



ArmorPoxy Inc.  
1260 North Ave  
Plainfield, NJ 07062  
[armorpoxy.com](http://armorpoxy.com)  
E: [support@armorpoxy.com](mailto:support@armorpoxy.com)  
P: 888-755-7361

# ARMORTRAK V1

## MILITARY GRADE FLEXIBLE COATING

### PRODUCT DESCRIPTION

Armortrak is a tough, single-pack, totally flexible, slip-resistant, waterproof protective polyurethane coating with self-contained recycled rubber granules for an attractive tough textured finish. When exposed to atmospheric moisture, Armortrak undergoes a chemical curing process which changes it from a liquid to a tough polyurethane membrane. It has excellent abrasion and chemical resistance. It is also available in a smooth version without the rubber granules. Both Armortrak (aromatic version) and Armortrak 18 (aliphatic version) may be used for indoor and outdoor applications. However, as Armortrak may experience some degree of fade in outdoor applications, Armortrak 18 is recommended for maximum UV protection under these conditions. Armortrak will chemically bond to most clean and dry surfaces. These include, but are not limited to, concrete, wood, fiberglass, metal, rubber and sound-painted materials. Some metal and extremely porous surfaces may need to be primed. Armortrak can be applied by roller, brush or spray. Armortrak can give a relatively smooth or rough surface, depending on application technique.

### USES

Armortrak has many applications for commercial, military and civilian use. Armortrak protects surfaces from foul weather elements and harsh chemicals, while creating a nonslip surface on: pedestrian walkways/truck beds/ramps and loading docks/bridges/metal and wooden steps/catwalks/ship decks/marine applications/pleasure boats/storage tanks/floors/handicap ramps/pools and spas/sealing rusty pipes/playgrounds/freight elevators/tool handles/roofing/vehicle undercoating/curb ramps/parking lots.

### COLORS

Armortrak comes in standard and custom colors, including Black, Dark Grey, Light Grey, Brick Red, Safety Red, Dark Blue, Medium Blue, Green, Olive Green, Safety Yellow, Safety Orange, White, Tan, Beige, and Cream (without pigment or rubber granules). All colors also available in smooth version (without granules). Color matching on volume orders.

### PHYSICAL PROPERTIES

<b>WEIGHT PER GALLON</b>	10 lbs
<b>VISCOSITY</b>	Kreb Units 67-12
<b>SOLIDS BY WEIGHT</b>	66%
<b>APPLICATION TEMPERATURE RANGE</b>	32°F-95°F
<b>APPLICAITON THICKNESS</b>	2 Coats Minimum 30-40 Mils
<b>FLEXIBILITY</b>	Total Flexibility
<b>RESILIENCE</b>	Resilient in Dry State
<b>ABRASION RESISTANCE</b>	Tabor Wheel, 1000 gr load, 1000 cycles 30.5
<b>FIRE RESISTANCE</b>	Flame spread ASTM E-162: 01
<b>SMOKE GENERATION</b>	ASTM E-662: 06
<b>SALT WATER RESISTANCE</b>	100%
<b>FREEZE-THAW RESISTANCE</b>	-60°F-254°F
<b>POT LIFE</b>	3 Hours
<b>SHELF LIFE MINIMUM</b>	1 Year
<b>FLASH TIME</b>	1.5-3 Hours
<b>WALK TIME</b>	6-12 Hours
<b>TIME BETWEEN COATS</b>	± 1 Hour
<b>FULL CURE</b>	± 4 Days
<b>VOC</b>	2.08 lbs/gal
<b>% SOLIDS</b>	75.8%
<b>DOT HAZMAT INFO</b>	Paint, 3, UN1263, PG III
<b>COEFFICIENT OF FRICTION/SLIP RESISTANCE (TEXTURED)</b>	Dry=.91, Wet=.62



