PENAFLOW PANEL GROUT

GENERAL PURPOSE, NON SHRINK CLASS A CEMENTITIOUS GROUT

DESCRIPTION:

RLA PENAFLOW PANEL GROUT is a Class A construction grout based on a blend of Portland cement, high-quality graded aggregates, and additives, which control expansion whilst the grout is in a plastic state

PENAFLOW PANEL GROUT has been tested to, and compliant with AS1012 and AS1478 for Class A grout

RECOMMENDED USE:

- General purpose grout.
- Grouting underneath precast panels and concrete sections.
- Anchor bolts filling.
- Filling in cavities, gaps and base infills.
- Filling in core holes created in panels by core drilling.
- Suitable for block work in the core filling.
- Suitable for underpinning
- Suitable for grout tube applications

FEATURES AND BENEFITS:

- Shrinkage compensated.
- Gaseous expansion while in a plastic state eliminates shrinkage and settlement.
- Non-metallic iron content eliminates staining.
- Can be dry packed, rammed, trowelled, or poured
- Pump able for larger applications.
- Grouting from 20mm to 150mm in a single application
- Australian-made

SURFACE/SUBSTRATE PREPARATION:

The substrate to be grouted must be clean, sound, and free from dust, oil, grease, curing compounds or any foreign matter that will affect the grout adhesion bond Bolt holes and anchor points must be clean and free of water.

APPLICATION INSTRUCTIONS:

PRESOAKING:

All prepared areas must be saturated with water for 4 hours before grouting.

This will reduce the porosity of the substrate. Before grouting, ensure all excess water is removed, all holes must be free from water, and no puddles of water are present.

If grouting under base plates, it is imperative that bleed holes or venting holes are provided (this will eliminate pressure build-up in a confined area)

FORMWORK:

The formwork to be constructed must be leakproof and watertight. To achieve this, it is recommended that foam rubber strips or a suitable sealant such as polyurethane or silicone be used underneath the formwork.

The formwork should be constructed, which will allow and ensure a grout head is maintained on the side above the level of the underside at the base plate. The formwork should allow for gravity flow of grout with a suitable grout head allowing for a continuous flow between the base plate and the concrete substrate.

To ensure ease of formwork removal, the formwork should be coated with form oil or release oil before grouting.

MIXING:

Penaflow Panel Grout is ready to use, simply requiring the addition of water; Cold water is best to be used when mixing. Keep Penaflow Panel Grout in a cool environment.

Penaflow Panel Grout must be mixed with a mechanical mixer with a high shear mixer or a suitable drum mixer that creates a forced action mixing. An electric drill with a spiral mixing paddle is ideal for smaller quantity mixing. The speed drill should be approx. 500-600 rpm. **DO NOT MIX BY HAND.**

Always add the grout powder to the pre-measured water

MIXING:

CONTINUED

Dry Pack/Stiff Grout	2.7-2.9 litres /20kg bag
Plastic/Trowellable Grout	3.0-3.4 litres /20kg bag
Flowable/Pourable Grout	3.6-4.0 litres /20kg bag

DO NOT ADD ADDITIONAL WATER, AS GROUT WILL SEGREGATE AND BLEED, AFFECTING PERFORMANCE.
The selected water level should be accurately measured and added to a suitable mixing container. Add the powder (grout) to the water and mix for 3-5 minutes until a consistent homogeneous mix is obtained.
DO NOT ADD ADDITIONAL WATER OTHER THAN SPECIFIED ABOVE. DISCARD ANY GROUT THAT HAS STIFFENED OR IS UNWORKABLE.
MIXED 4 LITRES OF WATER PER 20KG BAG @ 20˚C

PLACEMENT:

Penaflow Panel Grout can be placed in three different ways.

1. DRY PACK/ STIFF GROUT:

(2.7 - 2.9 litres of water per bag)
Ensure sufficient water is present to obtain a stiff/ dry pack consistency. If the grout is too dry, insufficient hydration of the cement will cause low strength gain and inadequate curing. Using a tamping rod or a suitable temping tool, apply the grout in the required position tamping to ensure adequate compaction.

