

How to Use Your Acta-Leak Concrete Crack Repair Kit

Stop your concrete crack from leaking water by performing your own polyurethane injection into the crack. These instructions are a guide for the user on how to use the Acta-Leak Crack Repair Kit. This method is compiled from field experience and professional sources. Due to the variability of each crack repair, it is the responsibility of the user to select the proper repair materials and the appropriate repair process.

Kit Contents:

1 Gallon Hydra Stop 300 Polyurethane Injection Resin
20 3/8" Packers
Safety glasses
4 Pair nitrile gloves
1 Drop cloth/trash bag
1 Water bottle
Complete instructions
Data sheets and MSDS

Additional Tools Required:

3/8 x 12" Masonry drill bit
Hammer drill
8mm Deep Well socket
Marker or pencil

Repair Process

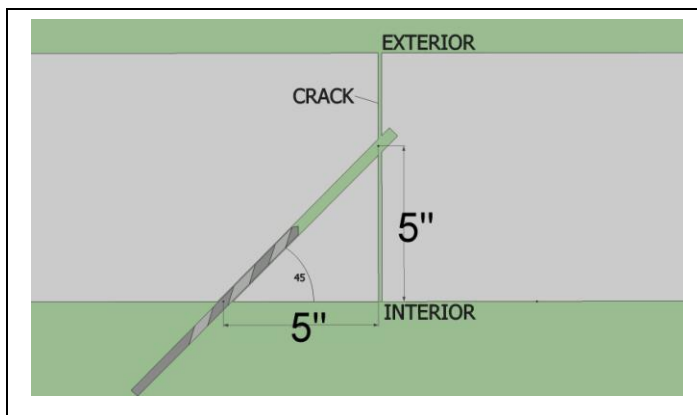
All work is done from the interior of the basement. Do not perform the repair from the outside. **Holes are drilled into the concrete, packers are placed in the holes and Hydra-Stop 300 is injected using a grease gun.**

A. Drilling 3/8" Holes

DO NOT DRILL HOLES DIRECTLY INTO THE FACE OF THE CRACK.

Starting 1 ft. from the bottom of the crack, mark with a pencil or marker 5 inches to one side of the crack. This is where a hole for a packer shall be drilled. Continue up the wall every 12-18", alternating sides of the crack with each packer.

Drill each hole at a 45 degree angle towards the crack. Drill far enough that the drill bit intersects the wall crack. Do not drill through the wall to the exterior.



B. Placing 3/8" Packers

Fill the provided bottle with water. Flush dust and debris out of the hole using ½-1 cup of water and the provided water bottle. Place the packer into the hole, black rubber end first. Be sure to leave the brass neck of the packer far enough out of the wall to tighten with an 8mm deep well socket. **DO NOT OVER TIGHTEN.** Tightening the packer collapses the black rubber sleeve against the sides of the hole and forms a tight seal.

C. Assemble the Grease Gun

Follow the provided directions for assembling the grease gun.

D. Fill the Grease Gun with Hydra Stop 300

Be sure to wear safety glasses and to wear protective gloves. Follow the directions provided for filling the grease gun. **NEVER ADD WATER TO THE GREASE GUN.**

E. Hydra Stop 300 Injection

1. Starting at the bottom most packer, attach the grease gun to the 3/8" packer. Pump the handle several times until Hydra Stop 300 resin begins to show from the crack. Once you see the Hydra Stop 300, remove the gun from the packer and proceed to the next packer. Continue until all packers have been injected.

After contacting water the Hydra Stop 300 will begin to foam and expand. It is recommended to go back and re-inject more Hydra Stop 300 into each packer. This ensures that the crack is thoroughly filled.

Hydra Stop 300 Specs

Hydra Stop 300 is a low viscosity single component hydrophobic polyurethane with good flexibility. It is used to seal leaks in cracked concrete.

Where to Use:

Use on cracked concrete walls to seal leaks.

Advantages:

Hydra Stop 300 is a single component to prevent cross contamination, Expands up to 25x initial volume, forms a closed cell, and has superior adhesion to concrete. It cures inert and non-toxic.

Application: Inject into concrete cracks to stop water leaks. Use Applied Technologies surface pastes, ports, mixers and accessories.

Physical Data:

Liquid form:

Viscosity	ASTM D-1638	300cps
Specific Gravity	ASTM D-1475	1.10
Color		Light Amber
Flash Point		>250F
VOC Content		<200gm/L

Solid Cured:

Density	ASTM D-1622	5lbs/ft3
Elongation	ASTM D-638	140%
Tensile Strength	ASTM D-638	25 psi
Toxicity		Non-toxic cured

Cure Time: 10-15 minutes full cure

MATERIAL SAFETY DATA SHEET

HYDRA STOP 300

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Applied Technologies, LLC
PRODUCT NAME: HYDRA STOP 300

DISTRIBUTED BY	24 HOUR EMERGENCY TELEPHONE NUMBER
Applied Technologies, LLC	Chemtrec: United States 800-424-9300
P. O. Box 18476	International 703-527-3887
Fairfield, OH 45018	
513-939-3767 US/Canada	

2. INFORMATION ON HAZARDOUS INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS</u>
MDI Prepolymer	<= 10	59675-67-1
MDI Prepolymer	20-30	96328-90-4
Polymeric Diphenylmethane Diisocyanate (PMDI)	10-30	9016-87-9
Diphenylmethane Diisocyanate		
Mixed Isomers	<= 10	26447-40-5
Methylene Bisphenyl Isocyanate (MDI)	<= 10	101-68-8
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	10-30	6846-50-0
Polyalkyleneoxidemethylsiloxane Copolymer	< 2	67762-85-0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Clear to light yellow liquid.

