



Armor-Rock

Use Guide for Pork Production

Vanberg Specialized Coatings

Armor-Rock combines the endurance of Armorcoat Epoxy with the exceptional hardness properties of VSC Aggregate to produce an extremely tough wearing, impact and chemical resistant overlay. Top coats are optional to produce easy cleaning floors (alleys and floors). Typically this system is applied from 3/16" (4.8 mm) to 1/4" (6.35 mm) thick over concrete with slight to medium wear or new.



REPAIR DIAGNOSIS

Trough Repairs: Con-Korite Xtra or Armor-Stone Mortar

Extreme Wear

1/4" (6.4 mm) up to 1/2" (12.7 mm) or more. Severely damaged, exposed stone, deep pitting

Slat & Pen Repairs: Con-Korite Xtra or Armor-Stone Mortar

Breakouts & Eroded Edges

Severe damage that requires rebuilding

Extreme Wear

1/4" (6.4 mm) up to 1/2" (12.7 mm) or more. Severely damaged, exposed stone, deep pitting



Slat & Pen Resurfacing: Armor-Rock

Slight Wear and New Concrete

1/8" (3.2 mm) or Less
Rough surface with minimal pitting



Moderate Wear

1/8" (3.2 mm) up to 1/4" (6.4 mm)
Very rough with exposed stone



*Armor-Rock should only be applied to surfaces that have edges and deep zones repaired or to slightly worn or new surfaces.

COMMON USES



Around wet/dry feeders... new slats/pads or slats/pads with some wear



Floors and Walkways... typically surfaces that are too smooth are covered with a non-slip overlay.



Loading Chutes... concrete and wood that are slippery.

SETTING UP A WORK STATION

- Step 1** Select an area that is clean and dry to establish a work station. This area should have access to 110V single phase power and water.
- Step 2** Place large pieces of cardboard over the area or a tarp.
- Step 3** Bring in all supplies and tools to organize for the application, Insure access to water.



SURFACE PREPARATION

Application Temperature

Ensure that concrete substrate temperature is at 50°F (10°C) or higher and for optimum results ambient air temperature should fall between 60°F (16°C) and 90°F (32°C).

Prepare Your Surface Accordingly

Concrete is a porous substrate. It becomes even more porous with age and wear. Oils, fats and chemicals from animal and feed wastes become absorbed into the substrate. High-pressure washing removes surface contaminants, but does not do a good job on those embedded in deep pores and pits.

It is strongly advised to always use protective eye (#TSDPG52 safety glasses) and skin wear (TS5000G rubber gloves) when using the following products and procedures.

Preparing for Repair or Overlay

For a uniform overlay, tape off the perimeter of the zone where the Armor-Rock will be applied using duct tape or masking tape. Then cut a 1/4" (6.4 mm) x 1/4" (6.4 mm) groove at the perimeter of the repair zone for epoxy to flow into.

Armorcoat Epoxy systems are applied to a properly prepared, clean and dry surface. During warm dry summer conditions preparation may take just about half hour or so. During cooler periods where supplemental heat is needed, this may take several hours or overnight. A weed burner (torch) can be used on concrete following vacuuming to hasten the drying process.



SURFACE PREPARATION (CONTINUED)

Prepare Surface with Concrete Clean & Etch

- Step 1** In a plastic container, add 1 gal. (3.8 L) of Concrete Clean & Etch to 1 gallon (3.8 L) of water (1:1) to etch up to 150 sq. ft. (13.9 m²). Use Concrete Clean & Etch straight for new concrete at 75 sq.ft./gal. (1.8 m²/L).
- Step 2** Use a plastic sprinkler to uniformly apply the acid mixture to the surface.
- Step 3** Use a stiff broom to scrub the surface and uniformly distribute the acid. Allow the acid to work for 5-10 minutes, or until fizzy/bubbly reaction ends.



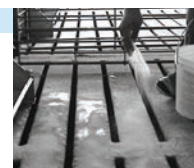
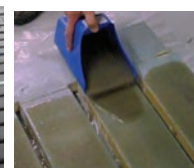
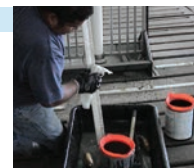
- Step 4** Thoroughly rinse the area with water. If plenty of water is used, neutralizing the acid residue on the surface should not be necessary. If neutralizing sprinkle a solution of 2 fl. oz. (0.1 L) Deep Kleen and 1 gallon (3.8 L) of water over the treated area and then do the final water rinse.



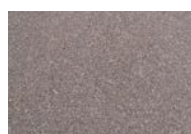
- Step 5** Use a leaf blower or wet/dry vacuum to remove any standing water. Allow the surface to dry completely. Use a weed burner (torch) to hasten the dry time following vacuum.

