

ULTRASTAR™ HI-REFLECT COATING

Product Data Sheet

PRODUCT INFORMATION: ULTRASTAR™ *Hi-Reflect* Coating is a satin gloss finish, single component, high performance, “highly reflective”, low viscosity, 66% solids emulsion polymer, based on using pure acrylic polymer based resins for spray, brush, or roller application. ULTRASTAR™ *Hi-Reflect* Coating is designed to provide excellent waterproofing capabilities and is compatible with asphaltic surfaces and is resistant to asphalt staining and asphalt “bleed-through”. Does not require a stain blocker, primer or waiting for exposed asphalt to “weather” or age except over “cold-process” systems. Its brilliant white finish helps reduce surface temperatures thereby minimizing thermal expansion and contraction while providing long-lasting and preventative solutions for the renewal and maintenance of many roof types.

RECOMMENDED USES:

- As a general-purpose roof coating.
- As a top coat over smooth BUR, modified bitumen and granular cap sheets.
- For touch up of reflective asphaltic or modified bitumen membranes.
- Significantly lowers roof surface temperatures, which can help reduce energy cooling bills.
- Contact U.S. Ply, Inc. for specific uses.

APPLICABLE STANDARDS: ASTM D2196, ASTM D1475, ASTM C1549 & ASTM E408

PRODUCT CHARACTERISTICS:

Finish: Satin
Color: White
Viscosity: 105 ± 5KU @ 77°F (nominal)
Specific Gravity: 1.50
Weight: 12.3 lbs. /gal.
VOC: < 50 grams/liter
Recommended Spread Rate: 1 – 1.5 gal/ 100 sq. ft. per coat (nominal)

Drying Schedule: At 8.0 mils wet @ 50% RH

	50°F	70°F	110°F
To Touch	4 hrs.	2 hr.	30 min.
To Recoat	8 hrs.	4 hrs.	2 hrs.
To Cure	30 days	20 days	10 days

Note: Drying time is temperature, humidity, and film thickness dependent.



SHIPPING INFORMATION:		
<u>Container Size</u>	<u>Gross Weight</u>	<u>Class</u>
5 Gal.	64 Lbs.	55
55 Gal.	700 Lbs.	55
D.O.T. Classification: Roof Coating, Not Regulated		
HMIS:	Health	1
	Flammability	0
	Reactivity	0
	Protection	X

PERFORMANCE CHARACTERISTICS

Physical Properties:

PHYSICAL PROPERTY	TYPICAL VALUE	TEST METHOD
Solids Content By Weight:	66%	(ASTM D-1644)
Solids Content By Volume:	51% ± 2%	(ASTM D-2697)
Tensile Strength:	285 psi ± 25	(ASTM D-2370)
Elongation:	300% ± 25%	(ASTM D-2370)
Initial Solar Reflectance:	.85	
Reflectivity (White):	85%	(ASTM C-1549)
Emissivity (White):	.89	(ASTM C-1371)

Shelf Life: (Unopened) – 12 months from date of shipment
Flammability: Non-Flammable
DO NOT FREEZE

PROPERTY	TEST PROCEDURE	RESULT
Accelerated Weathering UV Resistance	ASTM G-53	No degradation after 1,000 hours
Permeability	ASTM D-1653	4.0 perms at 20 mils
Low/High Temperature	ASTM D-822	Films retained their ability to be flexed 180° without cracking at temperatures from -15°F to 185°F with no age hardening or slump

All values given are approximate and are subject to change without notice. There is no implied or express warranty given through these values or statements, nor are there any assertions that the product purchased has been individually tested to conform to these standards. Testing is performed on a random basis by “in-house” and independent “third party” evaluation for the purpose of classification and/or approval. Acceptance, purchase and selection of these products are the sole responsibility of the buyer or buyer’s representative. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of the product. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY U.S. PLY, INC. EXPRESSED OR IMPLIED; STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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APPLICATION PROCEDURES

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TEMPERATURE

Air and Surface: 50°F Minimum/140°F Maximum

Material: 50°F Minimum/100°F Maximum

RELATIVE HUMIDITY

Can be applied at relative humidity up to 90%

DO NOT APPLY WHEN THE TEMPERATURE CAN FALL TO WITHIN 5°F OF THE DEW POINT WITHIN 6 HOURS.