IMMEDIATE CONCERNS: Irritating to eyes, respiratory system, and skin. Inhalation at levels above the occupational exposure limit could cause risk of damage to respiratory system. The onset of respiratory symptoms may be delayed for several hours after exposure.

POTENTIAL HEALTH EFFECTS

EYES: Liquids, vapors, or mists are irritating to the eyes and can cause stinging, burning, lachrymation, or tearing.
SKIN: Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization.

INGESTION: Ingestion may cause irritation of the gastrointestinal tract and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea.

INHALATION: Inhalation of vapors or mist at concentrations above the TLV can cause respiratory tract irritation. (nose, throat, lungs) Chronic inhalation can result in sensitization.

MEDICAL CONDITIONS AGGRAVATED: Asthma, other respiratory disorders (bronchitis, emphysema, bronchia hyperreactivity), skin allergies, eczema.

ROUTES OF ENTRY: Inhalation, skin contact, eye contact, ingestion.

SENSITIZATION: Any individual with isocyanate sensitization should not be exposed to this product. These individuals can react to exposure well below the TLV. Symptoms can occur immediately or several hours after exposure.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN: Remove contaminated clothing. Wash affected areas thoroughly with soap and water. Wash clothing thoroughly before reuse. For severe exposure, seek medical attention immediately. For lesser exposure, seek medical attention if swelling or redness occurs, or if irritation persists after being washed.

INGESTION: Do not induce vomiting. Never give anything by mouth to a drowsy or unconscious person. If the individual is conscious, rinse mouth with water. Give 1 to 2 cups of water to drink. Seek immediate medical attention.

INHALATION: Remove individual from exposure, keep warm and at rest. If dizzy or shows signs of respiratory distress, obtain immediate medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > 200 °F (93.3 °C) - Closed Cup

EXTINGUISHING MEDIA: Dry Chemical, Carbon Dioxide, Chemical Foam, Water Fog or Spray.

HAZARDOUS COMBUSTION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.

COMMENT: Product reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

FIRE FIGHTING PROCEDURES: Isolate fuel supply from fire. Use water spray to cool fire-

exposed surfaces and containers. Fire fighters should wear self-contained breathing apparatus in addition to emergency fire fighting protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Clean up spills wearing proper personal protective equipment. (See section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal.

LARGE SPILL: Eliminate all ignition sources. Evacuate and ventilate the area. Create a dike or trench to contain materials. Prevent entry into waterways, sewers, basements or confined areas. Clean-up personnel should wear appropriate personal protection equipment. (see section 8) Absorb with dry chemical absorbent, earth, sand, or any other inert material. Do not use combustible material such as sawdust. Place in a chemical waste container. Move to outside well-ventilated area. Treat with 10 parts decontamination solution to 1 part isocyanate. Mix well. Allow to stand uncovered 48 hours before disposal. Clean spill area with decontamination solution and allow to stand for 15 minutes before removal. Test atmosphere for MDI.

DECONTAMINATION SOLUTION: Decontamination solution: concentrated ammonia (5%), detergent (2%), and water (93%)

RELEASE NOTES: Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

HANDLING: Wear proper personal protective equipment. Use in a well ventilated area. Avoid smoking, bare lights, or ignition sources. Avoid physical damage to containers.

STORAGE: Protect from atmospheric moisture. Keep containers sealed in order to avoid contamination. Do not reseal if contaminated. After container has been opened, blanket with nitrogen before resealing. Store indoors in a cool, well-ventilated area.

STORAGE TEMPERATURE: 55 °F – 120 °F (12.8 °C – 48.9 °C)

SHELF LIFE: 1 Year

SPECIAL SENSITIVITY: Material is hygroscopic and reacts with water. It will form cured particles or a film when exposed to atmospheric moisture. Blanket containers with nitrogen before resealing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>CHEMICAL NAME</u>	<u>EXPOSURE LIMITS</u>					
	<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>SUPPLIER OEL</u>	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
MDI Prepolymer	TWA		NE	NE	NE	NE
Polymeric Diphenylmethane Diisocyanate	TWA		NE	NE	NE	NE
Diphenylmethane Diisocyanate Mixed Isomers	TWA		NE	NE	NE	NE
Methylene Bisphenyl Isocyanate (MDI)	TWA		0.02*	0.20*	0.005	0.051
2,2-dimethyl-1-(methylethyl)-1,3-propanediyl bis(2-methylpropanoate)	TWA		NE	NE	NE	NE
Polyalkyleneoxidemethylsiloxane Copolymer	TWA		NE	NE	NE	NE

KEY:

NE = Not Established

* = Ceiling Value

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other control airborne levels below recommended exposure limits. engineering controls to

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields.

