

VARAPLAST N LIGNOSULPHONATE BASED PLASTICISER

DESCRIPTION

VARAPLAST N is based on a lignosulphonate. Supplied as a brown liquid it is instantly dispersible in water. **VARAPLAST N** produces cohesive more workable concrete at constant water/cement ratio with slightly improved strength or can give higher strength at the same workability or can give cement saving upto 10% at the same water/cement ratio, workability and strength.

USES

VARAPLAST N can provide upto 15% reduction in free water without loss of workability, resulting in reduced permeability and early strength gain. Can also be used to give cement savings.

ADVANTAGES

Increased Workability : Reduces placing time.

Improved Strength : Water reduction gives higher strengths without cement increase or workability loss.

Reduced Permeability : Reduction of water reduces porosity giving improved water impermeability.

Surface Finish : Better dispersion of cement particles and Increased cohesion minimizes segregation and bleeding and gives Improved surface finish for flat work and cast surfaces.

Chloride Free : Safe in reinforced concrete.

STANDARDS

VARAPLAST N complies with **BS 5075, 1982** as normal water reducing admixture and **ASTM C-494 Type A**.

TYPICAL PROPERTIES

- ◆ Calcium Chloride Content : Nil.
- ◆ Specific Gravity : 1.18 at 25° C
- ◆ **Air Entrainment** : Less than 1% additional air is entrained.
- ◆ **Setting Time** : Less than 1 hour retardation at normal dosage.
- ◆ **Cement Compatibility** : Compatible with sulphate resisting and other Portland cements.
- ◆ **Durability** : Water reduction gives increase in density and water impermeability which improves durability.
- ◆ **Compressive Strength** : Reduction in water/cement ratio will result in upto 50% increase in early age compressive strength. See table for typical trial mix results.

Table 1 : Effect of **VARAPLAST N** on workability

Portland cement	300 kg/M ³
Zone 3 sand (washed)	640 kg/ M ³
20mm gravel	1180 kg/ M ³
Ambient temperature	20° C

Table 2 :

Dosage Litres /50 kg Cement	Total W/C Ratio	Slump (mm)	Comp.Strength N/mm ²			Density kg/m ³
			1 Day	7 Days	28 Days	
Nil	0.60	50	16.0	37.0	45.0	2350
0.14	0.60	100	16.5	37.5	46.0	2340
0.14	0.54	50	18.0	45.0	55.0	2380

INSTRUCTIONS FOR USE

Dosage: The optimum dosage for "**VARAPLAST N**" should be determined by site trials with the particular concrete mix under prevailing ambient condition.

As a guide the dosage is normally:

0.14 - 0.21 litres/50 kg cement, but can be used upto 0.28 litres/50 kg cement. For hot weather concreting where **VARAPLAST N** is to be used for extended workability a dose of 0.4 litre/50 kg cement can be used.

Overdosing : An over dose of double the intended amount of **VARAPLAST N** will result in increased air entrainment. The ultimate compressive strength of the concrete will not be significantly impaired.

Curing: As with all structural concrete, normal curing methods apply.

TECHNICAL SUPPORT

"**AKARSH**" provides technical support service on mix design, admixture selection, evaluation of trials, dispensing equipment etc. Please contact the Technical department in these cases.

Cleaning: Spillages of **VARAPLAST N** can be removed with water.

PACKAGING

VARAPLAST N is supplied in 250 KG drums and in bulk.

Storage : **VARAPLAST N** should be protected from extremes of temperature. Should the material become frozen, it must be completely thawed and thoroughly mixed before use. **VARAPLAST N** has a minimum shelf life of 12 months provided temperature is kept within the range 5° C to 30° C.

PRECAUTIONS

HEALTH AND SAFETY

VARAPLAST N 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.

Fire: **VARAPLAST N** is non-flammable