2. GRAVITY FLOW USING HEADER BOX:

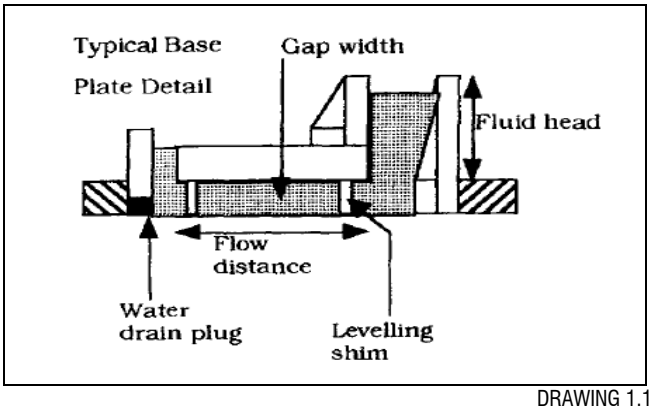
Mix the grout to a flowable consistency and pour grout from one side to avoid air entrapment. Ensure a grout head box is used and the grout head is always maintained. This will ensure a continuous flow of grout without air entrapment.

3. LARGE-VOLUME PUMPING:

Mix the grout using a forced-action mixer. A positive displacement pump is the recommended pump for large placement applications.
For large grout pours, ensure the grout is pumped from the bottom upwards, as this will minimise any air entrapment and ensure complete void filling. For base plates, pump from one side, providing an air bleeder hole available in the formwork or base plate to give any build-up of pressure released from the bleed hole.

PLACEMENT:

DO NOT VIBRATE OR USE A MECHANICAL VIBRATOR TO ASSIST FLOW.



DRAWING 1.1

FLOW PROPERTIES:

FLOW PROPERTIES			
GROUT CONSISTENCY	GAP DEPTH (mm)	100mm OF GROUT FLOW DISTANCE (METERS)	250mm OF GROUT FLOW DISTANCE (METERS)
FLUID FLOWABLE	10	1.9	2.0
	20	2.0	2.5
	30	2.5	2.8
	40	2.8	3.0
	50	3.0	3.2
	100	3.0	3.5

Grout's head refers to the headbox required for a continuous pour to avoid air pockets under the base plate and improve flow.
Care must be taken during grouting to ensure the headbox and grout head are always maintained.
The grout head nominated (100mm or 250mm) will provide a continuous and consistent flow.

CURING:

On completion of grout application, all exposed grouts should be cured by 'good practices' in concrete curing. The exposed grout should be covered with plastic sheeting, wet hessian, or wet liquid curing compounds such as the RLA Curecon range of curing compounds
Consult your RLA representative for advice on the most suitable product. Curing plays a vital role in ultimate grout performance and strength development.

CLEAN UP:

- Wash all tools and equipment with fresh, clean water immediately after use.
- Cured Penaflow Panel Grout can only be removed mechanically.

SHELF LIFE/STORAGE:

- 9 months when stored in original unopened packaging
- Best stored in a dry area at room temperature
- Keep off cold floors and out of direct sunlight

PACKAGING

- 20 Kg bags

SPECIFICATION CLAUSES:

- Performance Specification:
- All grouting shown in Drawing 1.1 must be carried out with a pre-packaged cement-based grout that is chloride free.
- It shall be mixed with clean water to the
- required consistency.
- The plastic grout must not bleed or segregate.
- A positive volumetric expansion shall occur while
- the grout is plastic using a gaseous system.
- The compressive strength of the grout must
- exceed 45 MPa at 7 days and 65 MPa at 28 days.
- The storage and placement of the grout must be
- in strict accordance with the manufacturer's
- instructions.

Supplier's Specification-

All grouting shown in Drawing 1.1 must be carried out as manufactured by RLA and used by the manufacturer's datasheet.