SKIN: Wear gloves and clothing to cover exposed skin.

RESPIRATORY: During application, if exposure of product can exceed the PEL/TLV, use appropriate respiratory protection to protect from overexposure.

WORK HYGIENIC PRACTICES: Follow good normal hygiene practices. Avoid contact with skin. Avoid eating, drinking, or smoking while using this product. Wash hands thoroughly after use.

OTHER USE PRECAUTIONS: Medical supervision of all employees who handle or come in contact with respiratory sensitizers is recommended. Persons with respiratory problems including asthmatic-type conditions, chronic bronchitis, or other chronic respiratory diseases or recurrent skin eczema or skin allergies should be evaluated for their suitability of working with this product. Once a person is diagnosed as sensitized, no further exposure of the material that caused the sensitization should be permitted. The Occupational Exposure limits do not apply to previously sensitized individuals.

OTHER PROTECTIVE EQUIPMENT: Safety showers and eye wash stations are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Slightly musty
COLOR: Clear to light yellow
BOILING POINT: Not Determined
FREEZING POINT: Not Determined
SOLUBILITY IN WATER: Insoluble
VAPOR PRESSURE: < 0.0001 mm Hg at 77 °F (25 °C)
SPECIFIC GRAVITY: 1.060 to 1.080 (water=1) at 77°F (25 °C)
VISCOSITY: 350 – 550 Centipoise at 77 °F (25 °C)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Temperature extremes. Container contamination. Moisture.

STABILITY: Stable under recommended storage conditions.

POLYMERIZATION: Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines, and metal compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Nitrous Oxide, and HCN.

INCOMPATIBLE MATERIALS: This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 122 °F (50 °C), but is accelerated at higher temperatures.

11. TOXICOLOGICAL INFORMATION

	ORAL LD ₅₀ (rat)	DERMAL LD ₅₀ (rabbit)	INHALATION LC ₅₀ (rat)
Methylene Bisphenyl Isocyanate (MDI)	> 5000 mg/kg	> 10000 mg/kg	490 mg/m ³ /4h (respirable aerosol)
2,2-dimethyl-1-(methylethyl)- 1,3-propanediyl bis(2-methylpropanoate)	> 3200 mg/kg	>18900 mg/kg (rat) > 5.3 mg/L/6h	
Polyalkyleneoxidemethylsiloxane Copolymer	> 2000 mg/kg	> 2000 mg/kg	No data

EYE EFFECTS: Moderate Irritant.

SKIN EFFECTS: Moderate Irritant.

CARCINOGENICITY

IARC: Not classified as a carcinogen.

NTP: Not classified as a carcinogen.

OSHA: Not classified as a carcinogen.

ACGIH: Not classified as a carcinogen.

12. ECOLOGICAL INFORMATION

ECTOTOXICOLOGICAL INFORMATION: *Polymeric MDI*: LC₅₀ (Zebra Fish) >1000 mg/L. EC₅₀ (Daphnia magna) (24 hour) >1000 mg/L. EC₅₀ (E. Coli) >100 mg/L.

CHEMICAL FATE INFORMATION: Immiscible with water, but will react with water to produce inert and non-biodegradable solids.

COMMENTS: No testing for product as a whole.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Disposal should be in accordance with local, state, provincial or national regulations.

EMPTY CONTAINER: Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

RCRA HAZARD CLASS: If discarded as purchased, this material is not a hazardous waste under RCRA 40 CFR 261.

COMMENTS: The generation of waste should be avoided or minimized whenever possible. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

Not regulated when shipped below RQ (reportable quantity).

RQ = 25,000 lbs

Single containers at or above the RQ are regulated as: NA3082, Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate), 9, PG III, RQ.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Toxic, Irritating substance, Sensitizing substance, Acute, Chronic

313 REPORTABLE INGREDIENTS: Diisocyanate Compounds

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Polymeric MDI is a mixture containing approximately 50% Diphenylmethane 4,4'- diisocyanate [MDI] (CAS# 101-68-8). MDI has a RQ of 5,000 lbs.

Any spill or release above the RQ must be reported to the National Response Center (800-424-8802).

Reportable spill quantity: 25,000 lbs

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA REGULATORY: All ingredients are on TSCA inventory.

RCRA STATUS: Not hazardous if discarded in its purchased form. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).

16. OTHER INFORMATION

HMIS RATING: Health - *2, Flammability - 1, Physical Hazard - 1

HMIS RATING NOTES: If present, the asterisk signifies a chronic health hazard.

Rating system: 0 = low hazard to 4 = high hazard

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KEY LEGEND INFORMATION:

ACGIH - American Conference of Governmental Industrial Hygienists

EPA - Environmental Protection Agency

IARC - International Agency for Research on Cancer

NTP - National Toxicology Program

OEL - Occupational Exposure Limit

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

STEL - Short Term Exposure Limit

TLV - Threshold Limit Value

TWA - Time Weighted Average

DATE: 05/18/2009

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