



# U-MIX<sup>®</sup> 202 INJECTION RESIN

## SINGLE COMPONENT HYDROPHILIC BASED POLYURETHANE CHEMICAL GROUT

**PRODUCT DESCRIPTION:** *Specco U-Mix<sup>®</sup> 202* Injection Resin is a single component, hydrophilic, low viscosity polyurethane resin used for sealing water leaks through cracks in concrete structures. *U-Mix<sup>®</sup> 202 Injection Resin* reacts with water and will vary in consistency from either resilient, rubber-like foam to a flexible gel. This reaction produces a grout capable of absorbing water up to 800% of its own mass which then deflects any excessive water away from penetrating into the treated structure. This unique feature allows *U-Mix<sup>®</sup> 202 Injection Resin* to be used for situations involving large water inflow applications, specifically manhole joints. Typical application uses include municipal and utility facilities for repair of precast manhole joints, brick manholes, or sewer pipes, as well as pedestrian and automotive tunnels, concrete dams or powerhouse galleys for curtain injection repairs or gel encapsulation needs.

**BENEFITS:**

- **Tested and certified by WQA per NSF/ANSI-61 for use in areas requiring potable water contact**
- **Single cartridge allows for application by regular caulk gun with a twist on application nozzle (no separate static mixing nozzle needed)**
- **Single cartridge size is ideal for small size crack repairs where pump injection is not practical**
- **Contains no solvents, non corrosive, non toxic formulation**

**COMPOSITION:** Single component hydrophilic type polyurethane foam/gel

- **LEED CREDIT CONSIDERATIONS:** Materials and Resources: **MR Credits 5.2:** Regional materials- Greater than 20% extracted, processed and manufactured regionally at production location: Kankakee, IL. 60901. 90% Content-Harvested within 500 miles.

PHYSICAL PROPERTIES (UNCURED)at 70° F (21°C):	APPROXIMATE VALUES:
Weight per Gallon:	9.16 +/- 0.10 lb./ gallon
Color/odor:	Light pale brown liquid with isocyanate type odor
Viscosity-Brookfield:	1000 cps +/- 100 cps
Flash Point:	>220° F (104°C)-open cup method
V.O.C. Content (% Volatiles):	<1% Contains no VOC per EPA Method 24
Solids:	100%
<b>Yield:</b> One 10 oz. cartridge will fill a volume of 302 cubic inches (4.94 liters) or a 3/16 inch (4.8 mm) crack in an 8 inch (203 mm) thick by 8 ft. (2.4 meter) wall	

**PHYSICAL PROPERTIES OF CURED MATERIALS: WATER TO GROUT RATIO:**

	1:1	3:1	5:1	8:1	Measurement:	Test Method:
<b>Gel Time:</b>	110	100	90	100	seconds	-
<b>Tensile Strength:</b>	431	261	164	145	psi	ASTM D638
<b>Elongation:</b>	463	1140	1250	1250	%	ASTM D638
<b>Die-C tear</b>	49	52	43	43	pli	ASTM D624
<b>Physical form:</b>	Resilient foam	Resilient foam	Expansive gel	Exp. gel		

Note: Above table represents physical properties at a range of resin to water ratios. These values were generated while simulating a situation where *U-Mix<sup>®</sup> 202 Injection Resin* was applied under pressure similar to field condition applications.

**TEMPERATURE EFFECTS ON REACTION TIMES AT VARIOUS RATIOS:**

Temperature

Water: Grout ratio



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Degrees F:	Degrees C:	1:1	5:1	10:1
70	21	110 seconds	90 seconds	110 seconds
80	27	85 seconds	65 seconds	70 seconds
90	32	65 seconds	55 seconds	60 seconds

Note: Temperature also influences the reaction (working) time, hotter materials will decrease and colder temperatures will increase the reaction time.

