

POLYEXPANSE (M-45/M-65/M-80)

Non-Shrink, Free Flow, Cementitious Grout

DESCRIPTION

POLYEXPANSE (M-45 / M-65 / M 80) is designed for critical use where normal to high strength, with positive expansion is required. It is specially formulated as a natural aggregate system with a shrinkage compensating binder and is a highly flowable without sacrificing strength .

POLYEXPANSE (M-45 / M-65 / M- 80) is prepacked, freeflowing cementitious powder, designed to be mixed with water at site.

SALIENT FEATURES:

1. Ready to use, only precise quantity of water is to be added
2. Three grades are available according to compressive strength (M-45/M-65/M-80)
3. Flowable and self-levelling.
4. Non-shrink performance provides excellent bearings.
5. Appearance of plain concrete.
6. No rusting of reinforcement, discoloration and efflorescence.

APPLICATIONS :

1. Anchoring of machines, heavy equipments and structural members.
2. Machine bases of all types.
3. Construction grouting-beams, bolt-pockets, keyways and deep anchors.
4. Column base plates.
5. Casting of foundations for pumps, Compressors, generators, motors, production machinery etc.

PACKAGING / YIELD:

POLYEXPANSE (M-45 / M-65 / M-80) is packed in 25 kg bags and yield about 0.014 m³ of flowable grout , when mixed with water .

DIRECTIONS FOR USE :

SURFACE PREPARATION:

Surfaces to be grouted should be clean and free from rust, grease or oil. Saturate the area to be grouted with water until it is uniformly damp and remove excess water just before placing the grout.

Ensure base plate , bolts are clean and free from oil, grease or paint. Set and align equipment and if leveling shims are to be removed after the grout has hardened then , these should be treated with thin layer of grease for easy removal.

FORMWORK:

The formwork should be constructed leak proof by using foam rubber strip or mastic sealant between joints and sufficiently sturdy to withstand the operational stresses without deforming. For pouring, allow a minimum clearance of 50 mm for entry and 150 mm minimum grout head. On the placing side, slope the form to assist in grout movement and to prevent trapping air.

MIXING:

Mix **POLYEXPANSE (M-45/M-65/M-80)**, slowly with accurately measured quantity water into mixer, continuously for 4-5 minutes, ensuring a smooth even flowable consistency, without lumps is obtained. The quantity of water to be calculated from given W/C ratio in 'Technical Data'

column. For small quantities, drill machine or 'jiffy' mixer, may be used. Use a paddle type mortar mixer, high shear vane mixer or concrete mixer for large jobs. Flow of grout should be observed and care should be taken to ensure that grout will not bleed with the amount of water that has been added. More or less water may be required to achieve, desired placing consistency depending on temperature and other variables.

PLACING:

Place the mixed grout within 15 minutes of mixing to gain full performance of grout. **POLYEXPANSE**

(M-45/M-65/M-80) can be placed in thickness upto 100 mm in a single pour.

For grouting operation, pour mixed grout continuously either through holes in a base plate or from one side, to avoid air pockets formation. It is free flow and self levelling. Avoid vibrations of any kind for at least 12 hours.

For further assistance in site trial, please contact our **CONCRETE MATERIAL CONSULTANCY DIVISION (CMCD)**.

CURING : As soon as the sheen of water disappears and the grout has began to stiffen, cure all exposed areas either by conventional means of continuous water application, wet hessian or by SUNPOLICURE concrete curing compound.

LIMITATIONS :

1. Do not add any admixtures or fluidifiers.
2. Proper curing is required
3. Shoulder cracking may occur on wide shoulders or at stress points such as shimpacks bolts or plate stiffeners. These cracks are of no structural significance.

STORAGE :

POLYEXPANSE (M-45/M-65/M-80) should be stored preferably in shade and in original bags. It has a shelf life of 6 months when stored in cool, dry place.

TECHNICAL DATA:

The following results were obtained under normal laboratory conditions.

Description	Polyexpanse M-45	Polyexpanse M-65	Polyexpanse M-80
WATER / POWDER RATIO			
POURABLE	0.13 - 0.14	0.14 - 0.15	0.15 - 0.16
Per 25 kg Bag	3.25-3.50 Ltr.)	(3.50-3.75 Ltr.)	(3.75-4.00 Ltr.)
FLOWABLE	0.14 - 0.15	0.15 - 0.16	0.16 - 0.17
Per 25 kg Bag	(3.50-3.75 Ltr.)	(3.75-4.00 Ltr.)	(4.00 - 4.25 Ltr.)
FLUID	0.15 - 0.16	0.16 - 0.17	0.17 - 0.18
Per 25 kg Bag	(3.75 -4.00 Ltr.)	(4.00-4.25 Ltr.)	(4.25 - 4.50 Ltr.)
% FLOW : @ FLOWABLE CONSISTENCY			
Initial	185	184	187
After 30 Min	82	80	82
COMPRESSIVE STRENGTH N /mm²			
FLOWABLE CONSISTENCY @ 30 °C (IS:516:1999)			
1 Day	30	34	44
3 Days	36	42	54
7 Days	41	53	63
28 Days	45	65	80
FLEXURAL STRENGTH N /mm²			
(IS-4031 :1999) part- 5			
1 Day	2.5	3.5	5.5
3 Days	3.5	4.0	8.5
7 Days	4.0	6.5	9.0
28 Days	5.0	8.0	11
SETTING TIME			
(IS-4031 :1999) part- 5			
Initial	3.20 hrs	3.20 hrs	3.25 hrs
Final	4.20 hrs	4.35 hrs	4.45 hrs
Freshwet Density	2100 -2300 Kg/m ³	2100 –2300 Kg/m ³	2100-2300 Kg/m ³
Free Expansion	0.05 - 2 %	0.05 - 2 %	0.05 - 2 %