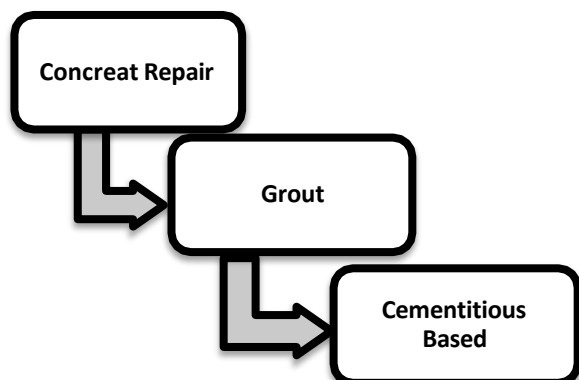


FAMILY TREE



PRODUCT DESCRIPTION

Single component, dry cementitious grout powder, formulated from cement, selected additives, well graded and non-reactive aggregates that when mixed to water will produce excellent flow properties, shrinkage compensation, frost resistance, non-metallic, and high compressive strength.

It is carefully manufactured to be chloride free that when mixed with water will maintain fluid consistency for long duration.

FIELD OF APPLICATION

Area Type	: ☒ Dry	☒ Semi-wet	☐ Submerged
Area Location	: ☒ Internal	☒ External	
Type of Installation	: ☒ Horizontal	☒ Vertical	
Area of Application	☒ Bolt pockets ☒ Machinery base-plates ☒ Rail ☒ Reinstating damaged structural elements by placing within the formwork		
	☒ Anchor bolts ☒ Stanchion base plates ☒ Gaps between the base plate and concrete		
	☒ Bridge bearings ☒ Tie holes ☒ Joints between precast panels		
Thermal behaviour	: Excellent thermal behaviour.		

PROPERTIES

• Non-shrinkage.	• Ready dry pre-mix, just add water.
• No risk of cement washout when placed underwater.	• High early strength.
• Low permeability.	• Dense.
• High bond strength.	• Free flowing.
• Chloride free.	• Can fill intricate voids.
• Flowable and self-levelling.	• No bleeding or segregation.
• Controlled expansion.	

PREPARATION

Working Conditions	: 4° to 50°C.
Tools / Equipment	: Mechanically powered mixer (Small quantity), high shear vane grout mixer (Large quantity), mixing plastic bucket, diaphragm pump.
Substrate	: Clean thoroughly and ensure that it is dry and free from dust, oil, grease, paints or any other loose material that might cause de-bonding with the surface. Metal surfaces should also be clean and free from rust, oil and grease.
Priming	: Saturate with water at least 3 - 4 hours prior to pouring the grout.
Points of Attention	: Any standing water should be removed just prior to placing of grout. Chilled or cold water will give enhanced flowability.

MIXING

W/P ratio	:	Around of 0.16 : 1
Mixing Speed	:	400 - 600 rpm
Process	:	Add the clean and fresh water to the mixing container. Start the mixer and add the powder slowly while mixing. Keep mixing the paste for a period not less than 3 minutes after the addition of the powder until a consistent, homogenous and lumps free mixture is achieved.
Points of Attention	:	Do not add powder to the water without the mixer is started. Always mix sufficient amount that can be applied within the allowed open time of the adhesive after mixing.

APPLICATION

Thickness : The product can be applied in a single layer at thickness between 10 -100 mm. For thickness above 100 mm, it shall be mixed with hard, clean, surface saturate dry (SSD), graded 10 mm aggregates in the ratio of 1:1 or 1:0.5 by weight depending on the required consistency. Conduct trials before application.

More details in the below table

APPROXIMATE FLOW DISTANCE (mm) at 25°C GROUT TEMPERATURE

W/P	Gap Depth mm	Head Height	
		10 cm	25 cm
14%	10	280	1200
	20	800	2500
	30	1400	2800
	40	2200	> 3000
16%	10	800	2400
	20	1700	2900
	30	2800	3100
	40	> 2900	> 3200

Coverage	:	Approximately 13 litre/25 kg bag depending on consistency & type of application.
Process	:	<u>Formwork</u> Make sure that all formwork and shutters are water tight. Seal underneath the formwork and at all joints by using appropriate mastic. The unrestrained areas should be kept to a minimum due to the expansive nature of the product. <u>Application</u> Place the mixed grout within 15 minutes to gain full advantage of the expansion. Bolt pockets should be grouted first. Stop the grout 510 mm below the top surface of the bolt pocket. Grouting of base plate should be carried out continuously. Ensure to have enough grout in place prior to starting. Start pouring the mixed grout from one side of the formwork to prevent entrapping of air. This can be achieved by pouring the grout to the shortest distance. It is advisable to use heavy duty diaphragm pump when large volumes are to be placed. During application ensure entrapped air is able to escape through relief holes. Maintain continuous head during the grouting. Grout flow should not be interrupted. Check for any grout loss through the formwork or between any unsealed joints.
Curing	:	Curing can be conducted when casted above water by either using concrete curing compound or by using wet hessian and polyethylene.
Points of Attention	:	Enough material should be available to achieve continuous fill and to complete the work. At low temperatures (below 8°C), warm water is recommended to achieve the early strength. And the formwork is recommended to be kept longer time. At high temperatures (35°C and above), cold water (less than 20°C) must be used for mixing. The product shall not be used in the unrestrained areas as it may lead to the cracking of grout.