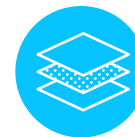
Fast Drying



2x Coat Minimum



Walk Time: 6-12 Hours



Compatible with over 10 different substrates



Flexible



Can be used Indoors and Outdoors

<b>ONE PART</b> No Mixing of Components	<b>TOTALLY FLEXIBLE</b> Never Chips, flakes, or peels	<b>REPAIRABLE</b> Bonds to Itself	<b>PROTECTION</b> Waterproof, Resistant to acid, chemicals, UV exposure, and Salt Water
<b>FAST DRYING</b> Very short intercoat time	<b>FOOT TRAFFIC</b> In 6 to 12 hours	<b>ECONOMICAL</b> Lasts for years; no need to remove old Armortrak when recoating	<b>INDOOR/OUTDOOR</b> Can be used on a wide variety of applications

**INDOOR/OUTDOOR**

**1-Part Flexible Urethane Coating**

# ARMORTRAK™ APPLICATION INSTRUCTIONS

**READ INSTRUCTIONS CAREFULLY BEFORE MIXING AND APPLYING**

Issues with your order? Please contact ArmorPoxy for assistance: [www.armorpoxy.com](http://www.armorpoxy.com)

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## **APPLICATION NOTES**

Surface preparation and application instructions for both ARMORTRAK and ARMORTRAK OUTDOOR versions are identical unless otherwise noted.

**IMPORTANT** –ArmorTrak has thousands of uses and we have put this guide together for the most popular applications, please read carefully and apply accordingly for your specific application. Please contact us with any questions

ARMORTRAK will bond well to properly prepared, clean, thoroughly dry surfaces. On sound-painted surfaces(not peeling or flaking), paint must be fully dried or cured to manufacturer's specifications. The solvents in ARMORTRAK will not soften or attack properly dried or cured paint. This makes ArmorTrak ideal for coating over another coating without having to do a costly diamond grind.

### **GENERAL DIRECTIONS**

Always thoroughly clean the surface of all oily or waxy contaminants and use recommended cleaning solvent. Leave no residue. Always do a small test on the substrate to ensure adhesion. NOTE: Due to the possibility of slight batch color variations, mix partially used cans of ARMORTRAK™ with new cans as they are opened during applications.

### **DO'S AND DON'TS**

DO	Use only Xylene cleaning solvent as last step before applying ARMORTRAK™ , or to thin ARMORTRAK™ if necessary.
DON'T	Clean surfaces with lacquer thinners or any solvent containing alcohol, which will prevent ARMORTRAK™ from curing and bonding.
DO	Clean surface with strong aggressive detergent and rinse thoroughly. Then use Xylene to wipe the surface as a last step. Allow solvent to evaporate.
DON'T	Assume surface is clean unless you have cleaned it according to instructions.
DO	Ensure surface is completely dry and/or catalyzed beforehand.
DO	Test surfaces beforehand for adhesion with ARMORTRAK™.
DON'T'	Shake can to mix. (Rubber granules will not mix evenly.)
DO	Stir ARMORTRAK™ thoroughly before application (preferably with an electric mixer) to keep rubber granules in suspension.
DO	Keep ARMORTRAK™'s rubber granules in suspension by stirring periodically.
DO	<b>Apply ARMORTRAK™ in at least two coats.</b> (Two coats is normally sufficient for most applications.)



## **BEFORE YOU START**

- **SUPPLIES** You need to supply the following items: standard 9” or 4” roller frame, painting extension pole, and power drill as these items are not included. Other suggested items are measuring cups, roller tray (for the topcoat), a plastic or cloth drop cloth to mix on and xylene or similar cleaner and rags for cleaning hands or drips.
- **SURFACE PREP IS THE MOST CRITICAL STEP** to assure peak performance of the ArmorTrak product. It is important to apply the product to a clean, well-prepared surface. The surface must be free of debris, loose or flaking concrete, dirt, oil, curing compounds, previous coatings, sealers, and loose paint. Even new concrete must be cleaned to remove dirt, dust, and salts that form as the concrete cures.