DETAILED MIX & APPLICATION GUIDE

- Step 1** Combine the hardener and resin portions of the selected Armorcoat Epoxy in a clean dry 5-gallon (18.9 L) mixing container. 1.5 gal (5.7 L) units are proportioned for accurate mixing. If using 15-gallon (56.8 L) units, combine 1 gallon (3.8 L) of resin with 1/2-gallon (1.9 L) hardener. For smaller batches always use 2 parts resin to 1 part hardener. **Measure Accurately.** Mix the blended epoxy liquids thoroughly using a variable speed drill with a 4" (101.6 mm) prop for 2 to 3 minutes. Use slow up and down motion to mix completely. Pour the mixed epoxy liquids into a Pail Mixer prior to introducing the Admix.
- Step 2** Once the liquids are mixed, mix in a 25 lb. (11.3 kg) bag of Armor-Rock Admix. The AR Admix keeps the mix in suspension and adds additional strength and wear properties to the matrix. A thicker mix can be made by the addition of slightly more Admix. A more fluid solution can be made reducing the amount of Admix used in the mixture. Higher ambient temperatures will make the epoxy resins more flow-able and lower temperatures will thicken the epoxy resins.
- Step 3** Transfer the epoxy blend to a pouring device if the mix is being applied to a small area (E.g. Slats). A 5 qt. (4.7 L) flexible pail works well as does a 1 gal. (3.8 L) pail with a pour spout or 5" (127 mm) wide scoop. Otherwise the epoxy can be poured and spread over broad surfaces directly from the mixing pail. Remove all of the slurry from the pouring device as soon as possible to prevent over-heating and settling.
- Step 4** For slats use the Armor-Rock Applicator to uniformly dispense the slurry at a uniform 3/16" (4.8 mm) or 1/4" (6.4 mm) thickness. Or, pour the epoxy slurry over the surface as a bead, using the flexible pail, scoop or pour spout pail. It is best to get the entire contents of the mixing pail spread over the areas to repair quickly in order to prevent the epoxy from heating up in the pail. Clean containers and application tools regularly, using Solvent 101.
- Step 5** Where the epoxy is poured as a bead, spread the epoxy slurry uniformly with a Notched Slat Squeegee or Notched Trowel to make a uniform 3/16" (4.8 mm) to 1/4" (6.4 mm) layer on the substrate. If necessary use the flat side of the squeegee or trowel to flatten the surface of the epoxy slurry and remove squeegee lines. Left alone, the slurry will self-level within several minutes.
- Step 6** Once the epoxy slurry has been uniformly spread at the desired thickness, the final installation step is to broadcast the selected aggregate over the wet epoxy surface evenly (no piles) until the surface appears dry. If shiny spots re-appear, add additional aggregate until the area is fully saturated with sand. Allow the epoxy to cure (6-8 hours for Armorcoat 1300) at 70°F (21°C).



Gestation, Growing Animals & Walkways
VSC Medium or ES
Natural Blend



Loading Chutes, Livestock Walkways
ES Natural Blend

GROUTING EDGES, FILLING HOLES & SEAMS OR MAKING CHUTE CLEATS

Step 1 Prior to the application of the Armor-Rock system, if edges are broken or worn away, open seams or holes need to be filled. Make Armor-Stone to pre-patch these areas or use Con-Korite Xtra mortar. Armor-Stone can also be used to completely restore a badly worn slat or feeder pad without Armor-Rock top coating. Measure out Armorcoat 1300 as follows:

26 Fl. Oz. (0.8 L) Hardener Measure into 2 qt. (1.9 L) measure container #TS2QM

52 Fl. Oz. (1.5 L) Resin Measure into 5 qt. (4.75 L) measure container #TS5QM Mix thoroughly with a 4" (101.6 mm) prop mixer attached to a 1/2" (12.7 mm) variable speed drill. This will take from 1 to 2 minutes. Then add the liquids to a clean 5 gal. (18.9 L) pail (#TS305) or preferably Pail Mixer (TSKM5825 5 gal./18.9 L Pail Mixer) for easier mixing.



Step 2 Add 35 lbs. (15.9 kg) of ES Natural and Blend slowly. Again, mix thoroughly.



Step 3 The Armor-Stone is applied by trowel to level, re-shape edges and/or restore rough troughs. Trowel-apply over a clean, dry and etched substrate. First spread the mortar to level it. Then finish the surface using a smooth (no debris on trowel) finish trowel #TSTC6C 14" (335.6 mm) x 3" (76.2 mm) and #TST1MT 8" (203.2 mm) x 3" (76.2 mm) with some Solvent 101 (#VPC-101) or Xylol on it to lubricate the trowel. Use two trowels to form edges.



Allow the epoxy to cure: 6-8 hours for Armorcoat 1300 at 70°F (21°C).

Con-korite Xtra can also be used to grout, re-store troughs and re-shape slats. Both Con-korite Xtra and Armor-Stone are available in easy to use kits.

