

HYDRAFLOW RN

Fast setting underwater repair system.

Hydraflow RN is a dark grey dry powder premix containing cement, fine aggregates and special additives to provide rapid setting, high strength, waterproofing and underwater qualities.

Outline

Royal Navy vessels carry an emergency supply of premixed concrete materials for use in emergency hull repairs. These materials are stored in watertight containers in strategic locations ready for use. In use it is mixed and placed into static or slow moving water, where it will set rapidly and seal hull from further ingress of water.

Benefits

- One pack system.
- Can be mixed with fresh or sea water.
- Easy to mix.
- Fast setting - 5 hours.
- High strength (20 – 30 N/mm² @ 24 hrs).
- Does not contain calcium chloride.

Product Specification

Cement shall be Calcium Aluminate Cement to BS 915-2 blended with proprietary materials from reputable UK suppliers.

Materials shall be dry with residual moisture content of not more than 1%.

Packaging

10 kgs of dry materials are packed in plastic bags, heat sealed and watertight. The bags are sealed in metal pails.

The pails are of a size suitable for mixing the ingredients.

RESTRICTED DISTRIBUTION

Mixing and Application.

The damage to the hull should first be temporarily blocked so that the flow of water is stemmed.

After covering a suitable level area with plastic sheeting, sufficient containers to complete the repair should be brought from the nearest storage point. Each container holds sufficient material for approximately 5 litres of Hydraflow RN.

A container should be opened, the bag slit and the contents emptied into the container. A hole can then be made in the centre of the contents and 1 - 1.5 litres of water added. The water can be fresh or sea water.

The contents shall then be mixed briskly, either by refitting the lid to the container and upending it several times or by use of the mixing head fitted to a slow speed drill. The Hydraflow RN and water must be thoroughly mixed and, when mixed, should be cohesive, form a ball in the palm of a gloved hand and be sticky, leaving Hydraflow RN on the glove.

Hydraflow RN contains a superplasticiser which improves mixing and makes the material fairly free flowing. If the container is upended onto a plastic sheet and the material allowed to stand, the top should sink about 100mm over a 10 minute period.

The contents of the container can then be emptied into the already prepared surface, allow to free fall through water if necessary and allowed to compact. The material is self-compacting over a 15-minute period, but compaction can be aided by rodding with a 25 mm steel rod.

The mix will flow into any voids and expands slightly whilst setting to provide a positive seal. There should be little loss of material and the Hydraflow RN should be set within 5 hours and hard in 8 hours.

Cleaning

Tools and equipment can be cleaned with water.

Storage & Shelf Life

Stored unopened in dry conditions, shelf life will be 6 months minimum.

Limitations

This product is intended for use as an underwater repair system for ship hulls. It is not designed for use as an underwater concrete, concrete repair mortar or construction grout.

Health & Safety

Please consult the relevant Health & Safety Data Sheet, available from Flowcrete on request and sent with each delivery.

Wear protective clothing and preferably impervious gloves (or barrier creams on hands). Wash thoroughly with water if skin contact occurs.

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.

Flowcrete have a wealth of technical & practical experience built up over many years in our pursuit of excellence in flooring and concrete technology. Clients are welcome to call our Technical Desk or visit our Technology Centre in Sandbach.

Important Note

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