This product cures by water evaporation only. It is very important that this product is not used when weather conditions are below 50°F or when there is a chance that the temperature could fall below 32°F within a 24 hour period after application. Do not apply this product if rain or dew is likely to occur before drying of product. Late afternoon application is not recommended if high humidity conditions exist, which could cause high moisture concentration of the surface overnight.

BRUSH: No reduction necessary. Use nylon/polyester brush. Do not over-brush as material may start to pull.

ROLLER: No reduction necessary. Use 1/2" to 1-1/2" nap synthetic rollers. Keep a wet edge to avoid ripping which may change appearance. If ripping is a problem, extend lap time to after materials have skinned. Avoid rapid rolling which causes bubbling.

AIRLESS SPRAY-VOLUME:

Output: 2.5 – 3 gal. per min.

Pressure: 3,000 – 4,500 psi

Spray Gun: Graco – Contractor rated for pressure

Tip: .025 -.039 reversible

Extension: 12" – 18" gun extension recommended

SPECIAL CONDITIONS

Cold Process Systems: Allow cold process adhesive to weather a minimum of 30 days before application. USP™ Bleedblock Base Coat is recommended over cold process systems, but is not necessary if test patches do not result in bleed-through or staining.

Mildew: Must be removed by power washing and broom scrubbing with a solution of bleach or detergent and water. Rinse clean and dry.

Ponding Water:

- **U.S. Ply, Inc.'s Warranties do not cover damage due to ponding water.**
- Water based coatings should not be applied on roofs collecting ponding water. The National Roofing Contractors Association considers ponding water on any roof unacceptable. (See the NRCA Roofing and Waterproofing Manual).
- Do not use without a vapor barrier in cryogenic tank or cold storage roofing applications.

Please consult U.S. Ply, Inc.'s Technical Department for any specific questions regarding the application of this product.

Surface Preparation: All surfaces to be coated must be clean, dry, and paintable. It may be necessary to power wash and/or prime to enhance adhesion. See application specification for more details.

Mixing Procedures: No thinning or reducing is necessary. Product may separate after shipping and storage, though it may still look mixed. When mixing becomes necessary we recommend the use of a 3/4 horsepower or larger electric or air operated mixer with a blade capable of uniformly mixing the entire container. When product is in 5-gallon pails, use a 3" minimum diameter mixing blade. When product is in drums, use a 6" minimum diameter mixing blade.

Application Equipment: This product may be sprayed, brushed, or rolled. When using spray equipment, it is important that the following criteria are met: When using a spray pump, a 30:1 or 45:1 fluid to air ratio capable of delivering 2 1/2 gallons or more per minute continuous is needed, as well as a filter screen of 30 mesh or larger. If a fluid spray hose is used, it should be high pressure with designed working pressure to handle maximum pressure delivered by the spray pump. Inside lining or tube should be of such a material so it is unaffected by the coating and any solvents used for clean up. Additionally, the following criteria should be used for hoses: 3/8" minimum I.D. up to 75 feet; 1/2" minimum I.D. up to 200 feet; and 3/4" minimum I.D. over 200 feet. Material temperature should be 70°F or higher. The larger I.D. sections of hose should be used from the pump out in all circumstances with additional hose size reductions as necessary.

If a gun hose whip is used, high pressure with adequate W.P.S.I. 3/8" I.D. X 6 feet with an appropriate lining or tube is recommended. When using a spray gun, we recommend the Graco Hydra Max or equivalent. High-pressure gun swivels are available and can reduce operator fatigue. Any spray tip should be a reversible self-cleaning type with an orifice size of .025 to .039 with a fan angle of 40 to 50 degrees. Always use components rated for pump pressures.

Cleanup Instructions: Clean up spills and spatters immediately with water. After cleaning, flush spray equipment with water followed by propylene glycol to prevent unit from rusting.

SAFETY PRECAUTIONS: Refer to the MSDS sheet before use. For Chemical emergencies, spills, leaks, exposure, or accidents CALL: CHEMTREC DAY/NIGHT 1-800-424-9300.

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