6.03 (B) XPERT FLOW GROUT - 85

Premium Super Flow, High Strength, Non-Shrink, Precision Cementitious Grout

PRODUCT DESCRIPTION

XPERT FLOW GROUT – 85 is a pre blended powdered cementitious composite composed of high strength cement, well graded aggregates with maximum of 2-5mm diameter of particles and special additives with an expansive agent formulated by XPERT research laboratories.

When mixed with water **XPERT FLOW GROUT - 85** is transformed into a fluid grout that is able to fill small and interconnected spaces.

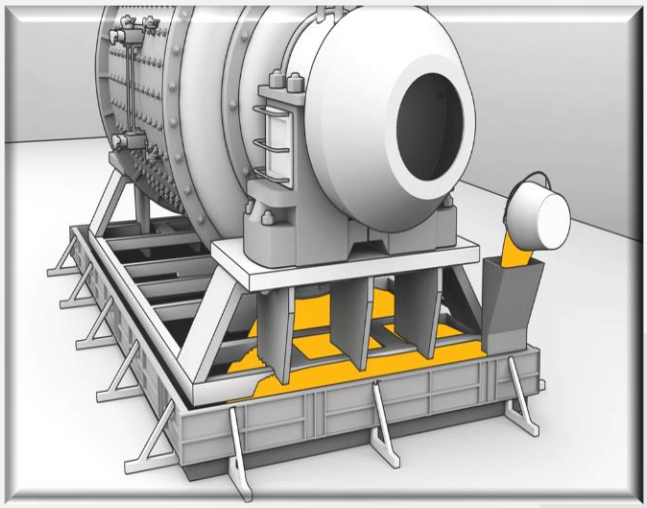
XPERT FLOW GROUT - 85, due to its expansive agent, is characterized by a total absence of shrinkage in its plastic phase (ASTMC-827) and its hardened phase and develop very high early compressive strength and flexural strength.

USES AND ADVANTAGES

- Precision anchoring of machinery and metallic structures.
- Anchoring of mechanical equipment, especially for oil and gas industries.
- Anchorage of metallic carpentry.
- Filling of rigid joints between elements in concrete and precast concrete structures.
- Execution of underpinning.
- Pressure grouting of concrete structures.
- Grouting of machine base plates, bridge bearing.

XPERT FLOW GROUT - 85 also has the following qualities:

- Excellent im-permeability to water.
- Excellent adhesion to steel and concrete.
- Excellent resistance to dynamic mechanical stress.
- Modulus of elasticity and thermal expansion coefficient similar to those of high-quality concrete.
- **XPERT FLOW GROUT – 85** does not contain metal aggregates and aluminium dust.



PACKAGING: XPERT FLOW GROUT - 85 is supplied in 20KG & 25KG moisture resistant bags.

STORAGE: XPERT FLOW GROUT - 85 has a shelf life of 09 months if kept in a dry store in sealed bags. If stored in high temperature and high humidity locations, the shelf life may be reduced.

TYPICAL PROPERTIES

The following properties were obtained at water: powder ratio of 0.17:1 and temperature of 20°C

CATEGORY	PARAMETERS
Colour:	Grey
Max. Aggregate Diameter:	5mm
Dry Solid Contents:	100 %
Mixing Ratio: (By Weight)	100 parts XPERT FLOW GROUT – 85 with 15-17 parts water (25Kg bag with 3.75-4.25 litres water)
Consistency:	Fluid
Density of mix:	2,250 Kg/m^3
pH of mix	>12
Temperature Range	5°C - 40°C
Pot Life	60 minutes
Compressive Strength (MPA & PSI) - 01 DAYS - 02 DAYS - 03 DAYS - 07 DAYS - 28 DAYS	 > 31 Mpa (4,513 Psi) > 37 Mpa (5,423 Psi) > 62 MPa (9,000 Psi) > 75 MPa (10,875 Psi) > 85 MPa (12,325 Psi)
Flexural Strength (MPA & PSI) - 03 DAYS - 07 DAYS - 28 DAYS	 > 6 MPa > 8 MPa > 10 MPa
Volume Expansion % (ASTM C940)	0.5

APPLICATION INSTRUCTIONS

Surface Preparation: The substrate surface must be free from oil, grease or any loosely adherent material. If the concrete surface is defective or has laitance, it must be cut back to a sound base. Bolt holes or fixing pockets must be blown clean of any dirt or debris.

Pre-soaking: Several hours prior to grouting, the area of cleaned foundation should be flooded with fresh water. Immediately before grouting takes place, any free water should be removed with particular care being taken to blow out all bolt holes and pockets. To remove unabsorbed water, use compressed air if necessary.

Base Plate: It is essential that this is clean and free from grease, oil or scale. Air relief holes should be provided to allow venting of any isolated high spots.

Levelling Shims: If these are to be removed after the grout has hardened, they should be treated with a thin layer of grease.

