UNDERWATER

Master Format #: 35 01 00

AQUASEAL EPOXY SYSTEM

UNDERWATER EPOXY COATING AND REPAIR SYSTEMS

EUCLID CHEMICAL

PACKAGING

Aquaseal Gel - 4 gal (15.1 L) case
Code: TD5302104501

Aquaseal LV - 4 gal (15.1 L) case
Code: TD5301104501

Aquaseal MV - 4 gal (15.1 L) case
Code: TD2301104501 (MTO)

CLEAN UP

Clean tools and application equipment immediately after use with methyl ethyl ketone or acetone. Clean spills and drips while still wet with solvent. Dried AQUASEAL will require mechanical abrasion for removal.

SHELF LIFE

2 years in original, unopened package

SPECIFICATIONS AND COMPLIANCES

- **AQUASEAL LV:** ASTM C 881, Type III, Grade 1, Class C
- **AQUASEAL MV:** ASTM C 881, Type IV, Grade 2, Class C
- **AQUASEAL GEL:** ASTM C 881, Type IV, Grade 3, Class C

DESCRIPTION

The AQUASEAL family of products are two-part, 100% solids epoxy systems specifically designed for underwater applications on concrete or masonry surfaces. These products are suitable for applications in both fresh and saltwater. AQUASEAL MV is a high build protective coating for structures below water. AQUASEAL LV is a low viscosity version that can be mixed with aggregate to form a mortar for repair or can also be used "neat" for crack repair using pressure injection techniques.

PRODUCT CHARACTERISTICS

PRIMARY APPLICATIONS

- Coating concrete, steel piers and piles
- Grouting pile jackets
- Underwater pressure injection
- Grouting and pointing of granite block

APPEARANCE

AQUASEAL epoxies are manufactured in light gray. Special colors are available subject to minimum quantities.

COVERAGE

ft²/gal (m²/L)	AQUASEAL MV	AQUASEAL LV	AQUASEAL GEL
bond coat	100 (2.45)	150 (3.68)	100 (2.45)
1st coat	50 (1.23)	-	-
2nd coat	75 (1.84)	-	-

TECHNICAL INFORMATION

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

Test Method	Test Property	AQUASEAL MV	AQUASEAL LV	AQUASEAL GEL
	Mixing Ratio A:B by volume	1:1	1:1	1:1
	Viscosity A & B mixed, cps	5000 to 7000	1000 to 1500	Gel
	Gel Time 100 grams	60 min	40 min	60 min
	Pot Life 2 gal (7.6 L) unit	30 to 40 mins	15 to 30 mins	30 to 35 mins
ASTM D638	Tensile Strength 7 day, psi (MPa)	3000 (20.7)	6500 (44.8)	-
	Tensile Elongation %	1 to 5	6 to 12	-
ASTM D695	Compressive Strength psi (MPa)	7000 to 8000 (48.3 to 55.2)	8000 to 9000 (55.2 to 62.1)	7000 to 8000 (48.3 to 55.2)
ASTM C109	Compressive Mortar Strength psi (MPa)	9000 to 10000 (62.1 to 69.0) 3 parts sand by volume	7000 to 8000 (48.3 to 55.2) 3 parts sand by volume	8000 to 9000 (55.2 to 62.1) 1 part sand by volume
ASTM D2240	Shore D Hardness	85 to 90	90 to 95	85 to 90
ASTM C580	Flexural Strength psi (MPa) 3 parts sand	2200 (15.2)	3000 (20.7	-
ASTM C307	Tensile Strength psi (MPa) 3 parts sand	-	1250 (8.6)	-

DIRECTIONS FOR USE

Surface Preparation: Surface must be structurally sound, and clean of laitance, dirt, marine growth, scale, oil, coatings and other contaminants. All surfaces should be sandblasted, water-blasted or mechanically abraded to remove all contaminants and provide a roughened, structurally sound substrate. Application of the appropriate AQUASEAL product should begin promptly to avoid re-contamination of the surface.

Mixing: The AQUASEAL products should be conditioned to 75 °F (24 °C) for 24 hours prior to mixing above water. Premix Part A (Base) and Part B (Hardener) individually. Then combine Part A and Part B 1:1 by volume in a clean container. Mix thoroughly with a slow speed motor and "Jiffy" Mixer. Make sure to scrape the sides and bottom of the mixing container. Do not aerate the mix. **Mortar:** AQUASEAL LV and AQUASEAL GEL can be mixed with clean, dry silica aggregate to make a mortar. Gradually add an appropriate aggregate to the mixed binder and blend thoroughly. **Mix Ratios for Mortar:** Mixed binder to aggregate (by volume). AQUASEAL LV 1:3 and AQUASEAL GEL 1:1 maximum. (May be varied depending upon desired consistency).

Application: The AQUASEAL products should be applied at water and surface temperatures of at least 55 °F (13 °C) and rising. The mixed AQUASEAL system should be transported underwater after mixing. Agitation while underwater must be minimized. **Coating:** Apply a thin coat of AQUASEAL MV as a primer, by brush or gloved hand working and scrubbing the coating into the pores of the substrate in order to displace the water. Follow with a regular heavy coat of AQUASEAL MV, applied by gloved hand, brush or roller.

Grouting/Patching: Horizontal: Prime by scrubbing the surface with neat AQUASEAL LV in order to displace the water. Place the prepared AQUASEAL LV mortar by pouring from the bottom and one side and finish with a trowel. The material's density should displace the water. **Pile Jacket Grouting:** Pump or pour the prepared AQUASEAL LV mortar, starting at the bottom of the jacket and work up. The density of the material should displace the water from the jacket. **Vertical and Overhead:** Prime the surface by scrubbing or working the surface with neat AQUASEAL GEL. Apply by pressing the AQUASEAL GEL; neat or mixed with aggregate, firmly on the substrate with gloved hand or trowel so as to displace the water. Build up the material to the desired thickness. For deep patching, the repairs should be made in lifts of no more than 1 in. (2.5 cm) at a time, allowing each lift to achieve an initial set prior to applying the next lift. **Anchor Bolt Grouting:** Before grouting, ensure that the anchor hole is free of all debris and foreign objects. **Vertical Anchor Bolt Holes:** Place the anchor bolt into the hole and pour the neat AQUASEAL LV around the bolt allowing the air to vent before filling completely. **Horizontal Anchor Bolt Holes:** Prime by scrubbing the anchor bolt hole with neat AQUASEAL GEL. Fill approximately half the hole with the gel, and push the anchor bolt into the hole, twisting the bolt to make sure full contact is made. Pack the hole with additional gel to finish flush with the substrate.

PRECAUTIONS/LIMITATIONS

- Do not thin or dilute AQUASEAL materials.
- Do not mix and apply below 55 °F (13 °C).
- Store between 50 to 90 °F (10 to 32 °C).
- Use only clean oven-dry aggregates.
- AQUASEAL is not designed to resist hydrostatic pressure from the negative side.
- Agitation of the product once under water must be kept to a minimum.
- Due to the many variables which can exist under water, a test application under jobsite conditions is recommended prior to the start of every project to evaluate both application techniques and adhesion after cure.
- In all cases, consult the Safety Data Sheet before use.

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