DuraBull™

HEAVY-DUTY PROTECTIVE COATING

POLYUREA PROTECTIVE COATING - BLACK

DBPB-001

Product description

Component A - BUL100100 Component B - BUL100X

BUL100100 is a two-component, zero-VOC, heavy-duty, protective coating engineered to protect work vehicles and industrial equipment. Made from specially designed Aliphatic Polyurea technology, DuraBull™ blends superior UV protection with unmatched physical protection.

Advantages

- Aliphatic Polyurea
- Zero VOC
- HAPS-free
- Highly durable
- Variable texturing for the right look and feel
- Tough and flexible over wide temperature range
- Air dry – no ovens required
- Tack Free in 40 seconds
- Superior corrosion protection, including to MgCl
- Maintains original gloss and color in UV, Xenon WOM and Florida exposure testing without chalking or fading
- Excellent chip, abrasion, impact, gouging, tearing and chemical resistance
- Capable of reducing noise

Applications

Mix Ratio by Volume:

BUL100100	:	BUL100X
1	:	1

Apply:
The number of coats depend on the application.
2 – 3 coats will produce 40 – 60 mils.
Additional coats may be applied for improved protection.

Spray Booth:

Temperature:	70° – 90°F (21° – 32°C)
Humidity:	*35 - 80% *Dry surface is required (no consideration)

Spray Temperature of Material:
135° – 155°F (57° – 68°C)

Spraygun Setup:

Spray gun type:	Gusmer GX7/Graco Fusion
Basecoat Tip:	213
Dustcoat Tip:	212.5
Spraygun Pressure:	2000 – 2500 psi
Basecoat Fluid Flow:	1.0 +/- 0.1 gpm
Dustcoat Fluid Flow:	0.85 +/- 0.05 gpm

Drying Times @ 70°F (21°C):

Tack Free Time :	35 - 40 seconds
Dry to Touch:	2 minutes

Recommended Dry Film Thickness:
Minimum recommended film builds: 40 mils (vertical) – 60 mils (horizontal).
Film builds of 80 – 100 mils are recommended on horizontal surfaces for substrates that may see very severe conditions and/or require maximum protection.

Safety Equipment for Manual Application:
See MSDS

PPG

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Specification Testing

Test	Result
Adhesion	Acceptable adhesion (>16 lbs/li peel strength or 500 psi Elcometer) obtained on many clean, dry coated substrates with no scuffing required. Tenacious adhesion (>30 lbs/li or 1000 psi Elcometer) to all electrocoat and primer coatings tested and very good adhesion (>20 lbs/li or 750 psi Elcometer) to most topcoat systems. **Note:** *Adhesion should always be confirmed with samples of coated substrates to which Polyurea Coating will be applied.*
Weathering	Minimal Gloss loss with no chalking or fading at 1 & 2 yrs. FL, 5000+kj Xenon WOM.
Environmental Cycle	No appearance or performance change after 10 cycles: -40°F (-40° C) to 12 Hours Humidity to 164° F (90oC).
***Immediate Environmental Exposure**	No appearance or performance change when, 15 minutes after application, panels coated with Polyurea Coating are exposed to 240 Hours Water Soak at 73°F or 104°F (23°or 40°C).
Heat Distortion Resistance	Minimal damage after 8 hours at 185°F (85°C) with 12 lbs/in force applied.
Heat Resistance	No appearance or performance change after 500 hours at 164° F (90°C).
Cold Resistance	No appearance or performance change after 3 hours at -40°F (-40°C).
***Freezer Cycle**	No adhesion loss after 10 cycles: : -22°F to 73°F (-30°C to 23°C), on panels tested 15 min. after application.
Water Soak Resistance	No appearance or performance change after 240 hrs at 104°F (40°C).
Hot Water Resistance	No appearance or performance change after 240 hours at 95%RH &122°F (50°C).
Humidity Resistance	No appearance or performance change after 240 hours at 95%RH &122°F (50°C).
Water Vapor Permeance	0.43 Perms per ASTM D1653.
Salt Spray Resistance	No appearance or performance change after 1000 hours.
Salt Water Resistance	No appearance or performance change after 120 hours at 104°F (40°C).
Corrosion Resistance	No appearance or performance change after 100 cycles of Compound Corrosion Test.
Magnesium Chloride ($MgCl_2$) Resistance	No effect after exposure to 80 cycles of the cyclic corrosion test, SAE-J2334, using a 3% aqueous solution $MgCl_2$ as the electrolyte.
Adhesive Resistance	No trace of gauze after 1 hr. at 164° F (90°C).
Chemical Resistance	No appearance or performance change after: 24 hours Spot Testing with H_2SO_4 4 hours Spot Testing with 5% Caustic Soda 24 hours after 1 hr. Spot Testing with Cedar Oil (Class1 Reagent) and Albumin 24 hours Immersion Testing with Class 3 Antifreeze and SJ 5W-30 Engine Oil 24 Hours Spot Testing with Brake Fluid 24 hours after 45° Angle Drip Testing with Leaded & Lead-free Gasoline or Soak Testing with Lead-free and E85 Gasoline 24 hours Spot Testing of Windshield Washer Fluid
Solvent Resistance	No appearance or performance change 24 hours after 45° Angle Drip Testing with Ethanol, MEK, Isopropyl, Alcohol and Naphtha.
Scratch Resistance	Minimal change after 10 and 30 cycles on Crockmeter.
Abrasion Resistance	Minor Gloss loss and no film loss observed after: 100 cycles in Taber Test with CST10 wheel at 500g load 400 cycles in "A" Nail Test with 907g load 10 & 30 strokes in Crockmeter Test with 800 grit paper.

