



SILKON
ADDITIVES INDIA PVT LTD

Lapkon G3

Lapkon G3 is a non-shrink, free flow, general purpose cementitious grout which is used for effective support underneath load bearing units especially where static loads apply. Also as an efficient medium for transferring all operational loads to the foundation. For free flow grouting of machine base plates, crane and transporter rails, standing equipment bed plates, stanchion bases, steel rolling mill beds, pump sets etc.

Product features and advantages

- Non-shrink - Will continue to occupy the filled space without shrinkage. Continues to provide support to the bearing areas and dampens vibration.
- Free flow - Ensures high level of contact with load bearing area. Also helps complete filling without voids. No need for external aids like rodding, poking, chaining etc.
- Pre-packed and factory controlled - Consistency and reliability ensured. Site batching and blending variations eliminated.
- Iron free - No chance of deterioration by uncontrolled rust expansion, corrosion and staining of grout.
- Chloride free - Does not cause corrosion of machine parts, anchor bolts etc., in contact with grout.
- Good early and final strengths due to very low water requirement
- Controlled expansion to retain the original volume filled even after setting
- Free flow characteristics without any segregation and bleeding.

Technical Support

Silkon provides an experienced technical advisory team to give technical service on request.

Technical Specification

Age (days)	Compressive strength : (ASTM C 109)
	Compressive strength (N/mm ²)
	Consistency
	Flowable (W/P 0.18)
1	10
3	28
7	35
28	47

Young's Modulus	: 24 KN/mm ²
Expansion Character	: Controlled expansion occurs in the unset material to ensure that the grout, when cured, will continue to occupy its original volume within the confines of the voids in which it has placed.
Unrestrained expansion	: 1 to 4%
Pressure to restrain plastic expansion	: Approx. 0.004 N/mm ²
Note	: It is necessary to restrain free flow grout edges over 50mm wide. Otherwise unrestrained expansion may lead to some cracks.
Fresh Wet Density	: 2200 Kg/M ³ (Flowable)
Water Powder ratio	: 0.15 (Flowable consistency)

Application Methodology:

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 and fixing pockets must be blown clean of any dirt or debris.

Surface SSD

Several hours prior to placing, the concrete substrates should be saturated with clean 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.

Shuttering

The formwork should be constructed to be leakproof. This can be achieved by using foam rubber strip or mastic sealant beneath the constructed formwork and between joints. In some cases it is practical to use a sacrificial semi-dry sand and cement formwork. The formwork should include outlets for pre-soaking.



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Mixing and placing

Mixing

For best results a mechanically powered grout mixer should be used. When quantities up to 50kg are used, a heavy duty slow speed drill (400-500 rpm) fitted with a paddle is suitable.. Larger quantities will require a heavy duty mixer. To enable the grouting operation to be carried out continuously, it is essential that sufficient mixing capacity and labor are available. The use of a grout holding tank with provision to gently agitate the grout may be required.

Placing

At 30°C place the grout within 20 minutes of mixing to gain full benefit of the expansion process. Lapkon G5 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 Lapkon G3 with well graded silt free aggregate to minimise heat build up. Typically a 10mm aggregate is suitable. 50 - 100% aggregate by weight of Lapkon G3 can be added.

Curing

On completion of the grouting operation, exposed areas should be thoroughly cured. This should be done by the use of Silok WB40 curing membrane, continuous application of water and/or wet hessian.

Limitations

Low temperature working

When the air or contact surface temperatures are 10°C or below on a falling thermometer, warm water (30 - 40°C) is recommended to accelerate strength development. For ambient temperature below 10°C the formwork should be kept in place for at least 36 hours. Normal precautions for winter working with cementitious materials should then be adopted. High temperature working At ambient temperatures above 40°C, cool water (below 20°C) should be used for mixing the grout prior to placement.

Packaging

Lapkon G3 is supplied in 25 kg moisture resistant bags.

Yield

Allowance should be made for wastage when estimating quantities required. The approximate yield per 25 kg bag for different consistency is :

Consistency	Yield (Litres)
Pourable	12.5

Storage

Shelf life

Lapkon G5 has a shelf life of 6 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.

Precautions

Health and Safety instructions

Lapkon G3 is alkaline and should not come into contact with skin and eyes. Inhalation of dust during mixing should be avoided. Gloves, goggles and dust mask should be worn. If contact with skin occurs, it shall be washed with water. Splashes to eyes should be washed immediately with plenty of clean water and medical advice sought.

Fire

Lapkon G3 is non flammable.

Additional information

For further details about the use and selection of grouts refer to the Silkon Information module entitled 'Precision grouting in the Construction industry'.