Duraguard™ 401

High Molecular Weight
Methacrylate Penetrating Sealer

ChemMasters®
Quality • Innovation • Service

P R O D U C T D A T A

DESCRIPTION

Duraguard 401 is a 3-component, low viscosity, solvent free, high molecular weight methacrylate penetrating sealer and crack healer. **Duraguard 401** may be used as a gravity fed resin or specialized crack injection product.

USES

- Provides long term protection for concrete surfaces against water and chloride penetration
- Penetrates to protect concrete from abrasion, impact, moisture and chemical attack
- Crack injection to structurally repair concrete
- Repair of joints, walls, columns and beams

ADVANTAGES

- Maximum strength, rigidity and adhesion to minimize crack movement or widening.
- Low viscosity to allow for deep penetration. **Duraguard 401** is capable of penetrating cracks as narrow as 0.001 inches wide by gravity alone.
- Wide temperature application range from 50° F (10° C) to 120° F (49° C).
- Excellent impact, abrasion and chemical resistance—resists attack from deicing salts and a wide range of other chemicals
- Withstands full immersion for extended duration in liquid chemicals and fresh or salt water without eroding, blistering or loss of bond
- Low odor / non-flammable formula

Packaging / Part Number		
5 gal Kit containing: 5 gal pail of 401 Resin 1 pint can of 401 Promoter 1 qt. can of 401 Series Catalyst	36/pallet	5345.05
54 gal Kit containing: 50 gal drum of 401 Resin 1.4 gal pail of 401 Promoter 2.75 gal pail of 401 Series Catalyst	4/pallet	5345.55

TECHNICAL DATA

Meets National VOC Emission Standards for Architectural Air Directors Consortium (LADCO), and Ozone Transport Commission (OTC) (<100 g/L), meets the California Air Resources Board (CARB) standard of <100 g/g/L.

Test Data	
Hardness (ASTM D 2240) Shore D	83
Water Absorption (ASTM D 570)	<0.1%
Vapor Pressure (ASTM D 323) <100 Pa @ 77° F (25° C)	<1 mm Hg
Compressive Strength (ASTM C 579)	7,000 psi
Tensile Elongation (ASTM D 638)	1-3%
Tensile Strength (ASTM C 307)	2,800 psi
Flexural Strength (ASTM D 790)	3,200 psi
Modulus of Elasticity (ASTM C 580)	1.5×10^6
Tg	158-167°F (70-75°C)
Slant Shear Adhesion to concrete (ASTM C 882)	>1,500 failure within concrete
Solids	100%
Viscosity (ASTM D 2393)	<25 cps
Flash Point	>200° F (93° C)
Density	8.76 lbs/gal
Specific Gravity	1.05
V.O.C. Content	0 g/L
Application Temperature	50°F (10°C) to 120° F (49° C)
Gel Time (100 gram mass)	> 40 minutes
Cure Time Duraguard 401 cure time is comparable to other products using HMWM chemistry.	4 to 12 hours
Crack Size Range	0.001-0.125 in.

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DIRECTIONS

Surface Preparation: Minimum surface and ambient temperature of 50°F (10°C) and rising during application and 24 hours thereafter. Maximum surface and ambient temperature of 120°F (49°C). Surface shall be visibly dry. Do not apply within 24 hours after rainfall or when rain is forecast within 12 hours. Surface to be treated must be cleaned of oils, greases, wax, solvents, cures and other contaminants. Mechanically remove unsound concrete.

Mixing: Contact ChemMasters for proper catalyst and promoter adjustments for substrate temperatures above 120°F (49°C). **Duraguard 401** must be thoroughly mixed before application. Use a mechanical drill equipped with a jiffler type mixing prop.

Daylight Use: Mix one pint of **401 Series Promoter** to 5-gallon pail of **Duraguard 401 Resin** (3.2 oz. per gal) for one minute, then add one quart of **Duraguard 401 Series Catalyst** (6.4 oz. per gal) and mix for another full minute. Never allow Promoter or Catalyst to directly contact each other to avoid a dangerous chemical reaction.