**SURFACE PREPARATION:** Job site preparation depends on the type of injection method that is selected. Three methods of injection are described below along with site preparation:

**CRACK INJECTION:** Remove all loose and deteriorated concrete, mortar and old repair materials from the area to be repaired. Blow debris and residue out of the crack and from the surface with compressed air to dry the crack as much as possible. Place plastic injection ports approximately 12 inches apart throughout the crack. Spacing of holes is normally 12 inches up to 24 inches apart depending on the width of the crack. The wider the crack, the greater distance of grout travel and the farther apart the portholes may be spaced. For sealing large cracks or active leaks, pack the crack with a fibrous material such oakum, steel wool or use *Specco Speccoplug* hydraulic cement to prevent rapid loss of the grout flowing from the crack. Use *Specco 300 Epoxy Paste* to set the ports and seal the surface of the crack to be injected. After the *Specco 300 Epoxy Paste* has sufficiently set (typically 3-4 hours). *U-Mix® 202 Injection Resin* can be injected as a single component material as long as sufficient water is present. It is recommended in certain situations to inject water as a second component by means of a mixing/metering machine. However, *U-Mix® 202 Injection Resin* is available in a cartridge system which is more suitable for repairs in confined spaces and where pump injection is not practical.

**APPLICATION:** Start the injection process at the lowest point for vertical cracks or at the narrowest point for the horizontal cracks. Continue pumping until the *U-Mix® 202 Injection Resin* begins to flow freely from the crack, then move to the next injector and resume pumping. When injection is completed, cured materials can be scraped and peeled from the wall. This product should be dry to the touch in one hour for small masses. Wait at least 48 hours before coating. Please contact the coating manufacturer for any questions regarding compatibility of primers or paints.

**GEL ENCAPSULATION:** This technique is used for below-grade applications where it is advantageous to use *U-Mix® 202 Injection Resin* as a seal membrane wrap on the outside surface of the structure. Holes are drilled completely through the structure to allow injection to take place from the inside. The pattern and spacing of holes may vary depending on each repair project. A common drill pattern is usually of a checker board layout where mechanical packers are installed and injection begins in one corner. Injection should continue into the packer until the urethane material penetrates the surrounding drill holes (open packers).

**CAUTIONS:** Do not inject *U-Mix® 202 Injection Resin* into frozen, frost filled or icy cracks. Colder walls and concrete will extend the reaction time. Warmer walls will shorten the reaction time. Recommended application temperatures are between 55°F to 90°F (12.8°C to 32.2°C). Store away from excessive temperatures and moisture. Open cartridges should be used quickly to prevent the material from gelling in the cartridge.

**GHS HAZARD RATINGS: DANGER:**



**Irritant: Respiratory Tract Irritation.**



**Health Hazard: Reproductive Toxicity**

**WARNINGS: HEALTH HAZARD & IRRITANT:** Avoid ingestion, skin and eye contact and inhalation of the vapors. Avoid contact with skin and eyes. Wear protective clothing and safety glasses during application. Use with OSHA/NIOSH approved air (vapor) respirator. Keep away from food and drink. Do not take internally. **FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.** Refer to product S.D.S. (SAFETY DATA SHEET) for FIRST AID INFORMATION, or any related health and safety information before using this product. For medical emergencies only, call INFOTRAC @ 800-535-5053.

**H.M.I.S. CODES:**

HEALTH = 2, FLAMMABILITY = 1, REACTIVITY = 1, P.PROTECTION = G



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**SHIPPING NAMES:**

Compounded resin containing the following components: Diphenylmethane Diisocyanate Mixed Isomers / CAS# 10 26447-40-5, Methylene Bisphenyl Isocyanate (MDI) < = 10 101-68-8, MDI Prepolymer 15-35 ND.

**Not Regulated by D.O.T. if under R.Q. of 5000 lbs. or more in a single container.**

**SHIPPING CLASS:** Urethane Resin Mixture

ITEM 43940, SUB 2, LTL 65 Urethane Foam -

**PACKAGING:** 10 ounce single cartridges (24 units / case). Includes twist on application nozzle.

**STORAGE:** Recommended between 60° (15°C) to 80° F (26.6°C)

**SHELF LIFE:** 1 year properly stored

**WARRANTY:** *Specco Industries, Inc. (Specco) solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. No other representations or statements made by Specco representatives, in writing or orally, shall alter this warranty. Specco MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages.*

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**REVISED: 09-16-20W**



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