APPLIED concrete SOLUTIONS
CONSTANT PERFORMANCE

ACS GROUT HES30

NEW AGE TECHNOLOGY GROUT

DESCRIPTION

ACS Grout HES30 is a high strength, dual shrinkage compensated cement based grout that can be used in a wide variety of situations.

This high performance grout is a blend cements, graded aggregates and special additives which provide rapid strength development and excellent bonding characteristics.

ACS Grout HES30 is supplied as a ready to use powder which when mixed with water, produces a free flowing and pumpable precision grout. It has also been specifically designed to minimise bleed and segregation.

RECOMMENDED USES

- Bridge piers
- Jetty pillars
- Boat mooring anchors
- Harbour and dam walls
- Concrete piles
- Machine base plates
- Bridge bearing pads
- Anchor bolts
- Crane rail sole plates
- Concrete repair work
- Cavities and recesses
- Anchoring balcony and balustrade supports

ADVANTAGES

- Rapid set time of 30 mins and high early strength
- Dual system compensates for shrinkage in both the plastic and hardened states
- High initial flow
- High strength and low permeability ensure durability
- Will not bleed or segregate
- Excellent resistance to impact, vibration and thermal variations
- Ideal for pumping and pouring over a number of applications and environmental conditions

PACKAGING

ACS Grout HES30 is available in 20kg bags or 1 tonne bulk bags.

STORAGE

If kept dry and stored in original condition, ACS Grout HES30 will keep for up to 6 months. The shelf life of the product may reduce if it is subjected to high temperatures and humidity.

STANDARDS COMPLIANCE

Conforms to ASTM C1107-02 (Type C) and AS1478.2 – 2005.

APPLICATION GUIDELINES

Surface Preparation

All substrates should be sound, clean and free from dust, oil, or any other surface contaminants such as curing compounds and release agents. All bolt holes and fixing pockets must be cleaned out using compressed air. To maximise adhesion, we recommend that surfaces be abraded or roughened, by mechanical means such as needle gun, grit blasting or grinding.

After preparation is complete, saturate the surface with clean water for a minimum of four hours prior to grouting. Care should be taken to remove all surplus water prior to grouting.

Formwork

As ACS Grout HES30 can be used as a free flowing grout, it is important to construct the formwork to be leak proof. Formwork should also be built so that a grout head above the level of the underside of the base plate is maintained. This will allow gravity flow to completely fill the void to be grouted.

To allow easy removal of the forms, coat the formwork with oil and ensure adequate air holes are installed.

Mixing

ACS Grout HES30 should be mixed using a high speed drill and spiral mixer, mechanical grout mixer, or a suitable high sheer drum mixer. DO NOT MIX MATERIAL BY HAND.

Because continuous grout flow is essential, ensure that the mixing method and labour is sufficient to enable continuity of the operation.

1 Add the correctly measured water content into the mixing vessel. To achieve the selected consistencies the amount of clean water to be added per 20kg bag should be:

Consistency	Litres of Water
Trowellable	2.3 - 2.5 litres / 20kg bag
Flowable	2.6 - 2.7 litres / 20kg bag

2 Slowly add the total dry contents of the ACS Grout HES30 bag and mix continuously for five minutes until a smooth and even consistency is obtained. Allow the mixture to stand so any entrapped air can escape. If a mix has become unworkable because of time delays, do not add additional water to increase flow of the grout – discard the mix and start again.

Placement

The mixed grout should be placed immediately. ACS Grout HES30 can be placed in thicknesses from 10 to 125mm. Continuous grout flow is essential.

Pour the mixed grout from one side of the void only to eliminate entrapment of air. The pouring side should be raised by means of a hopper or grout box to maintain a grout head at all times.

For larger applications ACS Grout HES30 can be placed by means of pumping.

TEMPERATURE AND WORKING LIMITATIONS

For maximum performance it is important to maintain the grout, base concrete and steel substrates within a temperature range of 18 - 25ºC prior to, during and for 48 hours following placement of the grout.

Grouting should not take place if the temperature is 5°C or lower. Warm water can be used to accelerate strength development during colder weather.

When temperatures exceed 30ºC, grouting should be sheltered from the heat or conducted early morning. Where possible, keep materials cool and use cold water in the mix.

Do not submerge grout for 2 hrs post placing.

CURING

It is necessary to cure all exposed surfaces. The use of a concrete curing membrane, hessian or continuous water spray is recommended.

CLEANING

All tools should be rinsed with water immediately after use to remove all traces of Grout HES.

TECHNICAL PROPERTIES

Compressive Strength (MPa) AS1478.2 - 2005 Appendix A (Restrained)		
Age	**Trowellable**	**Flowable**
2 hours	10	7
4 hours	22	16
8 hours	26	18
1 day	38	30
7 days	48	42
28 days	56	50

Flow Characteristics AS1478.2 - 2005 Appendix A (Consistency Method)	
Consistency Method	**Range**
Flow Trough	400mm - 600mm

Setting Times at 23°C ± 2C AS2350.4 - 1999	
Initial Set Time	30 mins
Final Set Time	45 mins

Working Times at 23°C ± 2C AS2350.4 - 1999	
Plastic State	30 mins

Yield (Qty of 20kg bags required for 1m³ of mixed grout)	
Trowellable	91
Flowable	89

Plastic Density	Approximately 2026kg/m³ at flowable consistency
Expansion Characteristics	Long term expansion to compensate for drying shrinkage

HEALTH AND SAFETY

During use, avoid inhalation of dust and contact with the skin and eyes. Wear suitable clothing, gloves, eye protection and respiratory protective equipment.

If contact with the skin occurs, thoroughly clean the area with plenty of fresh water and soap. In case of contact with the eyes rinse with plenty of fresh water and seek medical advice.

If swallowed, seek medical attention immediately - do not induce vomiting.

For further information consult the Material Safety Data Sheet (MSDS) and read the product label carefully before use.

MSDS documents are available by phoning 1800 077 744.

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