

SERVIGROUT-114®

High performance, one component, Dual shrinkage compensating, Flowable cementitious grout.

Description

Servigrout-114 is a shrinkage compensated cementitious grout based on a blend of Portland cement and special binders, graded siliceous fillers and additives. **Servigrout-114** has a dual shrinkage compensating system in both plastic and dry states. **Servigrout-114** is mainly designed to fill confined voids and under base plates. The material is preblended and ready to be mixed with water to produce an easily placed grout.

Advantages

- Shrinkage compensated in both plastic and dry states with good curing.
- Increased strength due to the hydration process and lower water / cement ratio.
- Low permeability resists carbonation providing excellent protection to steel.
- Formulated for short and long term efficiency.
- Nontoxic & Suitable for food industry and potable water.
- No plastic settlement or bleeding.
- Good Air release.
- Excellent adhesion.
- Easy to use.
- Chloride free.

Uses

Servigrout-114 can be easily used to fill voids and gaps between concrete or masonry elements, or between underneath base plates of steel columns or machines. The consistency should be adjusted from fluid to plastic depending on the type of application. Typical applications include but are not limited to:

- Grouting cable ducts in post tensioned concrete.
- Under-plate grouting.
- Underpinning.
- Infill concrete.
- Jointing precast units.
- Shrinkage compensated repair mixes.

Technical characteristics

Color

Grey (other colors are available upon request)

Setting time @ 23° C

	Plastic	Flowable	Fluid
Initial	9 min.	1hr 20min	2hr 45min
Final	22 min.	2hr 50min	4hr 15min

Toxicity

Non-toxic

Dry density

1.7 Kg/L

Fresh density (Fluid consistency)

2.2 Kg/L

Maximum Particle size

3 mm

Adhesion to concrete substrate

(Adhesion depends very much on proper surface preparation)

> 1 N/mm²

Flow according to BS EN 1015-3 (Without Jolting)

> 37Cm

Plastic Expansion ASTM C940

≈ 2.0 % at standard conditions

Hardened Expansion at 28 days EN 12617-4

≈ 0.05%

Flexural strength 28d EN 196-1:2005 (MPa) (Flowable)

> 6 MPa

Compressive strength tested according to EN 196-1:2005 (MPa). (4x4x16 prisms)

Consistency	Water/Powder ratio	Age		
		24 hours	7 days	28 days
Fluid	0.120	22	40	50
Flowable	0.100	27	48	60
Plastic	0.70	40	60	65

Package & Yield

Servigrout-114 is supplied in 30 Kg bags.

After mixing with water, the 30 Kg bag yields about 15 liters of grout when mixing water per bag is 3.75 liter.

Allowance should be made for any possible wastage or surface unevenness when estimating.

Application Instructions

Surface preparation

All substrates should be clean, free from dust, loose particles, grease, oil or any other foreigner matter.

Formwork should be erected and made grout-tight. The formwork must be designed with sufficient hydrostatic head to ensure grout flow into and across the grouting area. Saturate the grouting area with water, check for leaks, leave for one hour and then blow out any surplus water. All concrete surfaces should be surface saturated dry (SSD) just before the application.

Mixing

Pour about 3.0 – 3.75 liters of clean water into the mixing vessel for each complete 30 kg bag of **Servigrout-114**. Slowly add the **Servigrout-114** to the water whilst continually mixing for 3 - 5 minutes. Mechanical mixing is essential using either a high torque slow speed drill with a Grout Stirrer or a grout mixer set on a slow speed. (High speed or colloidal mixing will cause thixotropy leading to loss of flow). Hand mixing is not recommended.

Application

Grout should be placed before the gelling time to insure good flowability; otherwise slight vibration could overcome the problem. Continuous placing is important, pouring from one side of the formwork until the grout appears at the opposite side of the grouting area. Do not disturb once grouting has been completed. The grout is chloride-free, can be safely used in contact with steel and can be placed in section thicknesses of 10mm up to 50mm. To take full advantage of the expansion properties **Servigrout-114** should be applied within maximum 20 minutes from mixing.

Curing

Immediately after placing the grout, all exposed areas should be covered with clean wet hessian and kept moist until grout surface is ready to be finished, or until final set. After final setting, continue the curing process with soaking, wet hessian or a curing compound for a minimum period of 7 days to activate the shrinkage compensation system. Curing is very important for the success of the task.

Precautions

Protect the **Servigrout-114** bags from direct sun rays or any other source of heat before use; this can lead to a very fast setting. Avoid working on hot substrates and avoid mixing with hot water, the temperature of both the grout and elements coming into contact with the grout should be in the range of +5°C to +35°C. Never exceed the stated water dose and temperature to avoid bleeding, segregation and further cracking. Never remix with water to retrieve its initial workability. For application thickness other than the stated, please refer to our technical office.

Avoid contact with gypsum or any other sulfates on substrate, mixing water or curing water in plastic state.

Health and safety

Servigrout-114 is alkaline when mixed with water and should not come into contact with skin or eyes. Avoid inhalation of dust during mixing and wear safety glasses, dust mask and gloves. If skin contact occurs, wash thoroughly with clean water. Should eye contact occur, rinse immediately with plenty of clean water and seek medical advice.

Full health and safety data are given in Product Safety Data Sheet.

Storage & shelf life

Servigrout-114 should be stored in normal temperature and closed shaded dry area in undamaged original packing. It is recommended to be re-tested after 6 months from the production date.

Technical support

For any technical support, please consult our technical office or representatives.