It is recommended to maintain the minimum shoulder space between baseplate and formwork. Grout surface on the shoulders should be sprinkled with aggregates or retrained to minimize the cracks.

Cleaning	: All tools / equipment shall be cleaned immediately after use with fresh clean water. Hardened materials should be cleaned mechanically. Care shall be taken not to damage the tools / equipment.
-----------------	--

PACKING

Standard Package	: CemGrout 2 available in 25 Kg plastic Bags.
Custom Package	: Special packages can be arranged for large requirements.
How to Order	: Specify the Product Name followed with a hyphen and package size.

STORAGE CONDITION

Shelf Life	: 24 months from the date of manufacturing.
Temperature	: 5°C and 35°C.
Points of Attention	: Store in shaded area and properly sealed in its original packing.

TECHNICAL PROPERTIES

PROPERTY	STANDARD		VALUE		
Testing Standard	ASTM C1107, ASTM C109, ASTM C940, ASTM C19101-a, ASTM C1437, ASTM C939 & BS 6319 -3				
Testing Conditions	Tests were carried out in Apollo R&D laboratory with W/P = 0.25 @ 25°C				
Component	Single component				
Form	Powder				
Colour	Grey				
Compressive strength	ASTM C109 ASTM C1437 ASTM C939	W/P	0.14 (Flowable) N/mm ²	0.16 (Fluid) N/mm ²	
		1 day	30	25	
		3 days	45	40	
		7 Days	55	50	
		28 days	70	65	
Flexural Strength	BS 6319-3 ASTM C1437 ASTM C939	W/P	0.14 (Flowable) N/mm ²	0.16 (Fluid) N/mm ²	
		7 Days	8	7	
		28 days	10	9	



CemGrout 2

CemGrout 2 - 25 Kg – BS/ASTM

*Single component, cementitious non-shrinkage
general purpose*

Final setting time	ASTM C19101-a	< 8 hrs		
Expansion characteristics	ASTM C940	Up to 2.0% positive expansion		
Fresh wet density	ASTM C1107	W/P	0.14	0.16
	ASTM C1437			
	ASTM C939		Flowable	Fluid
Bleeding	ASTM C940	Nil		
Points of Attention	: Compressive cubes were tested under water and restraintment to simulate site conditions. Also typical properties are @ 4.5 litres water/ 25 kg @ 25°C.			

This Technical Data Sheet is prepared based on extensive research and practical experience. With the varieties of the materials and conditions of application is out of our control, Apollo assumes no responsibility for the obtained results and / or damages caused by the usage of this product. Apollo Technical Service family is always available at your disposal for any advice and directions that might be required.



CemGrout 2

CemGrout 2 - 25 Kg – BS/ASTM

*Single component, cementitious non-shrinkage
general purpose*

ATTENTION

PPE	:	It is recommended to use full PPE while working with the product to avoid any possibility of irritation to skin or eyes. In case of accidental contact with eyes, immediately flush with plenty of water for at least 10 minutes and seek medical advice if necessary.
<u>Hazardous Classification</u>	:	Non-Hazardous.
Fire	:	Non-flammable.

APOLLO AT THE GLANCE

Apollo is confident with the technical solutions and high quality end products served to the customers.

Apollo invites you to explore other services and products:

• R&D and manufacturing custom solutions	• Adhesives	• Bonding Agents Systems
• Building Finishing Systems	• Concrete Admixture	• Concrete Repair Systems
• Flooring Systems	• Grouts & Anchoring Systems	• Painting & Putty Systems
• Protective Coatings	• Sealant & Jointing Solutions	• Structural Strengthening Solutions
• Surface Treatment Solutions	• Tile Adhesive & Grouting Solutions	• Waterproofing Systems

This Technical Data Sheet is prepared based on extensive research and practical experience. With the varieties of the materials and conditions of application is out of our control, Apollo assumes no responsibility for the obtained results and / or damages caused by the usage of this product. Apollo Technical Service family is always available at your disposal for any advice and directions that might be required.