

GENERAL

Armor-Rez SL 100 is a combination of low viscosity, 100% solids resin and a special slurry filler consisting of finely graded silicas. They are normally applied at 50-100 mil thickness in areas that need more protection than is afforded by thin film coatings.

The unique filler package incorporated into these systems creates a high-density flooring that gives exceptional impact and chemical resistance. Systems are usually pigmented and should be applied to a primed surface to prevent bubbling problems caused by substrate gassing. Surface texture is easily varied from perfectly smooth to aggressively slip-resistant.

MOISTURE VAPOR EMISSION TESTING

All interior concrete floors are subject to possible moisture vapor emission and/or excessive alkalinity that could ultimately cause coating failure. Prior to application, calcium chloride moisture testing should be conducted according to ASTM 1869-04.

SURFACE PREPARATION

Surface preparation is vital to the long-term success of the installation. All surfaces to be coated must be clean, sound and free of mastics or other contaminants that may interfere with bonding. Moisture vapor emission testing should be conducted using the calcium chloride test method according to ASTM 1869-04.

Concrete must be acid etched, shot blasted or diamond ground to achieve a 5-10 mil profile. Properly prepared concrete has a surface profile similar to 120-grit sandpaper. Wherever the flooring system does not abut a vertical surface and around floor drains, a "keyway" must be cut into the floor. Do not feather edge the materials. In making the keyway, use a grinder or small concrete saw to make a cut approximately 1/4 inch into the floor. Chisel away the inner shoulder of the concrete at least 1/4 inch. The resin system will flow into this recessed area and be protected from edge damage. Wood surfaces must be exterior grade plywood, securely fastened to the subfloor or joists. Wood must be sanded before application. (For detailed preparation information see Arizona Polymer Flooring Surface Preparation Bulletin.)

Large holes, cracks and control joints should be filled with Epoxy 300 Flex Paste. A flexible putty knife or trowel works well for this procedure. Patching may be done while the concrete is damp.

Expansion joints should be marked and filled with Epoxy 300 Flex Paste. Then the slurry system should be applied. After 24 hours cure, the joint should be saw cut and refilled with a flexible polyurethane sealant.

PRIMING

Apply Epoxy 100 at 200-250 sq. ft. per gallon using a squeegee and back roll method. Allow the primer coat to cure for 8 - 12 hours prior to installation of the slurry.

APPLICATION OF SLURRY

After the primer has become tack-free, the slurry system may be applied. The following tools and equipment are required for the installation:

1. One-half inch electric drill with Jiffy-type mixing blade. A mortar-type mixer is helpful for larger jobs.
2. Notched trowels or squeegees for gauging the amount of material applied
3. Five-gallon, one-gallon and quart containers for measuring and mixing
4. 1-inch nap roller covers
5. Porcupine-type roller
6. Spiked shoes

Set up a mixing station using a plastic tarp or drop cloth. At this station, locate the resin, slurry filler, tools and equipment, and cleanup solvent.

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The slurry system consists of equal volumes of catalyzed Epoxy 400 resin and finely graded aggregate fillers. The prepackaged Arizona Polymer Flooring Slurry Filler gives a flowable, self-leveling mixture. In cooler weather or if using a high viscosity resin, the amount of filler may be reduced to obtain better leveling characteristics.

Premix the pigmented epoxy Part A before blending with Part B. Mix epoxy according to its published mixing ratios. Blend well for 1 minute. Add 7-10 pounds of slurry filler for each mixed gallon of resin and continue mixing for 2 minutes with the Jiffy mixer until the mixture is thoroughly homogenized. A convenient batch consists of 1-1/2 gallons of resin and 10-15 pounds of filler, mixed in a 5-gallon pail.

The mixture is then poured onto the primed surface and spread with a notched trowel or squeegee. It is important to spread the material promptly, especially if using a fast-cure resin. The ability of the system to flow easily is reduced as the cure of the resin advances.

The thickness of the system will be determined by the size of the notched trowel and the angle at which it is held. A trowel with 1/4 x 1/4 inch notches leaves 60 mils. A 1/4 x 3/16 inch trowel leaves 50 mils. Thickness of the floor decreases as the notches wear and if the trowel is held at a closed angle. It is advisable to use a wet film gauge to check thickness as the application proceeds. A batch consisting of 1-1/2 gallons of resin and 15 pounds of filler will cover 69.6 sq. ft. at a 50 mil thickness. (This equates to 46.4 sq. ft. per gallon of liquid resin.)

After the material has been spread, a mechanic wearing spiked shoes should walk onto the surface and back roll the area with a 1-inch nap roller to remove trowel marks and obtain an even distribution of the material. After rolling with 1 inch nap roller, reroll the area well with a porcupine roller to release air that has been entrained during the mixing process.

A desirable application feature of the slurry system is being able to place additional material in hollows or low spots as they become evident during the application. The mechanic with spiked shoes walks onto the freshly poured surface and places material in those areas that need additional buildup. After pouring the material, roll as before and the material will blend and level with the previously placed material. This method of application leaves a smooth, glass-like finish. Allow the slurry to cure 8 - 12 hours prior to applying the topcoat.

APPLICATION OF TOPCOAT

Once the slurry has cured hard, you may need to sand the entire surface to remove any imperfection. Once the sanding is complete and all the dust has been removed from the surface, apply Epoxy 400 at 200- 250 sq. ft. per gallon using a notched squeegee followed by back rolling with a 3/8th inch nap roller.

APPLICATION OF OPTIONAL POLYURETHANE TOPCOAT

For floors requiring improved chemical and abrasion resistance, it is recommended to apply a finish coat of Polyurethane 100, 100 VOC, 501 or 325. The application rate for this coating should be 300 - 400 sq. ft. per gallon.