

Product data



Verna EPG admixture

Description: Verna EPG admixture is supplied as powder admixture. the material is combination of a plasticizing agent and gas producing expansion medium. The plasticizing agent allow to use of reduced water /cement ratio with consequent increased strength and durability. The expansive medium contracts the natural settlement and plastic shrinkage of the grout and adds stability and cohesion, sufficient restrained is developed to ensure a high degree of interfacial contact. For non-shrink concrete mixes, the plasticization effect of Verna EPG admixture is minimal, hence suitable superplasticizer, water reducer or retarder should be used when appropriate.

Standard: Verna EPG admixture is suitable pre-stressing grout admixture when complying with **BS 8110-part 1,1985** section 8.9.4.6, **ASTM C939 & ASTM C940**.

Recommended use: Verna EPG admixture is an admixture for Cementitious grouts where a reduce water/cement ratio and positive expansion is required. Plication include bed grouting. Duct grouting, non-shrink concrete infilling & jointing.

Advantages:

- Gaseous expansion system compensates for plastic shrinkage and settlement in properly designed cementitious grout.
- Reduced water/cement ratio in the grout mix ensures low permeability and long-term durability in service.
- Gives high grout fluidity with low water /cement ratio, thus making placement or injection of the grout easy.
- No metallic iron content to corrode and cause staining and deterioration due to rust expansion in the grout.
- Composition allows high early strength development in grouts, without the use of chlorides.

TECHNICAL PROPERTIES:

Chloride content: Niles to BS 5075

compressive strength: Verna EPG admixture allows reduction of water cement ratio of cementitious grouts whist maintaining flow properties. This give improvement in strength and long-term durability when cured under restraint.

Setting time: Verna EPG admixture doesn't significantly affect the setting time of cement-based grouts.

Expansion characteristics: The controlled positive expansion in unset grouts incorporating Verna EPG admixture overcome plastic settlement when measured in accordance with ASTM C940 an unrestrained expansion of up to 2%is typical.

Time of expansion: 15 minutes to 2 hours, this time will be slightly less when temperature above 20 C°.

Compatibility: Verna EPG admixture is compatible with all kind of Portland cements

INSTRUCTION FOR USE:

Mixing grout: For best result a mechanically powered grout mixer should be used for quantities up to 50 kg, a slow speed drill fitted with a high sheer paddle is suitable. larger quantities will require a high sheer van mixer. It's essential that machine mixing capacity and labor availability is adequate to enable the grouting operation to be carried out continuously. This may require the use of holding tank with provision for gentle agitation to maintain fluidity. the selected water content should be accurately measured into mixer. slowly add cement (and sand if required) and Verna EPG admixture. Mix continuously for 3 to 5 minutes depend on mixer. making sure that a smooth even consistency is obtained

Concrete: For dry mixing process add Verna EPG admixture with cement.
For we mixing process add Verna EPG admixture prior to placement and mix for 3 to 5 minutes before casting.

Application details Area to be grouted should be prepared to ensured substrate is clean, sound and then prewetted. the unstrained Surface area of the grout should be kept to a minimum. Place the grout within 20 minutes of mixing to gain the full benefit of expansion process. Adopt usual placing or pumping procedure ensuring continues operation.

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Dosage:

Typical properties and dosage at 25 C°

Grout consequent	Sample 1	Sample 2
Cement (kg)	100	100
Water (litter)	36-38	34-36
Verna EPG admixture dosage on cement (%)	0.5	1.0
Properties		
Wet density (kg/m ³)	2000	2000
Flow (initial) flow cone method ASTM C939	14-20 sec	14-20 sec
Expansion (%) at 2 hrs. ASTM C940	< 2%	< 2%
bleed water (%) @1 hrs. ASTM C 940	< 1%	< 1%
Initial set time	4 hrs 30 min	4 hrs 00 min
Final set time	5 hrs 30 min	5 hrs 00 min
Compressive strength at 28 day (N/mm ²)	>40	>45

Effects of over dosing:

Drastic overdosing of Verna EPG admixture increases expansion and may cause frothing.

Curing:

On completion of grouting operation, any exposed area which are not to be cut back should be thoroughly cured by means of water application. Verna curing compound or hessian.

Cleaning:

Grouts with Verna EPG admixture should be removed from tools and equipment with clean water immediately after use. remove cured material mechanically.

Limitation:

Verna EPG admixture is incompatible with high alumina cement.

Package:

Verna EPG admixture is supplied in packs containing 24x250g units and 5 kg .and 25 kg bags.

Yield:

Approximately 68 litters of highly flowable grout are obtained by mixing 100kg of cement .0.5 -1 kg of Verna EPG admixture and 36 litter of water.

Caution:

When using 5 kg and 25 kg bags, the proportioning for each mix has to be done by using weighing balance, and the balance material in the bag should be closed tightly after use as the material is highly hygroscopic.

This Product Data Sheet supersedes those previously issued.

For explanations, definitions and scope, see "Explanatory Notes" available . Data, specifications, directions and recommendations given in this data sheet represent only test results or experience obtained under controlled or specially defined circumstances. Their accuracy, completeness or appropriateness under the actual conditions of any intended use of the Products herein must be determined exclusively by the Buyer and/or User.

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