**DO NOT SKIP THE PREP STEP. IF FLOOR IS NOT PREPPED FAILURE OR UNEVEN OUTCOME CAN OCCUR.**

- **SAFETY** As with any chemicals, avoid contact with skin, avoid inhalation and wear protective clothing, rubber gloves and eye protection. Apply only in well-ventilated areas. Follow all local, state, and federal regulations that may apply to your region. See our website at [www.armorpoxy.com](http://www.armorpoxy.com) for Safety Data Sheet sheets.
- **CLEAN UP** Clean up with xylene (xylol) available at any paint or hardware store.
- **MIXING** ArmorTrak comes in both textured and non textured versions. If using the textured version, ensure to shake the can well and mix up with a mechanical mixer and or mixing stick to evenly disperse color and aggregate. Failure to do this will result in uneven and uneven coating.
- **FIRST AID** For skin contact, wash thoroughly with soap and warm water. In case of contact with eyes, flush with warm water and immediately contact a physician or go to the emergency room of your local medical center or hospital. If swallowed, do not induce vomiting. Contact a physician and the poison control center.



## **SURFACE PREPARATION FOR SUBSTRATES**

### **IMPORTANT – READ CAREFULLY!**

The following information is provided as a guide only, because substrates can differ significantly. All surfaces should first be tested to ensure adhesion.

### **CONCRETE**

For best results, NEW concrete should:

- Be fully cured, for at least 28 days.
- Have a brush finish.
- Be hand troweled (if already power troweled, test for adhesion of ARMORTRAK™). Shot Blasting may be needed to provide the proper profile.
- Be thoroughly cleaned with Armorpoxy Acid Safe Etching kit, rinsed with water, and thoroughly dried.
- Be wiped with Xylene and allowed to dry, until solvent has evaporated, immediately before applying ARMORTRAK™. (This is recommended, for best results, to ensure there is no remaining residue on the surface.)

#### **NOTE:**

- If the new concrete contains plasticizers, a small test for adhesion is essential. A primer may be needed if there is poor adhesion.
- If the concrete is oil-soaked, refer to instructions for oil-soaked concrete (see below).

#### **OLD concrete should:**

- Be completely dry before application of ARMORTRAK™.
- Be shotblasted, if possible, and rinsed with water.  
OR
- Be abraded with a scarifying machine (leaving a roughened surface) and brushed off.  
OR
- Be thoroughly cleaned with muriatic acid wash.
  1. Use 45% to 50% muriatic acid solution mixed with 3 to 4 parts water.
  2. Agitate solution on surface with a hard-bristled deck brush for approximately 10 minutes, to open pores on surface.
  3. Rinse off with a 5% ammonia/water solution to neutralize acid. Mix 7 ounces of ammonia with one gallon of water per 500 sq ft, brush in and then rinse thoroughly. Repeat over entire floor. (Failing to neutralize acid could leave residue which might cause delamination.)
  4. Be dried completely. If necessary, use a heat source.
  5. Be brushed off to remove all residue.
  6. Be wiped well with Xylene immediately before applying ARMORTRAK™. Let the Xylene evaporate before applying ARMORTRAK™.

#### **NOTE:**

If the old concrete contains plasticizers, a small test for adhesion is essential. A primer may be needed if there is poor adhesion.

### **OIL-SOAKED CONCRETE**

Open pores of concrete with muriatic acid and rinse, as above.

1. Apply Armorpoxy Oil & Grease remover and agitate with deck brush for 10 minutes.
2. Rinse with hot water.
3. Rinse twice with cold water.
4. Dry completely.



5. Apply Armorpoxy Oil Stop Primer, let dry and then apply ARMORTRAK. SEALED CONCRETE

**Sealed concrete should first be tested for ArmorTak adhesion:**

1. Clean surface thoroughly with Muriatic Acid as above.
2. Roughen surface with floor buffer and black pad.
3. Brush surface off thoroughly.
4. Rinse with water and dry thoroughly.
5. A Xylene wipe is recommended. Let solvent evaporate.
6. Apply test patch of ARMORTRAK™.
7. If delamination occurs, sealer must be removed by mechanical means (i.e., shot blasting or scarifying).