PRECAUTIONS:

- Unrestrained areas must be kept to a minimum
- Do not add additional water other than what is specified
- Never apply mixed grout to a dry porous substance
- Refer to SDS (safety data sheet) before mixing
- Always apply grout continuously to ensure the grout head is maintained.
- At low temperatures, grout setting time and strength gain will be extended.
- At very high temperatures, grout will set and
- cure faster, potentially causing cracking and delamination.

HEALTH AND SAFETY

For information and advice on the safe handling, first aid, storage and disposal of chemical products, users must refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

TECHNICAL DATA:

PRODUCT INFORMATION:	
Colour	Grey
Shelf life	Nine months
Packaging	20kg Poly-lined Bags
Application Temp	Min 10ºC-Max 30ºC
Coverage – (Kg/mˆ2/mm)	2.0
Expansion Characteristics	1-2% Plastic State
Time for Expansion	Start: 15 mins Finish: 3 hours (Plastic State)
Bleed	0%
Youngs Modulus	25 GPa

YIELDS			
CONSISTENCY	**DRY PACK**	**TROWELLABLE**	**FLOWABLE**
Litres Water	2.7-2.9	3.0-3.4	3.6-4.0
Yield per bag Litres	10.3	10.6	11.0
No. Bags cast one cubic meter(m^3)	97	94	91
Fresh Water Density kg/m^3		2.20	2.20

SETTING TIMES @ 20°C & 50%RH TESTED TO AS 1012.18			
HOURS	**DRY PACK**	**TROWELLABLE**	**FLOWABLE**
Initial Set	1.5hours	3 hours	4.5 hours
Final Set	2.5hours	4.5 hours	6.5 hours

COMPRESSIVE STRENGTH (MPa) @ 20°C TESTED TO AS1012.9 / AS1478.2			
AGE	**DRY PACK**	**TROWELLABLE**	**FLOWABLE**
1 day	58.38	39.93	20.32
3 days	79.86	61.37	34.28
7 days	82.22	70.81	64.29
28 days	93.86	87.03	66.32

FLEXURAL STRENGTH (MPa) @ 20°C TESTED TO AS1012.11			
AGE	**DRY PACK**	**TROWELLABLE**	**FLOWABLE**
1 day	10.32	8.23	5.28
3 days	14.56	14.26	9.91
7 days	18.05	12.40	11.86
28 days	18.85	13.55	10.53

BOND STRENGTH TESTED TO ASTM C882-1987 Slant Shear Method	
AGE	**STRENGTH (MPa)**
7 Days	>5MPa
28 Days	>10MPa

WARRANTY STATEMENT:

RLA Polymers guarantees this product against manufacturing defects and guarantees it to be manufactured to our published specification.
We certify that this product is suitable for use when fully cured and will perform as described in our technical data sheet or other published materials.
RLA Polymers will replace the product free of charge when purchased from any legally verifiable source and where a product is proven to have been stored, handled, and install according to instructions published on our packaging and within the stated shelf life. The Installation of all materials must be carried out in accordance with relevant Australian Standards.
Warranty doesn't apply if damage, loss, failure to follow instructions, or other circumstances are out of our control.
Sufficient time and access to investigate any complaint must be accorded to RLA Polymers.
The consumer is responsible for any expenses incurred in making a claim.
A claim form can be requested by:

PHONE: 1800 242 931
EMAIL: info@rlapolymers.com.au
MAIL: 215 Colchester Road Kilsyth Victoria 3137 (Attention Customer Service)
WEBSITE: www.rlapolymers.com.au

AUSTRALIAN CONSUMER LAW:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality, and the failure does not amount to a major failure. The benefits under our warranty are in addition to other rights and remedies available to the consumer under the law in relation to the goods and services to which the warranty relates.

DISCLAIMER:

All statements and technical information contained herein are based on tests we believe to be reliable, but the accuracy thereof is not guaranteed.
Users assume all risk and liability resulting from the use of the product and must confirm the suitability thereof by their own tests. Conditions of Sale contain a limited warranty against manufacturing defects.

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