Specification Testing continued

Test	Result
Impact Resistance	No damage observed when 500g weighted steel ball is dropped from a height of 100 cm onto Polyurea Coated panels at room temp and at -40°F (-40°C).
Chip Resistance	No damage observed in SAEJ400 Gravelometer Testing using No. 6 & 7 Crushed Stone, 5 cups of No. 8 Road Gravel, and Hexagon Nuts with panels at 77°F and -4°F (25°C and -20°C).
Re-coatability	Excellent adhesion when fresh coats of Polyurea Coating are applied to panels of Polyurea Coating sprayed 1 hour, 1 day, 1 week, and 1 month previously.
Tear Resistance	Tear strength is 350 lbs. PLI (per linear inch) in ASTMD624 Die C.
Flammability	Cured material is self-extinguishing on horizontal panel. Additional work in process.
Hardness	Shore A: 95+, Shore D: 56 – 65.
Tensile Strength	2200 – 2900 when measured with ASTM D412.
Elongation	130 – 200% when measured with ASTM D412.

** All testing conducted on panels 72 hours affter Polyurea Coating application, unless otherwise stated.*

Technical Properties

	BUL100100	BUL100X	BUL100100 : BUL100X
Volume Ratio:	package	package	1 : 1
Applicable Use Category	Underbody Ctg., Other Ctg.	Underbody Ctg., Other Ctg. (Hardener)	Underbody Ctg., Other Ctg.
VOC Actual (g/L)	292	15	2
VOC Actual (lbs/gal)	2.44	0.13	0.02
VOC Regulatory (less water less exempt) (g/L)	292	15	2
VOC Regulatory (less water less exempt) (lbs/gal)	2.44	0.13	0.02
Density (g/L)	977	1091	1028
Density (lbs/gal)	8.15	9.10	8.58
Volatiles wt. %	29.9	1.4	0.2
Water wt. %	0.0	0.0	0.0
Exempt wt. %	0.0	0.0	0.0
Water vol. %	0.0	0.0	0.0
Exempt vol. %	0.0	0.0	0.0
Brookfield Viscosity @ 73°F (23°C):	1000 – 1500	1800 – 2900	–
Flash Point (Closed Cup):	230°F (110°C	420°F (216°C)	–
Tensile Strength:	–	–	1900 – 2200
Hardness (Shore D):	–	–	56 – 65
Elongation (%):	–	–	130 – 200
Young's Modulus (MPa):	–	–	113
Substrate Type:	–	–	E-Coat / Clearcoat
Color:	Black	Clear	Black
Storage Temperature:	50 – 100	50 – 100	–
Pumping Temperature	50 – 100	70 – 100	–
Shelf Life (Unopened):	12 Months	12 Months	–

Health and Safety

Please refer to Material Data Safety Sheets (MSDS) for full health safety details and storage regulations.

See Material Safety Data Sheet and Labels for additional safety information and handling instructions.
Polyurea Protective Coating - Black (BUL100100) Polyurea Catalyst (BUL100X)

EMERGENCY MEDICAL OR SPILL CONTROL INFORMATION (412) 434-4515; IN CANADA (514) 645-1320

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