DURAL AQUA-DAM LV

Low Viscosity, Hydrophobic Polyurethane Grout

EUCLID CHEMICAL

Description

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

Primary Applications

- Sealing fine cracks and joints
- Below grade walls subject to high water tables
- Sewers & manholes
- Wastewater treatment facilities
- Can be used in porous soils as a stabilizer

Features / Benefits

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

Technical Information

Property	Results	Test Method
Viscosity @ 25°C	100 cps	ASTM D 1638
Specific Gravity	1.17	-
Physical State	Liquid	-
Color	Amber	-

Typical Properties - Cured	Results	Test Method
Density	64 kg/m^3	ASTM D 1622
Elongation	48%	ASTM D 638
Tensile Strength	0.17 MPa	ASTM D 638
Shear Strength	0.13 MPa	ASTM C 273
Water Absorption	< 1% by volume	ASTM D 2842

Typical Reaction Profile			
Aquaccelerator Percentage	0%	1.25%	2.5%
Initial Foam	Not Recommended	45 sec	30 seconds
Reaction Time	Not Recommended	3 min	1 min 45 seconds

Packaging/Yield

DURAL AQUA-DAM LV is packaged in 19L buckets and 208L drums. DURAL AQUACCELERATOR is packaged in 0.47L cans and 19L buckets. DURAL PUMP RINSE is packaged in 19L buckets only.

Shelf Life

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

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Directions for Use

Surface & Crack Preparation: To ensure the project is completed properly, clean the exterior of the surface so that the full extent of the crack or joint can be seen. This will aid in proper hole drilling. Start by determining the thickness of the concrete substrate that will be repaired. This will be used in the spacing of packers. Starting at the lowest point of the crack; triangulate the position of the first hole to be drilled so it will intersect the crack at a 45° angle, half-way through the thickness of the concrete. Drill a 16 mm hole in this position and ensure that the bit used is long enough to pass through the crack. Drill the next hole in the same manner on the opposite side of the crack. The spacing between holes should be equal to the thickness of the concrete. Continue to drill holes in the same manner, moving up the crack until the entire length of the crack or joint has an equal chance of receiving the grout. Install 16 mm injection packers into the drilled holes and tighten. Inject water through the packers to make sure they don't leak around the sides. This water injection will also flush out any dust and debris that is in the crack due to the drilling process.

Mixing: Prior to injecting DURAL AQUA-DAM LV, 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 LV 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**
19 L Bucket	0.47 L	0.24 L	0.94 L
208 L Drum	4.75 L	2.4 L	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 LV 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 1.4-20 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 LV and placed into the crack or joint. Once the DURAL AQUA-DAM LV 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.

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.

Precautions / Limitations

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

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