Formwork: The formwork should be constructed to be leak proof. This can be achieved by foam rubber strip or mastic sealant beneath the constructed formwork and between joints. In some cases, it is practical to use sacrificial semi dry sand and cement formwork. The formwork should contain outlets for pre-soaking.

Unrestrained Surface Area: This must be kept to a minimum. Generally, the gap width between the formwork and the plate edge should not exceed 150mm on the pouring side and50mm on the opposite side. It is advisable to have no gap at the flank sides.

MIXING AND PLACING

Pour the required water into a clean container and slowly add **XPERT FLOW GROUT – 85** while mixing continuously.

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Mix for 1-2 minutes, making sure no powder is clumping and sticking to the sides of the container. Mix again for 2-3 minutes until a fluid and homogenous paste is obtained.

According to the quantities to be mixed a grout mixer or a mechanical mixer can be used paying careful attention to avoid the formation of Air Bubbles.

DO NOT MIX BY HAND.

For best results a mechanically powered grout mixer should be used when quantities up to 50kg are used, a slow speed drill fitted with a high shear mixer is suitable. Larger quantities will require a high shear vane mixer. Do not use a colloidal impeller mixer. To enable the grouting operation to be carried out continuously, it is essential that sufficient mixing capacity and labour are available. The use of a grout holding tank with provision to gently agitate the grout may be required.

Consistency of mixed grout: The quantity of clean water required to be added to a 25kg bag to achieve the desired consistency is given below.

- Trowel able / Plastic 3.5 – 3.8 litres
- Flow able 4.0 – 4.5 litres

The selected water content should be accurately measured into the mixer. The total contents of the **XPERT FLOW GROUT - 85** bag should be slowly added and continuous mixing should take place for 5 minutes. This will ensure that the grout has a smooth even consistency.

APPLICATION (ANCHORING):

Pour the mixed **XPERT FLOW GROUT – 85** only in a continuous flow to prevent air entrapped. The diameter of the anchor hole should be at least twice the diameter of the bar to be anchored.

The use of **XPERT FLOW GROUT – 85** for connecting precast concrete elements and the filling of rigid joints is recommended for thickness up-to 6 cm. It is not necessary to vibrate the grout mechanically; to facilitate the filling of spaces that are particularly difficult, use a wood stick or a steel bar.

GROUTING OF THICK SECTION:

For filling cavities that have dimensions greater than those indicated, please consult **XPERT's** Technical Services for assistance.

PLACING:

At 20°C, place the grout within 20 minutes of mixing to gain the full benefit of the expansion process. **XPERT FLOW GROUT - 85** can be placed in thicknesses up to 100mm in a single pour when used as an under-plate grout. For thicker sections it is necessary to fill out **XPERT FLOW GROUT - 85** with well graded silt free aggregate to minimize heat build-up.

Typically, a 10mm aggregate is suitable. Any bolt pockets must be grouted prior to grouting between the substrate and the base plate. Continuous grout flow is essential. Sufficient grout must be prepared before starting. The time taken to pour a batch of grout must be regulated to the time to prepare the next one. Pouring should be from one side of the void to eliminate any air or pre-soaking water from being trapped under the base plate.

CONSUMPTION:

Each 25 Kg bag of **XPERT FLOW GROUT – 85** yields approximately 13 Litres of Grout when mixed with 4 litres of water.

INSTRUCTION TO BE OBSERVED BEFORE AND AFTER APPLICATION:

- At temperature around $23\pm2°C$, no particular precautions are required.
- In hot weather it is advisable not to expose the material to sun and to use the water in preparing the mix.
- In low temperature it is advisable to use water that is at $+20°C$.
- After casting, **XPERT FLOW GROUT – 85** must be properly cured; the surface of grout exposed to the air must be protected from rapid water evaporation that can cause the

formation of surface cracks due to plastic shrinkage especially in hot and/or windy weather.
- Spray water on surface exposed to air for the first 24 hours of curing or apply an curing agent i.e. **XPERT CURE W2.**

CLEANING:

Fresh grout can be removed from tools with water. After curing cleaning becomes very difficult and can only be done mechanically.

LIMITATIONS

Low temperature working: When the air or contact surface, temperatures are 5°C or below on a falling thermometer, warm water (30-40°C) is recommended to accelerate strength development. For ambient temperatures below 10°C the formwork should be kept in place for at least 36 hours.

High temperature working: At ambient temperatures above 35°C cool water (below 20°C) should be used for mixing the grout prior to placement.

SAFETY INSTRUCTION FOR PREPARATION AND APPLICATION:

XPERT FLOW GROUT – 85 contain cement that when in contact with sweat or other body fluids causes irritant alkaline reactions and acidic reactions to those predisposed. It can cause damage to eyes.

During use wear protective gloves and googles and take the usual precautions for handling chemicals. If the product comes in contact with the eyes or skin, wash immediately with plenty of water and seek medical attention.

For further and complete information about the safe use of our product please refer to the latest version of our material safety data sheet.

PRODUCT FOR PROFESSIONAL USE.

LEGAL NOTICE:

WARRANTY