VOGEL INDUSTRIAL COATINGS

# TECHNICAL DATA SHEET

## HYPERTHANE 450 HyPerformance Urethane — ICS 2K Acrylic Polyurethane

**PRODUCT CODES:** **IG-0280 – Clear C/B | IG-1281 – White W/B | IG-1282 – Deep D/B | IG-2285 – Metallic IG-3284 – Yellow | IG-5283 – Red | IG-0286 – Clear**

**DESCRIPTION:**
The Hyperthane 450, Two Component Acrylic Polyurethane is a high performance coating system designed for manufacturers that demand excellent gloss retention, hardness, mar, and chemical resistance. This is the system of choice for industrial finishers that desire excellent resistance to fading or chalking from exposure to sunlight and chemicals under splash and spill conditions. Hyperthane 450 Two Component Acrylic Polyurethane can be applied with conventional, airless, electrostatic, and plural component equipment. The recommended primer to use with Hyperthane 450 Two Component Acrylic Polyurethane is the Stratum two component urethane primer system.

**PHYSICAL PROPERTIES:**

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| Weight Solids: | 62% to 70% |
| Volume Solids: | 56% to 58% |
| Resin Type: | Acrylic Urethane |
| Gloss: | 90+ at 60º |
| Theoretical Coverage: | 880 to 929 square feet at 1.0 mil |
| Blended Viscosity: | Approximately 58 to 62 KU at 77ºF |
| EPA VOC: | 3.5 pounds per gallon |

**SURFACE PREPARATION:**
The service expectancy of a coating is primarily dependent upon good surface preparation. The surface to be coated should be free of mill scale, rust, oil, and other contaminates, including salt deposits. Hyperthane 450 Two Component Acrylic Polyurethane may be applied over steel, aluminum, fiberglass, or galvanized steel. Due to inconsistencies in galvanizing, please check with your local Vogel Industrial representative for recommendations and substrate testing. The recommended primer to use with Hyperthane 450 Two Component Acrylic Polyurethane is the Stratum two component urethane primer system. For optimum adhesion, hot rolled steel should have the mill scale removed by an abrasive blast to SSPC-SP-6 to an average profile of 1.5 mils and then coated before flash rusting occurs.

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| Steel: | Bare steel areas should be treated with an iron phosphate conversion coating and adequate rinsing |
| Aluminum: | Aluminum and galvanizing should be treated with appropriate metal cleaners and conditioners. |

**ACTIVATION:**

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| Mixing Ratio: | **4A:1B with IG-0267, IG-0268, IG-0299 by volume** |
| Sweat-In Time: | None |
| Pot Life: | 1.5 hours at 77ºF<br>As temperatures increase, the pot life will decrease. |

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| **APPLICATION:** | This urethane can be sprayed with all types of application equipment. |
| Airless: | For airless application no reduction is necessary. Airless tip sizes should be in the .011 to .015 range. Adjust pressures accordingly for best atomization and transfer efficiencies. Air-assist airless pressures will be in the 800 to 1000 pound range for fluid and 30 to 50 pound range for atomizing air. |
| Conventional Air: | For conventional air and electrostatic spray some reduction may be necessary. Use Butyl Acetate or Toluol for reducing purposes. Pressures are dependent upon the type of gun and fluid nozzle, but typically will be in the 45 to 60 pound range for proper atomization. |
| In-Line Heat: | In-line heat may be utilized up to 100°F to improve application. Caution must be exercised to turn heat down during breaks and shut downs to avoid locking up the paint lines due to decrease in pot life. |
| Dry Film Thickness: | For best results, dry film thicknesses should be 1.0 to 2.0 mils above surface profile. This will require wet film thicknesses of about 3.0 to 4.0 mils. Apply in two medium build coats. |
| **DRY TIMES:** | Hyperthane 450 Two Component Acrylic Polyurethane can be recoated at tack free 1.5 to 2 hours and up to 48 hours. After 48 hours Hyperthane 450 Two Component Acrylic Polyurethane will need to be scuff sanded to insure inter-coat adhesion. |
| Dry Tack Free: | 2 hours |
| Dry Through: | 4 hours |
| Dry Hard: | 24 hours |
| Force Drying: | Force drying: 15 to 20 minutes at 160° to 180°F depending on metal thickness and mass. Recoating after force drying: Scuff sanding may be required to insure inter-coat adhesion. |
| **CLEAN UP:** | Use butyl acetate or ketones to flush application lines and equipment. The pot life will be approximately 1.5 hours at 77°F. At higher temperatures, pot life will diminish. |
| **PERFORMANCE:** | Typical, tested on B-1000 panels |
| Accelerated Weathering: | ASTM G53 and D4587 – 1000+ hours – < 10% loss of gloss |
| Salt Spray: | ASTM B-117 – 1000 hours - < 1mm creep |
| Chemical Resistance: | ASTM 1308 – 30 min spot<br>Diesel – Pass – No visible change<br>Ammonia – Pass<br>Hydraulic Fluid – Pass<br>30 Weight Oil – Pass |
| Pencil Hardness: | ASTM D3363 – Average H to 2H |
| Impact Resistance: | ASTM D2794 – 160+ inch pounds |
| Gravelometer: | ASTM D3170 – SAE J400 – 6A Rating – Excellent |
| **SAFETY PRECAUTIONS:** | Contains aliphatic polymeric isocyanate and butyl acetate when blended. Avoid contact with skin. Vapor and spray mist harmful. Use proper respiratory protection, including positive air supplied respirators. Refer to SDS for specific information. All information subject to change without notice. |

1020 Albany Place SE
PO Box 80
Orange City, IA 51041-0080

(712) 737-4993
(800) 72-VOGEL
vogelindustrial.com