## **ASPHALT**

1. Prime surface with a mineral spirit or water-based driveway sealer according to manufacturer's specifications. Be sure the sealer is compatible with both asphalt and one-part moisture cured polyurethanes.
2. Apply ARMORTRAK™ when primer is thoroughly dry.

## **ALUMINUM**

1. Abrade to obtain rough surface. May or may not require additional primer. Recommend test for adhesion.
2. If a primer is needed, use an etch primer for aluminum which is compatible with moisture-cured polyurethanes. Apply during the first third of the recommended overcoat window, after the primer is touch dry.

## **METAL**

All smooth metal should be thoroughly cleaned, aggressively roughened and primed with an etch primer which is compatible with moisture-cured polyurethanes.

ARMORTRAK™ adheres well to cured painted metal. Most rough metal surfaces such as pitted rust need not be primed; however, all loose scale should be removed. We recommends that a small area be pre-tested with and without primer. On applications of extreme wear, such as step nosings, a primer is highly recommended.

**CAUTION!** When priming metal surfaces, the primer must be fully dry before overcoating. Careful attention must be given to manufacturer's recommended window of minimum and maximum time for overcoating primer with polyurethanes. When using primers, a small test must be done to ensure adhesion of primer to ARMORTRAK™.

Aim for the first third of the recommended window of opportunity for overcoating.

## **WOOD**

If wood texture is rough, it may not require special preparation. For best results, abrade surface of wood with 40-grit sandpaper before applying ARMORTRAK™. Some pressure-treated woods may need priming. If in doubt, make a small test application first. ARMORTRAK™ will bond to wolmanized treated wood without priming.



## **PAINTED SURFACES**

1. Remove all peeling, cracking or chipping paint.
2. Clean surface thoroughly.
3. For best results, lightly abrade surface with an 80-grit sandpaper.
4. Clean the surface with a good cleaner, such as tri-sodium phosphate (TSP). Test in small area to make sure cleaner isn't softening the painted surface.
5. It is strongly recommended to wipe surface with Xylene before applying ARMORTRAK
6. In the case of epoxy coatings which become very hard with age, clean, then abrade surface with 40-grit sandpaper. Rinse, dry, and test for adhesion. If poor adhesion occurs, soak with Xylene for 10 minutes, wipe off, roughen, and wipe once more with Xylene.

## **RUBBER**

Clean well using detergent or cleaning solvent, such as rubbing alcohol, to remove all surface release agents. Rinse well and allow to dry. Abrade surface aggressively, wipe off with Xylene, and then apply ARMORTRAK™.

**NOTE: ARMORTRAK™ will not bond to chlorinated rubber.**

## **FIBERGLASS**

Good adhesion can be obtained on unweathered gel-coated glass, rough fiber, side molded glass, and smooth-mold resin-side glass. Surface should be free of release agents, waxes and other production additives, then roughened well with 40-grit sandpaper to remove all gloss, leaving a high profile surface. To ensure optimal bonding, use an epoxy primer compatible with both fiberglass and moisture-cured polyurethanes. Do a small test for adhesion.

## **CERAMIC AND TERRACOTTA TILES**

Remove glaze from ceramic tile with a grinder, rinse with water, and let dry. For Terracotta Tiles clean with Acid Safe Etching Kit. Apply special primer, and let dry thoroughly. Then apply ARMORTRAK™ within 12 hours.

## **HOW TO APPLY**

ARMORTRAK™ for roller, brush or spray applications, is available in one-quart and one-gallon containers. For volume applications, it is also available in five-gallon containers by special order. Before applying ARMORTRAK™, it is important that the surface to be coated is completely clean and dry. (See [Surface Preparation above](#).) Mask all areas not to be coated. Remove masking tape after application of second coat, using a razor knife to cut along the taped edge.

