



a.b.e.® Construction Chemicals

dura.® grout HP high performance

NON-SHRINK, GOOD OPEN TIME, CEMENTITIOUS GROUT

DESCRIPTION

dura.® grout HP is a ready-to-use (merely add water) Portland cement-based high performance grouting compound, free of chlorides and high- alumina cement. It contains graded siliceous aggregate and chemical reagents which prevent shrinkage during curing.

USES

- BEDDING: bases of machines, columns, bearing plates, crane rails, bridge beds and slabs
- GROUTING: anchor bolts, cables, starter bars, top steel, post tensioned cables, prefabricated units and footings
- PUMPING: confined spaces
- HORIZONTAL GROUTING: cavities in horizontal spaces
- WIND FARM TURBINES: grouting and bedding of structural elements

ADVANTAGES

- Dustless
- Non-shrink
- Excellent long open time for ease of placement
- High ultimate strengths
- Ultimate compressive strength > 100MPa
- Non bleeding, no segregation and good cohesion properties
- Application thickness 25 to 100mm
- Extremely high flowability, 90% flow after 20 minutes at 25 °C

- Pumpable or gravity feed

DESIGN CRITERIA

A minimum clearance of 50mm is required between bed and base. For smaller areas where the flow will not be restricted, a limited minimum thickness of 25mm is recommended. When grouting anchor bolts, three times the bolt diameter is necessary. Smaller clearances should be grouted with **epidermix 324** flowable epoxy grout.

TYPICAL PHYSICAL PROPERTIES

| | |
|----------------------------------|--------|
| DIN EN 13395 (flow trough) | |
| grout flow at T _{0min} | 620 mm |
| grout flow at T _{20min} | 560 mm |

Flow trough length 800mm & T=time lapse

Nominal Compressive Strengths - MPa @ 25 °C using 10.4% H₂O : Powder m/m (ASTM C 109 – 100mm cubes)

| | |
|--------|-----|
| 1 Day | 45 |
| 3 Day | 70 |
| 7 Day | 85 |
| 28 Day | 110 |

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| | |
|---------------------------------------|------------------------|
| Expansion % | 1.9 |
| Fresh wet density | 2.37 g/cm ³ |
| Yield at 2.6 litres water added/25 kg | 11.6 litres/25 kg |

SURFACE PREPARATION

Provision for the escape of entrapped air must always be made. Contact surfaces must be clean, sound, and free from dust and shutter release oils. Concrete surfaces must be thoroughly pre-wetted at least 4 hours prior to grout placement. Any excess surface water (free water) must be removed prior to placing the grout. Surface temperatures should not be less than 5 °C. Always ensure that the shutters are watertight and sealed to prevent suction of water from the product. Ensure that the grout delivery head is of adequate height in order to accommodate the distance the grout must flow. Always pour from one side thus ensuring that the grout fills the void without entrapping air.

BONDING/PRIMING

No primer required but in certain instances where structural bonding is required **abe[®] epidermix 344** should be used.

MIXING

All mixing water contents apply to 25 kg pockets of **dura.[®]grout HP**. Water quantities must be adjusted to match size of mix. Mixes must always include complete pockets, but more than one pocket may be used. Mixing of grout must be carried out in a pan mixer or similar that offers high energy to the mixing action **Do Not use free fall drum mixers**. Using the standard 25 kg pocket of grout, add 2.4 litres of clean potable water to the mixing vessel. While stirring continuously, add the dry powder until the mixture is free from lumps. Add a further 200 mls of water if required, continue mixing until a smooth, creamy

consistency is obtained. **Do Not** exceed 2,6 litres of water per 25 kgs of **dura.[®]grout HP**. The mix tends to 'wet-out' slowly during the first minute of mixing however full plasticization of the grout is achieved after 5 minutes mixing time (i.e. avoid adding extra water to achieve flowability).

Caution: High speed mixing will entrap air, if air entrapment is experienced then the product must be left to stand to allow the entrapped air to expel prior to application.

Total mixing time should be approximately 5 minutes.

Note: The mix looks dry at approximately 3 minutes and thereafter you see the wetting out of the mix due to mechanical action.

COVERAGE

One bag of **dura.[®]grout HP** will yield approximately 0.0116 m³ (11.6 litres) of grout at a 2.6 litre water demand.

APPLICATION

Mixed grout should be poured into the cavity at one point only to avoid entrapping air. For best results, mixed grout must be poured within 10 minutes of mixing. If grout is not placed immediately after mixing, keep the material agitated.

Grouting mixture that stiffens up due to an extended time lapse must be discarded and a fresh batch mixed.

dura.[®]grout HP can be compacted by gentle rodding or punning. **Do not re-temper the grout** should the consistency drop due to time lapse

PUMPING

dura.[®]grout HP may be pumped with a positive displacement screw feed pump. The supply pipe diameter should be at least 25 mm or greater, ensure that the pipe is lubricated with a slurry prior to pumping. The process should be continuous, from one direction and the vents sealed consecutively, as progressed, in the direction of flow.



CLEANING

dura.®grout HP should be removed from tools and mixing equipment immediately after use and before material has set with clean water. Cured material can be removed mechanically.

PROTECTION ON COMPLETION

Grout surfaces must be protected from wind or high temperature, which can cause rapid drying. Cover exposed surfaces with damp sacks for at least 7 days. **Do Not** allow the sacks to dry out; Alternatively apply **Chryso Cure HPS** or **Chryso Cure WB** curing compound.

TEMPERATURE AND RELATIVE HUMIDITY

Surface, ambient and water temperatures should not be less than 5°C and rising. The ideal temperature range for application is between 20 °C and 30 °C.

MODEL SPECIFICATION

High performance, non-shrink cementitious grout, having at least 75 % of its initial flow after 20 minutes for precision grouting.

The grout will be **dura.®grout HP**, a pre-packed, single - component, non-shrink, precision grout applied in accordance with the recommendations of **a.b.e.® Construction Chemicals**, including curing with **CHRYSO Cure HPS** or **CHRYSO Cure WB**.

The grout will have a minimum one-day compressive strength of 40 MPa and greater than 100 MPa at 28 days at 25 °C.

PACKAGING

dura.®grout HP is supplied in 25 kg polyethylene lined paper bags.

HANDLING AND STORAGE

dura.®grout HP has a shelf life of 12 months if kept in a dry store in sealed bags. If stored in high temperature and in high humidity locations the shelf life may be reduced.

HEALTH & SAFETY

dura.®grout HP is alkaline and should not be allowed contact with skin and eyes. Avoid inhalation of dust during mixing by wearing dust masks. The use of gloves, eye protection and dust masks is advised. Immediately wash with water in the event of contact with skin. Splashes into eyes should also be washed immediately with plenty of clean water and medical advice sought.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied - accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. **a.b.e.® Construction Chemicals** and practical experience built up over chemicals has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

