corrosive to embedded metals.
- ◆ Easier and faster mortar spread.
- ◆ Fully compatible with mixes containing lime.
- ◆ Reduced incidence of efflorescence in mortar.
- ◆ Can be used to replace lime.

#### STANDARDS

Complies with **BS 4887, ASTM C 91.**

#### ACTION

**VARAPLAST LMP** replaces lime and reduces the amount of water required to achieve the required workability, thus reducing the possibility of drying shrinkage, which can result in cracking and crazing.

Minute bubbles of air entrained in the hardened mortar provide space for the expansion of water when freezing occurs without disturbance to the body of the mortar.

#### INSTRUCTIONS FOR USE

**VARAPLAST LMP** may be either pre-mixed with the water or added directly into the mix at the same time as the water.

**Note:** The superior plasticising qualities of **VARAPLAST LMP** will result in a significant reduction in water demand of any given mix.

If hand mixing methods are used, a vigorous mixing action should be used to ensure efficient production of **VARAPLAST LMP** 'micro' air entrainment properties.

Suggested Mixing Ratio			Uses
LMP	Sand	Cement	
	3	1	Exterior Plastering
	SBR	Addition	
	Using galvanized expanded metal lath		
	4	1	Interior Plastering
			Mortar of sand
	3	1	Cement Concrete
			And lime block

- ◆ **VARAPLAST LMP** when added will improve workability (Lime Substitute) and impermeability.
- ◆ Dosage : 0.5 to 1 litre/cement bag.

The action of **VARAPLAST LMP** is entirely physical. Used in accordance with instructions, it does not significantly affect the setting time or other properties of the mortar.

### LIMITATIONS

**VARAPLAST LMP** provides protection from frost down to  $-2^{\circ}\text{C}$  in the wet mortar. Therefore **VARAPLAST LMP** should not be used at temperatures below  $-2^{\circ}\text{C}$  or if the temperature is expected to drop below  $-2^{\circ}\text{C}$  within 24 hours. Normal winter working precautions must be taken.

### DOSAGE

**VARAPLAST LMP** is added at the rate of 0.5 to 1 ltr. per 50 kg. of cement. 1 ltr. will act as water proofer.

### COMPATIBILITY

**VARAPLAST LMP** can be used with other admixtures provided these are added separately to the mix. It can be used for all types of Portland Cement, including Sulphate resisting. It can also be used in lime / sand mortars as a further precaution against frost.

### OVER DOSAGE

Whilst it is undesirable to exceed this stated dosage, the self - controlling action of **VARAPLAST LMP** limits the amount of air capable of being entrained, thus safeguarding against over dosage.

### PACKAGING

**VARAPLAST LMP** is supplied in 5 or 20 litre packing. **STORAGE**

**VARAPLAST LMP** should be protected from extremes of temperature. Should the material become frozen, it must be completely thawed and thoroughly mixed before use. **VARAPLAST LMP** has a minimum shelf life of 12 months provided temperature is kept within the range of  $2^{\circ}\text{C}$  to  $30^{\circ}\text{C}$ .

### SPECIFICATION CLAUSE

All mortars and renders where indicated shall contain **VARAPLAST LMP** mortar plasticizer or similar approved. The plasticiser shall be based on synthetic or sustainable raw materials in an aqueous solution that provides stable and uniformly distributed air bubbles. The admixture shall comply with the requirements of **BS 4887**.

### FIRE

**VARAPLAST LMP** is non-flammable.

### PRECAUTION

### HEALTH & SAFETY

**VARAPLAST LMP** is non-toxic. Any splashes to the skin should be washed immediately with water. Splashes to the eyes should be washed immediately with water and medical advice should be sought.