



duragrout W

Non-shrink cementitious grout for pumping underwater

DESCRIPTION

duragrout W is a ready to use blend of modified Portland cement, well graded fines and proprietary chemicals, which requires only the addition of water to produce a non-shrink grout with good flow properties. Due to its low water requirement and homogeneous consistency **duragrout W** develops early strength making it suitable for underwater applications enabling it to resist under-water or wash-out actions.

USES

duragrout W is specifically designed for use in underwater applications or applications in contact with water, like structures in tidal zones. The grout can be poured or pump-applied to repair concrete elements such as

- quay side walls
- jetty columns
- submerged pipeline benches
- concrete dams
- bridge or pile supports
- general grouting of any such areas.

FEATURES AND BENEFITS

- Quickly develops placeable consistency.
- Remains cohesive and does not segregate, retaining this property underwater.
- Expansion system compensates for shrinkage and potential settlement.
- **duragrout W** can be pumped or manually placed.
- High early strength ensures limited impact on construction programmes or maintenance shut-downs.
- **duragrout W** is a consistently high-quality durable product of which long-term performance can be expected.
- Chloride free.

TYPICAL PHYSICAL PROPERTIES	
Compressive strength (1 day) ASTM C109	>23 Mpa
Compressive strength (3 days) ASTM C109	>35 Mpa
Compressive strength (7 days) ASTM C109	>40 Mpa
Compressive strength (28 days) ASTM C109	>50 Mpa
Tensile bond strength (14 days)	2,0 Mpa
Cured density	2 000 kg/m ³
Yield per 25 kg bag	14,5 litres
Expansion restraint	0.0038MPa

SURFACE PREPARATION

In applications above the waterline in the tidal zone ensure that the surface is well saturated before placing the grout.

All surfaces should be clean, sound and free from any laitance, oils or grease. Any defective concrete should be cut back to sound material above and below water.

Where shuttering is employed ensure that all joints are tightly sealed and that shutters are well anchored to prevent grout loss.

MIXING

A heavy duty industrial drill (300-500 r/min) fitted with a suitable paddle or a grout type pan mixer is recommended. Free fall mixers are not suitable to ensure homogeneous mixing of grouts. To achieve the optimum flow consistency, 25 kg **duragrout W** must be mixed with 5,5 litres of clean water.

Mixes must always use complete pockets, but more than one pocket may be used and mixed at a time. Accurately measure the water into the mixing vessel and whilst running gradually add the **duragrout W** mix for five minutes after the last addition of grout. The mix fluidity will increase while mixing. If, as a result of poor mixing, any lumps are visible in the mix, pass the mix through a sieve before placing.

APPLICATION

Mixed grout should be poured into the cavity at one point only to avoid entrapping air or water. For best results, mixed grout should be poured within 10 minutes of mixing and definitely within 20 minutes. After 20 minutes the grout expansion characteristics will decrease. If grout is not placed immediately after mixing, keep the material agitated. Grout mixtures older than 20 minutes must be discarded and a new batch commenced.

duragrout W can be placed up to 100 mm thick in one application above water and up to 200 mm thick below water. For larger thicknesses consult **abe's** technical department on further bulking the product.

PUMPING

duragrout W may be pumped using any standard diaphragm, piston or screw-fed pump capable of delivering at a constant pressure of 101,3 kPa. The flexible supply hose diameter should be at least 50 mm. The injection process should be continuous, from the lowest point in one direction, and the form sealed in the direction of the flow. Ensure that the void and flow is designed to prevent any air or water entrapment.

CLEANING

Clean tools with water before the mortar hardens. Hardened materials



can only be removed by mechanical means.

PROTECTION ON COMPLETION

Above water, grout surfaces should be protected from wind or high temperature, which can cause rapid drying. Cover the surface with damp sacks, do not allow the sacks to dry out, alternatively apply any of the **duracure** curing compounds. See relevant data sheets for details. Underwater, the grout must be protected against washing out in running water until it has reached sufficient bond strengths.

TEMPERATURE AND RELATIVE HUMIDITY

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

MODEL SPECIFICATION FOR

Non-shrink cementitious grout for underwater applications.

The grout will be **duragrout W**, a pre-packed, non-shrink, underwater grade grout applied in accordance with the recommendations of **abe Construction Chemicals**. The grout will have a minimum seven-day compressive strength of 40 MPa.

PACKAGING

duragrout W is supplied in 25 kg, polyethylene lined, paper bags.

HEALTH & SAFETY

duragrout W 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 thereafter.

HANDLING & STORAGE

duragrout W has a shelf life of 12 months if kept in a dry store in sealed bags. If stored at high temperature and high humidity locations the shelf life may be reduced.

IMPORTANT NOTE

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