MSI Coatings, Inc.
1880 S. Flatiron Ct.
Boulder, CO 80301

BluSky Armor™ 1027-U
Aerospace Clear Top Coat
Universal Gloss

Product Description

A single stage, cross-linked UV curable thermoset polymer top coat. For use as a sealer and finish for wood and synthetic substrates. Upon exposure to UV, the coating cures tack-free within 120 seconds. The cured coating has excellent adhesion, is harder, more abrasion and solvent resistant than other polyurethane or polyester thermoplastic coatings. Use on flat or curved surfaces that are not mechanically buffed and polished, or when minimal spot buffing is required. The formulation is 100% solids containing zero solvents or HAPs (100% VOC free). The product exhibits no off-gassing, resulting in no "orange-peel" to be sanded off between applications. The product does not need any catalyst or reducer and is ready to use as is.

Storage

The product must be stored at ambient temperature (< 70 °F). Storing at cooler temperatures will increase product lifetime. Storing at higher temperatures will decrease product lifetime.
Product is warranted to be free from defects in performance and design for a period of 6 months from the date of manufacture if stored at < 70 °F without opening.
Any tampering, misuse or negligence in handling or use of the Product renders the warranty void. Further, the warranty is void if, at any time, customer opens the product or stores the product in a manner inconsistent with the recommended conditions.

Method of Use

Product is stable under typical ambient room lighting for 10 – 30 minutes.
Stability can be extended to several hours by using UV Protective Films on light and windows in the area where the product is being used.
Product may not be mixed with other clear top coat products.
Product may be reduced with IPA.
Do not use the product in areas exposed to direct or indirect sunlight (i.e. through windows).
Product is unstable and will cure upon exposure to sunlight.

Surface Preparation

Clean the surface area to remove any contamination. Use only dry air or alcohol (such as IPA) to clean the surface. Do not use any solvent-based cleaner, degreaser, or tack cloths.
Use sand paper or Scotch Brite.
Remove dust using compressed air.
Wipe away any remaining dust and residue with isopropyl alcohol and a lint free cloth.
The product can be applied over completely cured stains, sealers, or primers.
For applications on wood, no sealer is required. BluSky Armor™ 1027-U is a self-sealing material.

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For use over sealers and primers, the substsrate requires sanding with 220 grit non-stearated sandpaper before applying product.

Application Conditions and Equipment

Take all normal precautions when applying BluSky Armor™ clear coat, including the use of a respirator, safety glasses and protective clothing.
Apply in a well-ventilated room, use appropriate PPE and a respirator for spray coating (refer to BluSky Armor™ 1027 SDS).
Brush, roll or spray onto substrate at room temperature (70 – 85 °F).
Substrate temperature should be 60 – 85 °F.
Any spray equipment may be used. The recommended tip size is 1.0 – 1.4 for BluSky Armor™ 1027-U.
After use, unused resin should be stored in an opaque container and may be reused as long as the viscosity has not increased. Unused resin should not be returned to the original container.
The spray equipment should be cleaned with isopropyl alcohol.
First coat (seal coat) should be applied as per the Application Process below, depending on if the surface is unstained, stained or has a sealer or primer coat.
Apply subsequent build coatings at thicknesses of 2 - 5 mils.

Application Process on Wood and Synthetic Wood Veneer

1. ***SEAL COAT*** *of BluSky Armor™ 1027-U*
   - ***a. UNSTAINED VENEER***
     i. If the wood has not been stained, sand the wood out with 180 - 300 grit non-stearated sandpaper before applying any finish. Use shop air with the grain. Lightly wipe the surface with a lint-free damp cloth using isopropyl alcohol. DO NOT USE any solvent-based cleaner, degreaser, or tack cloth.
     ii. Spray a very light mist coat of BluSky Armor™ 1027 or 1027-U over the entire surface. Allow to soak for at least five minutes. Do not cure this application.
     iii. Apply a second mist coat of BluSky Armor™ 1027 and allow it to soak into the veneer for a minimum of five minutes. Do not cure this application.
     iv. Apply a third mist coat of BluSky Armor™ 1027, and allow it to soak/ settle for a minimum of five minutes. By this coat the application should appear glossy on the surface prior to curing.
     v. Cure the finish by exposing the panel to the MSI UV-1200 curing light for 120 seconds, or until this finish is cured completely tack-free.
   - ***b. STAINED VENEER***
     i. Spray a very light mist coat of BluSky Armor™ 1027-U over the entire surface. Allow to soak for at least five minutes. Do not cure this application.
     ii. Apply a second mist coat of BluSky Armor™ 1027-U and allow it to soak into the veneer for a minimum of five minutes. Do not cure this application.

