TROUBLESHOOTING GUIDE

PEELING OR DELAMINATION

The process of the coating separating from the substrate in either large or small sections or a flaking off of the coating.

Cause	Solution	Prevention
INADEQUATE CLEANING When improper cleaning occurs, the coating will not adhere to the oil, grease or contaminants present.	The coating must be removed by stripping, grinding, shotblasting or other suitable means. Re-apply the coating after proper surface preparation.	Properly clean the substrate and provide a suitable profile for adhesion. (See APF installation guidelines.)
NO PRIMER USED Many high-solids coatings require the use of a primer coat. If a primer is not used then peeling and delamination may occur.	Remove any coating that is not adhering properly to the substrate. Prime and recoat.	Use a suitable water-based or solvent-based primer prior to coating the substrate.
INADEQUATE PROFILE If an adequate or proper etch is not performed, failure can occur between the coating and substrate.	Completely remove any coating that fails to adhere to the substrate and re-prep the area prior to applying the coating.	Repeat profiling method until medium textured floor is achieved. Properly clean, rinse and neutralize the floor. Allow the floor to dry before coating.
EXCESSIVE MOISTURE Excessive moisture can cause pressure, which can lift coatings off the floor.	Completely remove any coating that is not tightly bonded and test substrate prior to re-coating the floor.	Use a moisture meter to test the floor for moisture. (Consult with Arizona Polymer regarding moisture barrier materials.)
INTERCOAT ADHESION Improperly applied coatings or incompatible coatings can delaminate between coats.	Remove any coating that does not adhere properly. Re-prep the area and re-apply coating using proper techniques.	Lightly roughen coats between inter-coat applications and always observe procedures for recoat times. (See APF product data sheets.)
SOLVENT ENTRAPMENT Solids content less than 100% can entrap product's carrier. Coating will release carrier causing loss of mass and delamination.	Completely remove the affected coating. Re-prep the area and re-apply coating at proper coverage rate.	Apply coating (as well as any necessary primer) at APF's recommended coverage rate / thickness. Don't confuse gallon coverage with kit coverage.

AIR BUBBLES IN THE COATING

Air bubbles may appear in the coating as small defects or honey-combed clusters. In nearly all cases, they are caused by air entrapment in the coating or the applied film.

Cause	Solution	Prevention
OUTGASSING Air and other gases can escape from porous concrete and be trapped in the coating surface.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Apply a suitable primer to seal off the air in the concrete. Usually a lower solids, high penetrating primer works best (APF Epoxy 100 or Poly 250).
AIR MOVEMENT Excessive air movement from vents, doors or other sources may cause flash drying and prevent air release.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Avoid any condition that can generate fast air movement across the coating. Always suck air out vs. blowing with exhaust fans for ventilation.
TEMPERATURE/HUMIDITY Excessive heat and humidity can result in rapid drying conditions and result in air entrapment.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Wait until the temperature and humidity are within the ranges needed to properly apply the material. (See APF product-specific data sheets.)
DIRECT SUNLIGHT Floors exposed to direct sunlight can tack-off before sufficient air release has occurred, forming bubbles.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Close all doors and window shades where the sunlight can hit the floor and coat the areas exposed to the sunlight before the sunlight hits that area.
IMPROPER MIXING Using fast speed mixing equipment or improper mixing procedures may cause air entrapment in the coating.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Use slow speed mixing equipment with a paddle type blade. If air is embodied into the material, let stand until air is visibly released.
ROLLER COVERS Too short or too long of a roller nap can cause air to be generated into the coating causing air bubbles.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Use the appropriate length nap roller and apply without vigorous rolling. Use an air removal tool to remove entrapped air if necessary.
MOISTURE/HIGH HUMIDITY Some urethanes and epoxies are sensitive to moisture in the concrete or excessively high humidity, causing bubbles.	Either degloss with 80-120 grit screen (depending on film build) or sand larger craters and fill with 100% solids material. Vacuum and apply another coat.	Make certain the concrete is properly dried and the humidity is at the recommended levels before applying the coating.

FISH EYES/COATING SEPARATION

Imperfections in the coating that form circular areas that resemble fish eyes or similar looking flaws in the coating.

Cause	Solution	Prevention
SILICONE CONTAMINANTS Some manufacturing processes such as welding or spraying can deposit silicones on the floor causing fish eyes.	When minor fish eyes occur, use 80-120 grit screen. Often, wiping the coated surface will allow for proper recoating. Otherwise, completely remove the coating.	Become familiar with installation procedures and test areas prior to application. Properly prepare the substrate before coating. (See APF installation guidelines.)
OIL/GREASE CONTAMINANTS Oil or grease contaminants can cause the coating to function improperly and appear to have fish eyes.	Remove the coating by grinding, stripping or other suitable methods and clean the substrate prior to recoating the area.	Degrease surface properly. In areas where all contaminants cannot be removed, use a suitable oil locking-in primer.
ACID RESIDUE CONTAMINANTS Muriatic or acid stain residue can cause dewetting in two-compo-nent coatings resulting in coating separation and fish-eyeing.	When minor fish eyes occur, use 80-120 grit screen. Often, wiping the coated surface will allow for proper recoating. Otherwise, completely remove the coating.	Become familiar with installation procedures and test areas prior to application. Properly prepare the substrate before coating. (See APF installation guidelines.)