Nighttime Use: Mix one and a half pints of **401 Series Promoter** to 5-gallon pail of **Duraguard 401 Resin** (4.8 oz. per gallon) for one minute, then add one and a half quarts of **Duraguard 401 Series Catalyst** (9.6 oz. per gallon) and mix for another full minute. Never allow unmixed Promoter or Catalyst to contact each other to avoid a dangerous chemical reaction. Expect extended cure times in nighttime use.

Application: Relative humidity must be below 85% and surface temperature must be a minimum of 5° F (2.7° C) above the dew point for 6 hours after application. Immediately after mixing, pour all the mixed **Duraguard 401** onto the prepared concrete. Spread the material with serrated squeegee or brooms, maintaining a 15 mil wet film. Backroll material into place with a short nap, solvent resistant roller. The mixed material must be applied within 10 minutes of mixing. The application rate is 100 ft^2 (9.3 m^2) per gallon depending upon the porosity of the concrete. Broadcast silica or aluminum oxide into the wet coating at a rate of 1 lb. per yd^2 (or DOT specified rate) and backroll with additional **Duraguard 401.**

Although sand will become well bonded to the substrate surface, an “oily residue” may persist for some time due to oxygen exposure at the surface. This residue will cure hard over time, but may be removed with diatomaceous earth (DE) if objectionable. Evenly spread DE at the rate of 1/2 lb. per square yard, allow to dwell and absorb residue. Broom surface to remove.

Cure Time:

Daylight Applications	4 to 8 hours*
Nighttime Applications	6 to 12 hours*

**Cure times are approximate and highly dependent upon exposure to sunlight, substrate and ambient temperature, and humidity. Traffic should not resume until full cure has been achieved.*

Crack Injection: For vertical and overhead repairs. Call ChemMasters Technical Service at 800-486-7866 for instructions.

Cleanup

Clean tools and equipment with **Coating Repair Solvent**, xylene or mineral spirits before material dries.

STORAGE

Store factory sealed containers of unmixed **Duraguard 401** at 50 to 75° F (10 to 24° C) temperatures in a cool dry area away from direct sunlight or sources of heat. Temperatures in excess of 75° F (24° C) cause premature aging of the material. Shelf life of properly stored material is one year from date of manufacture.

LIMITATIONS

- Never allow unmixed Promoter or Catalyst to contact each other to avoid a dangerous chemical reaction. Use separate measuring containers for each component.
- Cure times may be significantly extended in nighttime use, cold weather and high humidity conditions.
- Excessive heat of mixed material can cause premature gelling and reduce the working time.
- **Duraguard 401** has a short potlife. Surfaces must be completely prepared and ready before material is mixed.
- Sand broadcast is required to achieve skid resistant surface and optimized material cure time.
- As a crack injection material, **Duraguard 401** is intended for use by experienced applicators only.
- **All label precautions and the SDS must be fully understood before using this product.**
- Proper application is the responsibility of the user. ChemMasters can only make technical recommendations and cannot provide quality control on the jobsite.

PRECAUTIONS:

Promoter and Catalyst must never be mixed together as a dangerous chemical reaction can occur.

Resin: **WARNING:** Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation.

Promoter: Danger: Flammable Liquid and Vapor. Harmful if swallowed. Harmful if inhaled. May cause respiratory irritation May be fatal if swallowed and enters airways. May cause an allergic skin reaction. Suspected of damaging fertility or the unborn child.

Catalyst: Danger: Combustible Liquid. Heating may cause a fire. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. May cause damage to organs (kidneys & liver) through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

See the safety data sheet for further details regarding safe use of this product.

Keep out of the reach of children

For professional use only

THIS PRODUCT IS FOR COMMERCIAL USE ONLY – IT IS NOT A CONSUMER PRODUCT.

Before using this product read entirely this paragraph and the Manufacturer’s Warranty and Limitations of Liability at Chem-Masters.net/Warranty.php (or by using the adjacent QR Code) incorporated herein (collectively the “Terms”). To reject any of the Terms buyer must return the unopened product container at once to the seller from which it was purchased. By opening or using this product buyer accepts without objection or modifi-cation all Terms. Subject to applicable law, **MANUFACTURER DISCLAIMS ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE,** and buyer agrees that in lieu of all other remedies in manufacturers sole discre-tion it will either replace defective product or refund the reasonable purchase price, and in no event may you recover from manufacturer any special, incidental or consequential damages even if it was aware of the possibility of such damages.

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