iii. Apply a third mist coat of BluSky Armor™ 1027-U, and allow it to soak/ settle for a minimum of five minutes. By this coat the application should appear glossy on the surface prior to curing.
iv. Cure the finish by exposing the panel to the MSI UV-1200 curing light for 120 seconds, or until this finish is cured completely tack-free.

c. SEALED and/or PRIMED VENEER

i. All sealers and primers must be completely cured using the Manufacturer's protocol.
ii. Sand the surface with 220 grit non-stearated sandpaper to achieve a mechanical bond.
iii. Follow the same steps as stated in Step 2. *BUILD COATS* application below.

2. ***BUILD COATS*** *of BluSky Armor™ 1027-U - STAINED and UNSTAINED surfaces*

a. Apply a layer of full strength clear coat of 2 - 5 mils. Allow a minimum of five minute dwell time to allow the wet clear coat to self-level. Cure under UV light as described in the previous step.
b. Allow product to return to ambient room temperature, a minimum of five minutes. De-gloss the surface with 600 grit non-stearated sandpaper to deburr.

3. ADDITIONAL LAYERS TO FINAL DEPTH

a. Repeat application Step 2.a as many times as needed to achieve desired depth. Lightly sand the intermediate layers to flatten or deburr the surface area.
b. After the last build coat application is complete, do not sand the surface of the final coat. Allow the panels to rest overnight to permit the clear coat to complete the curing process.

4. SANDING, POLISHING & BUFFING

a. After resting the panels overnight, sand the entire surface, beginning with non-stearated sandpaper in the range of 800 - 1000 grit to straighten/flatten the clear coat.
b. The appearance of pin holes or surface defects can be eliminated with spot application and curing of the BluSky Armor™ clear coat product. Sand back to the surface level.
c. Continue to sand, stepping up with finer grit non-stearated sandpapers up to 2500 – 3000 grit.
d. Finish with MSI Coatings' two-stage Tru-Cut Polishing System, following the polishing protocol as prescribed.
e. Perform a final dry buff with a dry lamb's wool pad to achieve a superior durable high-gloss finish.

Clean Up

Use isopropyl alcohol to clean tools and equipment.
For skin contact, wipe with IPA, then wash with soap and water.

Some Key "Do's and Don'ts"

1. Make sure that the spray gun cup is not translucent to keep it from activating the clear coat in the sprayer.
2. Do not apply a fresh wet coat of product onto a wet coat. Fully cure each layer before building up an additional layer.
3. If saving leftover clear coat, store it in a separate opaque bottle. Do not return product to its original container.

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Physical Properties

Vertical Burn	CFR Part 25.853	Pass
Pencil hardness	ASTM D3363	6H
Adhesion Wood Veneer	ASTM D3359-09	Class 58
MEK Double Rubs Alcohol (IPA) Diet Coke Red Wine	ASTM D5402-93	200+ 200+ 200+ 200+
Tensile Modulus Strength Elongation	ASTM D638-10	30,000 psi 70 psi 15%
Shore D Hardness	ASTM D2240-15	70D
Viscosity		

Additional information

Solids content	100%
Volatile Organic Content	0%
Coverage @ 4 mil @ 10 mil	400 sq. ft./gal 160 sq. ft./gal

Product Hazard and Safety Information

See SDS for complete information.
Although the product is VOC free it should be used in a well-ventilated area.
If skin contact occurs immediately wash with soap and water.
Harmful if swallowed.
Causes skin and eye irritation and may cause an allergic skin reaction.
Product is harmful to aquatic life with long-lasting effects.

This product complies with the *European Parliament & Council Directive 76769EEC* and does not contain decabromodiphenyl ether, pentabromodiphenyl ether or octabromodiphenyl ether.

The information and recommendations contained herein are believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MSI Coatings assumes no responsibility and shall not be held liable for any damage resulting from handling or from contact with the above product.