

FLOWCABLE

50 P

(Replaces Atrogrout)

**Expanding plasticising admixture for
cement, grout and concrete**

Description

FLOWCABLE 50 P is an expansion system which compensates for plastic shrinkage and settlement in cementitious grouts. Supplied in powder form, FLOWCABLE 50 P produces controlled expansion in cement grouts and maintains high water retention. It contains a water-reducing agent which increases the workability of the mix with a reduced water content, making a stronger grout. Full expansion is achieved before initial setting occurs resulting in a high degree of interfacial contact.

Applications

For bedding, jointing, duct grouting and void filling applications where the following characteristics are beneficial:-

- A cement plasticising and water reducing agent to improve the free flowing properties of the grout at low water/cement ratios.
- An expanding agent that increases the volume of the grout which in turn eliminates shrinkage and settlement.
- A catalyst to control the rate of expansion and to ensure full expansion of the grout.

(For precision grouting and load bearing operations use MASTERFLOW grouts.)

Packaging

FLOWCABLE 50 P is available in 0.5 and 20 kg bags.

Properties*

* Properties listed are only for guidance and are not a guarantee of performance.

Colour:	Brown/grey powder
Chloride content:	Nil to BS 5075 : 1982
Nitrate content:	Nil
Freezing point:	n/a
Flash point:	None
Dosage:	500gm/100kg cement

Standards

FIP RILEM Joint Committee on Grouting Report.

Expanding properties

The expansion of grouts containing FLOWCABLE 50 P is sufficient to overcome normal settlement without producing undue pressure against the sides of the duct. The grout therefore forms a firm and uniform bond to the concrete and to the steel along the length of the tendon, and at the same time provides good protection for the cable. The expansion obtained by the use of FLOWCABLE 50 P

reaches a maximum within 1 - 2½ hours of mixing under average temperature conditions. After this period no settlement occurs, and the grout retains its maximum expansion. FLOWCABLE 50 P produces a maximum expansion of 3.25% in a neat cement grout, and 2% expansion in a 1:1 sand/cement grout.

Plasticising properties:

FLOWCABLE 50 P imparts fluidity to grout, even at reduced water/cement ratios, and because of the water reducing action, higher compressive strengths are obtained.

Table 1:

Compressive strength (N/mm²) after 7 days

	Neat cement grout	Sand/cement grout 1:1
Control	27.0	21.8
FLOWCABLE 50 P	29.2	24.3

Directions for use

First add the water to the mixer and then the Portland cement, mix thoroughly until the cement has been completely dispersed. Then add the FLOWCABLE 50 P and sand (if any is being used), and continue mixing a further 2 minutes or until complete dispersion of the FLOWCABLE 50 P is achieved.

The type of mixing equipment generally used in preparing cement grouts is that which will produce a high local turbulence thus ensuring an efficient breakdown and dispersion of the cement.

Grouts for ducts of post-tensioned concrete members should be passed through a 1.18mm BS sieve before reaching the pump, and the

pump should be capable of giving a continuous flow of grout to the injection equipment.

Dosage

FLOWCABLE 50 P is used at the rate of 500gm per 100kg cement in the grout, and can be used either with ordinary Portland cement or Rapid Hardening Portland cement. During the winter months when temperatures may fall to between 7°C and 1°C, it is recommended that Rapid Hardening Portland cement should be used in grouts for filling the ducts of post-tensioned concrete members.

Recommended grout specifications for grouting ducts of post-tensioned concrete members:

1. Neat cement grout:	
Ordinary Portland cement:	100kg
FLOWCABLE 50 P:	500gms
Water:	Not more than 50 litres
2. Cement sand grout	
Ordinary Portland cement:	100kg
Sharp graded sand (passing 1.18mm mesh sieve)	100kg
FLOWCABLE 50 P:	500gms
Water:	Not more than 54 litres

Specification clause

FLOWCABLE 50 P, manufactured by Degussa, or similar approved, is to be incorporated in grouts where indicated.

The FLOWCABLE 50 P shall be added at the rate of 500gm per 100kg Portland cement and

used strictly in accordance with the manufacturer's recommendations.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with the eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

Storage

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Degussa's Technical Services Department. Shelf life is 1 year when stored as above.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Degussa representative. Degussa reserves the right to have the true cause of any difficulty determined by accepted test methods.

Quality

All products produced by Degussa certified manufacturing facilities, are produced to conform to systems designed to meet internationally recognised quality standards.

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REQUEST AND REFER TO RECOMMENDED
INSTALLATION PROCEDURES FOR **MASTERFLOW**
GROUTS PRIOR TO USE