

MAX 9008 ANCHOR GROUT – P (Part – A & B)

(High Strength Polyester Resin Anchor Grout for Horizontal / Overhead Application)

DESCRIPTION:

MAX 9008 ANCHOR GROUT – P polyester resin grout are all premeasured, two part, filled polyester resin grouts. After hardening the grout produces anchorages of consistent reproducible values.

USES:

MAX 9008 ANCHOR GROUT – P are used for high strength corrosion resistant anchoring of bolts and bars from 10 - 51mm diameter into concrete, rock, masonry or brickwork where high speed of installation and early application of load is required.

Permanent installation of reinforcement starter bars, foundation bolts, base plates, balustrading, barriers and safety fences, railway tracks, tie-back anchors, reinforcement dowelling abutments, ground anchors for towers, cranes, dock sills.

ADVANTAGES:

- Ultra rapid strength gain
- Rapid strength gain
- Vibration resistant
- Corrosion resistant
- Non expansive
- Can be placed under water

STANDARDS AND SPECIFICATIONS:

Materials tested in accordance with
 BS 4551
 BS 5080
 BS 2782

TECHNICAL SUPPORT:

Semitrone offers a comprehensive range of high performance, high quality concrete repair and construction products. In addition, Semitrone offers a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance in locations all over the country.

DESIGN CRITERIA:

The version of **MAX 9008 ANCHOR GROUT - P** grout to be used will depend upon ambient temperature and anchor conditions.

The high strength of the cured resin permits strong anchors to be created. The ultimate bond strength developed depends upon:

- Strength of host material
- Length of resin bond to bar
- Hole preparation and formation
- Type and dimension of bar

The following formula may be used to determine the minimum depth of installation for Type 1 rebar bolts, to ensure the shear stress within the concrete is kept within the limits set out in BS 8110.

$$\text{Minimum hole Depth (mm)} = \frac{0.6Y \cdot d_1}{\pi d_2} \cdot \frac{\pi d_1^2}{4} = \frac{0.15Y d_1^2}{S d_2}$$

where Y is characteristic yield strength of steel (545 N/mm²)

S is permitted shear stress in concrete (N/mm²)

d₁ is bar diameter (mm)

d₂ is hole diameter (mm)

This formula is used typically as shown in

Table 1.

Table 1

Minimum hole depth

Characteristic concrete strength (N/mm²):

20 25 30 > 40

Permitted concrete shear stress using Type

One Bar

(N/mm²): 1.8 2.0 2.2 2.5



Bar diameter (mm)	Yield (tonnes)	Hole diameter	Minimum hole depth (mm)			
10	4.4	18	255	228	210	182
12	6.3	20	330	295	270	236
16	11.2	24	485	440	400	350
20	17.5	28	650	590	531	468
25	7.3	33	860	775	704	620
32	44.7	40	1165	1050	951	838
40	69.9	48	1515	1365	1240	1090

Properties

Gel time Temp(°C)	Gel time (min)	Minimum time required before loading (hours)
20	80	7
30	40	3
40	15	1

Compressive strength : After the minimum time required before loading the grout typically attains a compressive strength in excess of 20N/mm² and an ultimate compressive strength of 70N/mm² in 7 days (50mm x 50mm x 50mm) when tested as per BS 6319 Part 2 : 1983.

Chemical resistance: The cured resin is resistant to fresh and salt water, petrol, oils, grease and most acids, alkalis and solvents.

APPLICATION INSTRUCTIONS :

Selection of grout version

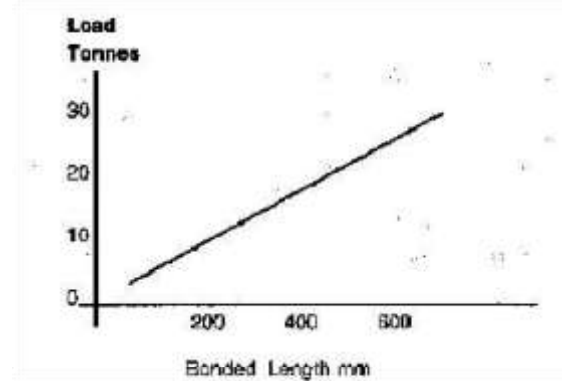
The version of **MAX 9008 ANCHOR GROUT – P** chosen will depend on anchor conditions (see description)

Parameters of anchor design

The high strength of the cured resin permits strong anchors to be created. Ultimate strength is determined by :

- Strength of host material
- Length of resin bond to bar
- Hole preparation and formation
- Type and dimension of bar

Fig.1 Typical loads attained Concrete



Concrete : 20N/mm² unreinforced

Bar: 25mm dia Deformed rebar to IS:1786
32mm dia hole: Air-flushed rotary percussive drilled

Note: The graph illustrates typical failure loads. Minimum safety factors of 1.5 in non critical and of 2 in critical cases should be considered for design purposes. Wherever relevant, the local code of practice or standard must also be considered in relation to anchorage length.

Hole preparation and formation

Optimum performance of **MAX 9008 ANCHOR GROUT – P** requires rough sided, dust free holes. Uses of rotary percussive drills with air or water flushing is recommended.

Diamond drilled holes should be under-reamed unless necessary safety factors are incorporated.

Cast holes should preferably be inverse dovetail configuration.

If parallel sides holes are cast they should be rough to provide adequate keying.

Bar preparation

All bars should preferably be degreased and all flaky rust removed.

Mixing

A complete pack of resin and catalysed filler should be mixed in one operation. Mixing may be carried out mechanically. When a smooth, even consistency is achieved the grout is ready for use and should be placed well within the gel time of the grout (See properties).

Packs have been designed to produce practical and economic volumes of grout.



Do not attempt to mix partial pack components.

Installation

MAX 9008 ANCHOR GROUT – P Using the calculated volume of grout based on Table 1, the grout should be poured steadily into the prepared holes. The anchor bar is then pressed into the hole to the required depth.

Slight agitation of the bar will assist in achieving a complete bond. The bar should then be left undisturbed in the required position until the resin is set.

Table 1

Quantity estimating guide

Table indicates volume of **MAX 9008 ANCHOR GROUT – P** polyester resin grout in cm³ /100mm bond

Hole diameter (mm)	Bolt diameter (mm)							
	10	12	16	20	25	32	40	
18	25							
20	32	25						
25	47	50	40	25				
32		80	70	60	40			
38			100	100	75	45		
45				150	130	100	45	
50					180	150	90	
62						280	225	

Estimating

PACKING:

300 gm(liquid) + 700 gm(powder) 1 kg

Precautions

Fire resistance and creep

At operating temperatures above 400C, the creep of **MAX 9008 ANCHOR GROUT – P** polyester resin grout resin under load may become significant.

Resin anchors should not be used where structural load bearing performance has to be maintained in anchors subjected to fire conditions.

HEALTH & SAFETY:

- Use rubber hand gloves & safety goggles, while using **MAX 9008 ANCHOR GROUT – P**
- In case of contact with skin, wash with plenty of water.
- Keep out of reach of children

STORAGE & LIFE:

Best before one year from the date manufacture when in sealed pack and stored in cool & dry place in unopened condition away from direct sunlight.

TECHNICAL INFORMATION & SERVICES:

Further information and advice, including practical demonstration are freely available with the Technical Service Department of **SEMITRONE CONCHEM PVT LTD - AHMEDABAD.**

DISCLAIMER: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results.



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