WHITE DISCOLORATION SPOTS

The appearance of white spots or white discoloration on or below the surface of the coating.

Cause	Solution	Prevention
MOISTURE/HIGH HUMIDITY The presence of moisture in the substrate or the precesnce of high humidity can cause some materials to discolor.	For mild discoloration try a vinegar rinse. Otherwise, remove or apply another coat, if the coating material is colored.	Make certain that the substrate is dry and the humidity is below the recommendations set by Arizona Polymer Flooring's installation guidelines.
CONTAMINANTS/LAITANCE Alkaline residue or alkaline salts not removed from the substrate can cause coating discolorations.	The only solution for this problem is the removal of the coating and then re-application of the material after proper surface preparation.	Always check a substrate after etching or surface preparation for a fine powder residue. If present, vacuum and rinse before coating.
SOLVENT ENTRAPMENT Trapping solvent within the coating can cause white thread-like discoloration below the surface.	Clear coats can only be restored by removal and re-application. Color coats will need to be re-coated to restore the proper color.	Provide exhaust ventilation as soon as the coating is tack free to remove solvent vapors from the work area.
WATER ENTRAPMENT Trapping water in the coating can cause white thread-like discoloration or small bubble discoloration below the surface.	Clear coats can only be restored by removal and re-application. Color coats will need to be re-coated to restore the proper color.	Closely follow APF's recommend-ed coverage rates. Do not over-apply. Don't confuse gallon coverage rates with kit coverage rates.

DULL FINISH

The trait of not being glossy, i.e. low gloss, flat appearance.

Cause	Solution	Prevention
RECOATING TOO QUICKLY The application of the second coat before the proper recoat time can diminish the gloss of the subsequent coat.	Lightly roughen the coating and apply another top-coat to restore the proper gloss to the surface.	Be certain the preceding coat has sufficiently dried. Press your thumb into the coating, and if no mark is left, then it is safe to recoat.
POOR VENTILATION If proper ventilation is not provided, solvent may become trapped in the coating and affect gloss.	Lightly roughen the coating and apply another top-coat to restore the proper gloss to the surface.	As soon as the product becomes tack free, provide exhaust ventilation to remove solvent vapors from the work area.

PIGMENT OR COLOR FLOODING

The process of having light and dark streaks visually observed when applying a coating.

Cause	Solution	Prevention
IMPROPER MIXING If a pigmented coating is not properly mixed, light and dark streaks can occur when applying the coating.	Roughen the surface (de-gloss) and re-apply the coating after proper mixing.	Always mix any coating or two-component material thoroughly to insure it is streak free and homogenous through-out.
DIFFERENT LOTS Pigmented or satin-finish materials can differ from lot to lot and with age.	De-gloss pigmented coatings and re-coat. Clear and satin finish coats must be completely removed and re-applied.	If using material from different lots, fully blend the materials making sure to blend “A” with “A” and “B” with “B” before begining the application process.

EXCESIVE COATING WEAR

Premature wearing or abrading of the coating.

Cause	Solution	Prevention
IMPROPER MAINTENANCE Poor maintenance can cause premature wearing of the coating.	Apply additional coats as necessary to assure the perfor-mance characteristics needed are met.	Set up a proper maintenance program to assure trouble-free performance.
SOFT CONCRETE If the concrete is in poor condition, it may affect the performance of the coating applied.	Roughen and apply additional coats as necessary or apply a more abrasion-resistant coating.	Check the softness and condition of the concrete and correct deficiencies as needed.

COLOR DIFFERENCES OR SHADING

The look of uniform color with variations in shade or appearance.

Cause	Solution	Prevention
VARIATIONS BATCH TO BATCH Each batch of material will differ from other batches of the same material.	Roughen the surface and apply a topcoat from one continuous batch production run.	Check batch numbers prior to using and, if necessary, box the batches to form one continuous batch.
EXPOSURE TO SUNLIGHT Exposure to sunlight can cause some areas of a floor to discolor or fade.	Roughen the coating and apply an aliphatic colored topcoat that is UV stable.	Plan ahead. Use materials that are suited to your particular exposure conditions.
PRODUCT SETTLING If a product settles, the applicator must scrape out all of the material or color shading can occur.	Roughen the surface and apply a properly mixed topcoat to the substrate	Make sure that the product expiration date has not been exceeded and use mechanical stirrers or shaking equipment if necessary.
SPOTTING/DISCOLORATION Chemical attacks can cause spotting in isolated areas or affect the entire floor.	If surface integrity is maintained, roughen and recoat with a more chemically resistant topcoat.	Before installing a coating system, check the diversity of chemicals that will be exposed to the floor.

WRINKLING OF THE FILM

In some applications, problems may arise resulting in wrinkling of the coating that was previously applied to the floor.

Cause	Solution	Prevention
TOO THICK AN APPLICATION Some coatings will wrinkle after drying if they are applied too thick .	Either sand smooth and recoat or remove and re-apply the coating.	Follow the manufacturers recommendations as they pertain to coverage rates.
SOLVENT ATTACK Some coatings are too chemically active to apply a topcoat over the coating that presently exists on the floor.	Mechanically or chemically remove the problematic coating and coat the floor from scratch.	Check the compatibility of the coating with the surface film prior to application; if necessary, use a less aggressive coating product.