Armor-Stone

Use the new **"Armor-Stone Kit"** -
Designed for easy trowel application
Availability: AC133-AG Armor-Stone
Set Time: 6-8 Hours at 70°F (21°C)
Kit includes:
.6 gal. (2.3 L) Armorcoat Epoxy (clear)
35 lbs. (15.9 kg) of ES Natural Sand Blend
1 Detailed Application Guideline

Con-Korite Plus Kit

60 lbs. (27.2 kg) kit pail KB0100
(24/pallet)
Includes 2 qt. (1.9 L) KB25
and 1 Set Control

ARMOR-ROCK PACKAGING & AVAILABILITY

Armorcoat 1300 Epoxy (*Clear or Medium Gray)

1.5 gal. (5.7 L) kit (clear)	AC133
15 gal. (56.8 L) kit (clear)	AC133-15
1.5 gal. (5.7 L) kit (med. gray)	AC133G
15 gal. (56.8 L) kit (med. gray)	AC133G-15

*Clear is best for Aggressive Animal Livestock Exposure

Aggregate (Admix Only)

Armor-Rock Admix	520B-25 – 25 lbs. (11.3 kg)
Use 25 lbs. (11.3 kg) for 1.5 gal. (5.7 L) of Armorcoat 1300	
ES Natural (Admix for Armor-Stone)	82801-35N – 35 lbs. (15.9 kg)

Aggregate

(Surface Broadcast)

VSC Medium Broadcast	210-520B – 50 lbs. (22.7 kg)
ES Natural (coarse) Broadcast	82801-50N – 50 lbs. (22.7 kg)
Use 25 lbs. (11.3 kg) Broadcast aggregate for each 1.5 gal. (5.7 L) batch of Epoxy with admix	

Cleaning Agents (Preparation)

1 gal. (3.8 L) Concrete Clean & Etch* (4/case)	VP-151-1
5 gal. (18.9 L) Concrete Clean & Etch* (pail)	VP-151-5
10 lbs. (4.5 kg) Crystal Etch (optional)	VPC-1578

*Concrete Clean & Etch Cannot be Shipped via UPS

Coverage Per 1.5 Gallon (6.8 L) Batch

21 sq. ft. @ 1/4" (6.4 mm)	50.4 linear ft. / per 5" (127 mm) slat
28 sq. ft. @ 3/16" (4.8 mm)	67.2 linear ft. / per 5" (127 mm) slat

TOOLS AND SUPPLIES



10'x12' Poly Tarp
(Blue) (3.0m X 3.7m)

TS1012T



Rubber Gloves
TS5000G



Pail Mixer
TSKM5825



4" Prop Mixer
(101.6 mm)
TS46565



5 gal. (18.9 L) Mixing Pail
(lid sold separate)

TS305

TS305L Lid



Measuring Container

2 qt. (1.9 L) **TS2QM**

5 qt. (4.7 L) **TS5QM**



1 gal. (3.8 L) Solvent 101
VPC-101-1

5 gal. (18.9 L) Solvent 101
VPC-101-5 *not shown*



Armor-Rock Applicator
TSAR-6



Notched Slat Squeegee
(with handle) **TSFECSE-6H**



5/8" (15.9 mm) **TST55D**
Notched Trowel



8" x 3" **TST1MT**
(203.2mm x 76.2mm)
Flat Finishing Trowel



14" x 3" **TSTC6C**
(355.6mm x 76.2mm)
Flat Finishing Trowel

ARMOR-ROCK XC AND ADDITIONAL PORK PRODUCTION REPAIR & PROTECTION PRODUCTS

Armor-Rock XC offers maximum durability, UV and chemical resistance, and speed clocking in around 40 minutes set time at 70°F (21°C). An added 'cold-cure' accelerator may also be used in below freezing temperatures for fast overlays in refrigerated areas or during inclement weather.

The VOC compliant technology offers a flowable stand-alone coating with good leveling properties and can also be used to create a number of systems to facilitate the needs of any fast-paced production environment.

Advantages

- Xpress Cure - Quick return to service in 30-60 minutes
- Cold Weather Cure - Apply down to -20°F (-29°C)
- Superior Wear Protection - Up to 20 years protection or more
- Chemical Resistant - Withstands corrosive production compounds



Products at a Glance

Armor-Rock THX Smooth

A lower build version of Armor-Rock XC, the THX Smooth system utilizes a fumed silica to provide uniform surfaces in environments where sanitary, durable stability are required. Optimal for feeding surfaces, pharmaceutical floors, and clean room areas.

Armor-Stone Overlay

This trowel applied system integrates a specially processed aggregate combined with the Armorcoat XC formula to create a mortar overlay that can repair and level in one application. At a 1/4" (6.35 mm) and up, this system adds durability and chemical resistance to any surface. Excellent for containment and areas where drainage requires proper sloping.

Armor-Rock THX Non-Slip

Incorporating THX technology and durability with the added benefit of a broadcast, non-slip surface where required for safety and added life expectancy of the coating. Perfect for areas with high foot traffic.

For additional technical product info, or application assistance, contact us by phone, or visit our website



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