ARMORTRAK™ has extreme bonding capability so do not let cure on anything you do not want coated! It can only be removed via mechanical grinding! Clean up splatters or drips immediately with Xylene. ARMORTRAK™ contains flammable solvents. Ensure proper ventilation and fire precautions.

## **ROLLER APPLICATION**

Smooth version of ArmorTrak can be applied with any standard low-nap (up to 1/4") roller. Do not apply too thick as it could prevent proper curing. Textured version must be applied with provided special foam roller. USE 1 FOAM ROLLER PER GALLON.

CHANGE ROLLER AFTER EACH GALLON USED. Two thinner coats are recommended. Apply textured ARMORTRAK™ with special, Armorpoxy roller (see picture below). Use only a



Armorpoxy special roller, which is designed to evenly distribute the embedded rubber granules on application – other rollers will cause clumping of the rubber granules. Roller sleeves are available in 9” and 3” sized.



*Fig 1 - ArmorTrak Textured Roller - 9”*

Apply first coat of ARMORTRAK™ as a thin coat, to fully cover. If using ArmorTrak Outdoor, the first coat is done with standard ArmorTrak, second coat is done with ArmorTrak Outdoor, this provides the UV protection. When first coat is touch dry – usually within 1½ to 3 hours – apply second coat. To avoid “mud cracking” or pooling, do not apply ARMORTRAK™ too thickly. Between coats, pour a small amount of Xylene over rollers, so rollers will not dry out. Extreme climactic conditions of heat, humidity and cold can shorten or lengthen this period.

## **BRUSH APPLICATION**

ARMORTRAK™ can be applied with a soft paint brush, in two coats at right angles to one another. (ARMORTRAK™ is not a paint, and should be laid onto the surface, in one direction, not brushed out as an oil or latex paint.) Between coats, clean brush well with Xylene, only. The second coat can be applied as soon as the first coat is touch dry (usually within 1½ to 3 hours). Extreme climactic conditions of heat, humidity and cold can shorten or lengthen this period.

## **COVERAGE**

One quart covers a flat area of about 25-40 square feet. One gallon covers approximately 200-225 square feet, with a final dry coat thickness of approximately 24- 30 mils when two coats are applied.

## **IMPORTANT POINTS**

ARMORTRAK™ should be stirred thoroughly before applying – preferably with an electric paint mixer attachment – as shaking can will not distribute rubber granules evenly.

- Stir periodically to maintain rubber granules in suspension.
- To avoid “mud cracking” or loss of slip-resistance, do not allow ARMORTRAK™ to pool.
- ARMORTRAK™ is a moisture-cured product. An open or partially used can will thicken and eventually become unusable. Seal can well and turn upside down for a few seconds. This will seal any space in the can and may prolong the life of the unused portion of ARMORTRAK™. Putting unused portion into a smaller container may help prolong the life of the product, as well. Make sure that the rim of the new container remains free of ARMORTRAK™ to avoid difficulty in reopening the container.
- If the product thickens slightly, it can be thinned by using up to 15% Xylene without affecting performance.
- Other solvents can cause product failure. Do not dilute product or clean rollers, brushes or spray guns with lacquer or alcohol-based thinners.
- Once the consistency of the product has become pasty and unmixable, it should be discarded. If ARMORTRAK™ is thick, but still liquid, it can be thinned with Xylene and be used.





- Normally, ARMORTRAK™ can be subjected to light foot traffic within 6 to 12 hours of application. It takes approximately 2 to 4 days to fully cure: less in hot humid conditions, and more in cold dry weather. The coating should not be subjected to cleaning or chemical exposure until fully cured.

## **SPRAY APPLICATION**

ARMORTRAK™ can be sprayed using one of the listed sprayers below. ARMORTRAK™ should flow through the spray gun easily and can be thinned with Xylene.

