

The Irathane® 155 HS system is a two-component, high solids ambient temperature-curing polyurethane coating designed to provide excellent resistance to both corrosion and abrasion in a large number of different environments. Many caustic, acid, and salt water corrosion problems can be controlled by Irathane 155 HS's unique combination of properties. Irathane 155 HS has a low coefficient of friction which makes it an excellent material in wet or freezing applications where release properties are important. For abrasion applications Irathane 155 HS is especially suited for slurry situations and environments where the particle size is minus 1/8 inch. The cured Irathane 155 HS coating possesses an unsurpassed combination of physical strength, (3000 psi tensile, 460 pli tear) and flexibility (425% elongation, 34% resilience). This combination of strength and flexibility provides this coating with the diversity necessary for a successful multipurpose coating.

Irathane 155 HS mixes and sprays easily with standard airless or conventional equipment. Heavy gauge coatings can be built up in a minimum number of coats without sagging or running (for example: 1/8" dry thickness can be built up in 2-3 coats, with a total elapsed time of 3 hours for a small part). The 80 minute pot life allows more than enough time to utilize the mixed material without worry of set-up wastage. Irathane 155 HS is extremely resistant to moderate concentrations of both acid and alkaline solutions. Chemical resistance to slurries and water solutions is excellent at ambient temperatures. Long service life applications should not be continuously subjected to wet temperatures in excess of 140°F or to dry temperatures in excess of 180°F.

A 125 mil coating of Irathane 155 HS can be put in light duty service after 2 days cure at 75°F. Severe duty or chemical immersion applications require 4 days at 75°F. At lower temperatures and thicker coatings, cure times will be longer. The cure may be accelerated by using heat after the coating has been allowed to cure under ambient conditions for 16 hours. Do not exceed 150°F when heat curing.

TYPICAL PROPERTIES, LIQUID COMPONENTS

Properties	P-155	C-155	Mixed Components
Color	Clear Amber	Orange/Gray/Blue	Orange/Gray/Blue
Weight Per Gallon	8.43 lb.	8.61 lb.	8.52 lb.
Weight Solids	100%	41.54%	70.46%
Volume Solids	100%	32.83%	66.41%
Total VOC's	0	603 g/l	301 g/l
Viscosity, Brookfield @ 75°F	32,400 cps	1,000 cps	2,228 cps
Flash Point, T.O.C.	N/A	24°F	24°F

TYPICAL PROPERTIES, CURED IRATHANE 155 (cured at 75°F)

Tensile Strength (ASTMD412-68 Die "B").....	3000 psi
Tear Strength (ASTMD624-64 Die "C").....	460 pli
(ASTMD470-68 Split Tear).....	95 pli
100% Modulus (ASTMD412-68 Die "B").....	900 psi
300% Modulus (ASTMD412-68 Die "B").....	1,725 psi
Elongation (ASTMD412-68 Die "B").....	425%
Hardness (ASTMD2240-68).....	89 Shore A Durometer
Resilience (Bashore % Rebound).....	34%
Abrasion Resistance (Taber Index H-18 Wheels and 1000 Gram Weights).....	56 mg/1000
Adhesion (ASTMD429 Method B).....	75 pli
Operating Temperature Range (Continuous Service).....	Dry..... -70°F to +180°F
	Wet..... Up to +140°F
Coverage.....	10.6 sq. ft./gal @ 100 mil DFT

APPLICATION DATA:

Surface Preparation

All surfaces to be coated should be clean and completely dry. Steel, aluminum, galvanized metals, wood, brick, concrete, fiberglass and rubber are acceptable surfaces. If an application arises where Irathane 155 HS would be applied over a substrate not mentioned here, consult the technical department at Engineered Coatings for a recommendation. The proper Irabond System should be used with each substrate. Refer to the "Application Procedures Bulletin". Metal surfaces should be grit-blasted with 20/40 or coarser grit as per SSPC-SP5-82" White Metal Blast Cleaning". A 2-4 mil surface profile is desirable. Concrete should be sand or grit-blasted. Refer to the "Surface Preparation" specification for complete instructions.

MIXING INSTRUCTIONS:

Do not mix polymer and curative components together until ready to use. The correct ratio by volume is 1:1. Irathane 155 HS will not cure properly if mixing ratio is not correct.

Stir the curative before adding it to the polymer. Mix the 2 components for 3 minutes with an air- powered mixer equipped with a propeller type "Jiffy Mixer". Scrape the sides and bottom of the mixing container with a straight edged tool to blend in any unmixed material. Remix for 2 minutes. Pour into a clean container and remix for 2 minutes. **NOTE:** The polymer must be clear and fluid when used. The polymer component of Irathane 155 HS may crystallize when exposed to temperatures below 40°F. This will not harm the material, however, the polymer component should be warmed to 90°F (110°F maximum) until completely melted. Cool to room temperature before using.

APPLICATION METHOD:

Please refer to Application Procedures Bulletin **PRIOR** to using for complete instructions.

Spray: Standard airless spray equipment is recommended. Line pressures in excess of 1200 psi will give a good consistent pattern through tips of about 0.025". Tip sizes between 0.020" and 0.030" will give good results with pressure variations from 1200 psi to 2000 psi. Irathane 155 HS can be applied through airless equipment, at a wet gauge of from 20 to 80 mils per coat on a vertical surface without sagging or running. If multiple coats are required, allow a minimum drying time of 20 minutes and a maximum of 8 hours drying time between coats at 75°F. Maximum gauge should be limited to 1/4". Conventional spray equipment is easily modified to spray Irathane 155 HS, larger nozzles and fluid needles are required.

Brush or Roller: Applications utilizing brush or roller are acceptable. Allow 60 minutes between coats. This method should be limited to single coat or thin gauge applications.

Pot life: The pot life of the mixed Irathane 155 HS is 80 minutes at 75°F. It is sprayable for this period of time and may be rolled or brushed if necessary for an additional short period of time.

CURERATES:

The cure rate of Irathane 155 HS is dependent upon temperature as indicated below for 125 mil coating:

	Days Required		
Cure	50°F	70°F	90°F
80%	4	2	1
100%	8	4	2

Cure time will double for coating thicknesses approaching 250 mils. All immersion applications should be pinhole tested @ 100v/mil. All pinholes should be repaired prior to immersion service.

PRECAUTIONS: This product is flammable. Adequate ventilation must be provided and protective clothing and breathing equipment must be used during application. For complete Safety and Handling information, please refer to Material Safety Data Sheets **PRIOR** to using this product.

For technical assistance please call 1-800-876-2543.

Non-Warranty: Because we cannot anticipate the conditions under which this information or our products may be used, we can accept no liability for the results obtained. The information in this bulletin should not be construed as an expressed or implied warranty of merchantability or fitness for a particular purpose. We suggest that potential users conduct their own tests to determine the suitability of this product for a particular purpose.