CHEMICAL-URETHANE GROUTS

Master Format #: 03 64 00

DURAL AQUA-DAM

HYDROPHOBIC POLYURETHANE GROUT

EUCLID CHEMICAL

PACKAGING

5 gal (19 L) pail
Code: 043A 00
55 gal (208 L) drum
Code: 17074
Dural Aquaccelerator:
1 pint (0.47 L) cans
Code: 043AA 00
5 gal (19 L) pail
Code: 043AA 05
Dural Pump Rinse:
5 gal (19 L) pail
Code: 043F 05

CLEAN UP

Use all appropriate protective equipment. Avoid contact with the active grout. Use DURAL PUMP RINSE to clean out the lines of the injection equipment. DURAL PUMP RINSE can be left in the lines as a primer, prior to the next project. Be sure to expel all DURAL PUMP RINSE from the lines prior to the next grouting job, or it will affect the curing capability of the grout.

SHELF LIFE

All materials have a 3 year shelf life in their original, unopened containers. Products are moisture sensitive and need to remain in airtight containers.

DESCRIPTION

DURAL AQUA-DAM is a hydrophobic polyurethane compound that is injected in concrete and other sound substrates to stop water from entering into occupied or unwanted places. The reaction time of the DURAL AQUA-DAM is controlled through the use of its accelerator, known as DURAL AQUACCELERATOR. DURAL AQUA-DAM forms a water tight seal within the substrate, that remains even after the water has subsided.

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- Bonds to wet and dry substrates
- Needs very little water to react and cure
- Remains active when the water subsides
- Excellent elongation to handle moving cracks and joints
- Fast reaction time with added accelerator
- Very little shrinkage

PRIMARY APPLICATIONS

- Leaking cracks and joints
- Water treatment facilities
- Wastewater treatment facilities
- Mines & tunnels
- Sewers & manholes

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Typical Properties - Liquid	Results
ASTM D1638	Viscosity @ 77 °F (25 °C)	500 cps
-	Specific Gravity	1.058
-	Physical Gravity	Liquid
-	Color	Amber

Test Method	Typical Properties - Cured	Results
ASTM D1622	Density	4 lb/ft³ (64 kg/m³)
ASTM D638	Elongation	40%
ASTM D638	Tensile Strength	27 psi (0.19 MPa)
ASTM C273	Shear Strength	16 psi (0.11 MPa)
ASTM D2842	Water Absorption	< 1% by volume

Typical Reaction Profile			
AQUACCELERATOR PERCENTAGE	**0%**	**1.25%**	**2.5%**
Initial Foam	Not Recommended	50 sec	15 sec
Reaction Time	Not Recommended	3 min 20 sec	1 min 5 sec

DIRECTIONS FOR USE

Surface & Crack Preparation: To ensure the crack or joint is treated properly, clean the exterior of the concrete surface so that the full extent of the crack or joint can be seen. This will aid in properly locating the injection holes to be drilled. To properly locate holes, start by determining the thickness of the concrete section that is to be injected. Layout alternating hole locations on either side of the crack/joint running full length of the crack/joint. Space the holes running parallel to the crack at a distance equal to the thickness of the concrete being injected. Place the holes at a proper distance from the crack or joint so that a hole drilled at a 45 degree angle will intersect the crack at the mid-point of the concrete thickness. Adjust the hole layout as necessary to assure that drilling operations do not come into contact with existing reinforcing steel or other embedded items. Drill 5/8" (16 mm) holes at 45 degrees to intersect the crack/joint at the mid-point of the concrete thickness. Ensure that the drill bit is long enough to intersect the crack. Clear drilled holes of all dust, debris and laitance. Install 5/8" (16 mm) injection packers into the holes and tighten. Inject water through the packers. Ensure that water injected into the packers is flowing through the holes and crack/joint and ensure that the packers are not leaking.

In cases where drilling holes at an angle will result in chipping or breaking of the concrete, the holes may need to be drilled directly into the face of the crack/joint. In such cases the distance between the holes should be equal to the concrete thickness and the hole depth should be one half of the concrete thickness.

Mixing: Prior to injecting DURAL AQUA-DAM, stir the material and the accelerator. Do not use high speed mixing equipment and avoid whipping air into the product. Pour the appropriate amount of DURAL AQUACCELERATOR into the DURAL AQUA-DAM and mix on slow speed for a minute or two, to ensure the accelerator is fully mixed in. The mixing ratios are as follows:

DURAL AQUA-DAM	DURAL AQUACCELERATOR		
Package Size	**Standard Amount**	**Minimum**	**Maximum**
5 gal (19 L) Pail	16 oz. (0.47 L)	8 oz. (0.24 L)	32 oz. (0.94 L)
55 gal (208 L) Drum	1.25 gal (4.75 L)	80 oz. (2.4 L)	2.5 gal (9.5 L)

The standard mixing ratio should be used in most instances. Do not mix less than the minimum amount of accelerator because the material may not react correctly, especially in colder weather. Do not add more than the maximum amount of accelerator or the material risks shrinking, thus allowing water to pass through the crack or joint again.

Placement: Once the injection packers have been set and the drilled holes and crack have been flushed out with water, the injection of the material can begin. Start at the lowest point of a vertical crack and work upwards. Pump DURAL AQUA-DAM into the packer until foaming material comes out the face of the crack and starts to approach the next packer. On a horizontal crack, start at the end that was first installed and flushed with water. The more water left in the crack and injection site, the better. Move the injection head to the second packer and repeat for the entire length of the crack. A standard airless paint pump can be used for this application. Typical injection pressure into cracks is 200 to 3,000 psi (1.4 to 20 MPa), depending on the width and depth of the crack. For large cracks and joints, oakum rope or a similar open celled structure device can be soaked in DURAL AQUA-DAM and placed into the crack or joint. Once the DURAL AQUA-DAM has cured, the packers can be removed or cut-off, flush with the surrounding surface. Any grout cured outside of the face of the crack can be cut-back with a margin trowel or similar scraping tool. The packer holes can then be filled in with Euclid Chemical's Speed Plug hydraulic cement and finished as desired.

PRECAUTIONS/LIMITATIONS

- Colder temperatures will affect the viscosity and setting times of the product.
- Avoid exceeding 90 °F (32 °C) when warming product.
- Water mixed with DURAL AQUA-DAM must be in the pH range of 3 to 10.
- Store material in moisture-free packaging. Atmospheric moisture can cause a foam "head" on the product inside of pail. Remove the foam and the remaining material can be used.
- In all cases, consult the Safety Data Sheet before use.

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