- Use a conventional spray gun, such as Binks #2001, with the following specifications, or equivalent: 67 fluid nozzle; 567 fluid needle; 67 PB air cap; heavy-duty (#54-1372) needle spring; 2-28 teflon fluid packing; ½" I.D. (#71-283) fluid hose with 3/8" connectors (#72-1333), and 3/8" I.D. air line with ¼" connectors (#71-1355).
  - To remove contaminants from the air line, use Oil & Water extractors mounted at the pressure tank.
- Sears Craftsman No. 15524 (or De Vilbiss AS 300) with external mix nozzle. Requires 7 CFM. Use compressor with 9 CFM at 50 psi. (For more information, call De Vilbiss Air Power Tools at (901) 423-7983.)
- Airless spraygun: Graco Bulldog 33:1 with air intake pressure = 6-7 bar (90-100 psi). Outlet pressure = 100 bar (+/- 3000 psi). Tip: 0.039 ins (ie 35-39 thou). Delivery rate: 2.9 gallons per minute.
- For smooth ARMORTRAK™, Graco Bulldog 33:1 with 21-23 thou. tip.
- Use a respirator with chemical absorbing cartridges, such as Binks #40- 128.
- Before starting the job, spray a few short bursts away from the surface to test that everything is working properly.
- If ARMORTRAK™ does not spray easily and evenly, thin with Xylene.
- Spray an even coat over the entire surface to be covered. Be careful not to apply coat too thickly.
- When surface becomes tacky – between 20 minutes and one hour, depending on weather conditions – spray second coat. Extreme climactic conditions of heat, humidity and cold can shorten or lengthen this period.
- Intercoat / curing time can be significantly shortened by use of special accelerator (see section on accelerator).
- Spray gun manufacturers often change model numbers. Consult individual manufacturers for superseded models.
- Remove any over-spray immediately with Xylene. Once cured, ARMORTRAK™ is very difficult to remove.
- Solvents released when spraying are flammable. Observe all fire precautions. Proper ventilation is required.
- Clean spray gun between coats and immediately after job is completed. Use only Xylene

## **CLEANING**

Once ARMORTRAK™ coatings have fully cured, they are very easy to maintain. Because ARMORTRAK™ cures to an impermeable membrane, all dirt sits on the surface.

[CAUTION! If dirt sets in on ARMORTRAK™ surface while it is soft and before it is cured, it could become permanently imbedded.]

1. Use any general non-chlorinated floor cleaner, from a neutral household cleaner to a degreaser.
2. IMPORTANT! For best results, use a stiff bristled deck brush to agitate cleaner on the surface. [A cotton mop is not recommended since pieces of mop may get caught on high



profile of ARMORTRAK™ surface.] A synthetic fiber material mop may be used if a deck brush is unavailable.

3. Rinse surface thoroughly to remove all residue.
4. Remove all water with a sponge mop, a 24 oz. mop or water vacuum.

### **ALTERNATE METHOD**

For larger areas, where the above method is not time efficient, there are alternatives available to expedite cleaning.

### **PRESSURE WASHER**

A wide-angle water pressure spray of 600-700 PSI can clean ARMORTRAK™ without damage to the surface.

### **ROTARY MACHINE**

A rotary 14" waxing-type machine with a (thickline) blue pad can be used.

### **RINSE-FREE DETERGENT**

If a rinse-free detergent is used, the dirty water pickup can be done with a water vacuum.

### **GREASE SPILLS**

To clean a ARMORTRAK™ surface of a greasy or slippery solution, it is necessary to use a slightly more aggressive detergent, containing a degreaser, available from chemical suppliers.

### **REMOVAL OF A STICKY SUBSTANCE**

For removal of gum or other sticky substances from a ARMORTRAK™ surface, use a pressure washer. A wide-angle water-pressure spray of 600 to 700 PSI, at an angle of 35-40 degrees, should enable the removal of gum pieces within 10 to 15 seconds without damage to the ARMORTRAK™ coating.

### **CHLORINE**

If left on the ARMORTRAK™ surface, concentrated chlorine will discolor ARMORTRAK™. Immediately rinse off the concentrated chlorine with water.

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