# SAMPLE ENGINEERING SPECIFICATION

## Type S Cast Iron Mechanical Pit-Type Truck Scales

## 1. PART 1 - GENERAL

**1.1. Scope.** This section sets forth the requirements for one pit-type mechanical truck scale. The scale shall be furnished and installed complete as specified in the following paragraphs, including weighbridge, foundation, lever system, platform reinforcing, pit coping, load cells, indicators, surge voltage protection system, and the services of the manufacturer's service representative.

***1.1.1. Acceptable Manufacturer.*** The truck scales furnished under this section shall be manufactured by Fairbanks Scales or equal.

**1.2. General.** Equipment furnished and installed under this section shall be assembled, erected, and placed in proper operating condition in full conformity with drawings, specifications, engineering data, instructions, and recommendations of the equipment manufacturer unless exceptions are noted by the Engineer.

***1.2.1. General Equipment Stipulations.*** The General Equipment Stipulations shall apply to all equipment furnished under this section.

***1.2.2. Governing Standards.*** The scale systems shall have been issued a Certificate of Conformance by the National Type Evaluation Program, (N.T.E.P.) and shall conform to the following federal, state, local, and industrial standards.

- National Institute of Standards and Technology (NIST), Handbook 44, "Specifications, Tolerances, and Technical Requirements for Weighing and Measuring Devices".
- Applicable state regulations for commercial weighing devices.
- American Welding Society AWS D1.1, 2006.
- Weighbridge structural steel and structural steel embedments shall conform to ASTM A36.
- Reinforcing steel shall conform to ASTM A615, Grade 40 or Grade 60.

***1.2.3. Anchor Bolts.*** All anchor bolts, nuts, and washers shall be made of carbon steel or comparable, and may be plated.

***1.2.4. Edge Grinding.*** Sharp projections of cut or sheared edges of ferrous metals, which are not to be welded, shall be ground as required to ensure paint adherence.

***1.2.5. Surface Preparation.*** All ferrous metal surfaces, except stainless steel or plated steel, shall be blast cleaned in the shop in accordance with the paint manufacturer's recommendations. All mill scale, rust, and contaminants shall be completely removed before shop primer is applied. The components of each module shall be cleaned to an SSPC-SP6 finish prior to painting.

***1.2.6. Shop Painting.*** All steel surfaces, except stainless steel or plated steel, shall be coated with a PPG AUE-370 high solids acrylic urethane, a two component chemically cross-linked commercial coating system. The paint system will be applied per the manufacturer's recommendations. See attached data sheet. All mechanical levers and suspension, shall be primed with a PPG ASP-795 Red Oxide Primer. The primer will be applied per the manufacturer's recommendations. See attached data sheet.

Additional field painting other than touchup painting of damaged surfaces will not be required.

***1.2.7. Power Supply.*** Unless otherwise specified, the power supply to the equipment will be a dedicated 120 volt, single phase, 60 Hz connection. Where control voltages lower than the power supply voltage is required, suitable control power transformers shall be furnished.

***1.2.8. Surge Voltage Protection.*** The scale system shall be surge and lightning protected. This protection shall include a surge protection device which plugs into a standard 115 VAC outlet. The load cells shall be optically isolated, and surge protected. The scale shall have a dual point ground rod system for the grounding of the weighbridge, power supply, and the sectional controllers. Electrical diagrams of the scale grounding and surge protection shall be supplied with submittals. The surge voltage package shall be provided as a unit and be tested and approved by the scale manufacturer.

Surge protection devices or components not designed or tested by the scale manufacturer as a unit are unacceptable.

**1.3. Submittals.** Complete foundation and installation drawings, together with detailed specifications and data covering materials, parts, devices, and accessories forming a part of the equipment furnished, shall be submitted in accordance with the submittals section. Drawings shall cover all scale components, foundation details, and pier loading information necessary for the design of the scale foundation or installation.

## 2. PART 2 – PRODUCTS

### 2.1. Scale Design

***2.1.1. General Description.*** The scale shall be a Fairbanks model Type “S” or equal. Scale platform assembly shall consists of reinforced concrete deck, steel weighbridge, and a cast iron lever system which delivers weight force to a single tension load cell. Equipment is to consist of parts designed to act as a unit by a manufacturer experienced in design, construction, manufacture of electronic components, and operation of equipment for the purpose required.

***2.1.2. Scale Capacity and CLC.*** The N.T.E.P. approved scale shall have a minimum concentrated load capacity (CLC) of _____ lbs.

***2.1.3. Weighbridge Design.*** The platform shall be _____ feet long and _____feet wide and shall have a 6” reinforced concrete deck poured on-site using 4000 psi compressive strength concrete. The deck is to be lined along the bottom with corrugated steel, a reinforcing mat shall be set into place the length and width of the scale deck, and the deck channel is to have studs welded to the steel to form a composite structure when the concrete is added. The scale shall have two 24” manholes for scales up to 45’, and three 24” manholes for scales 50’ and greater.

***2.1.4. Lever System.*** The lever system shall be of rust-resistant cast iron construction with double web design. It shall utilize parallel link suspension to transmit weight from the weighbridge main girders to the cast iron levers and shall be free-floating and self-aligning, absorb the effects of platform motion on pivots and bearings, and reduce the effect of inertial shock caused by traffic.

There shall be adjustable vertical connections between all levers in the system. In addition, there should be elevation adjustment screws (two at each main lever) for vertical alignment of the scale deck with the concrete walls. There shall be removable bearings on each lever stand to provide for easy replacement of bearings without stand removal.

Pivots and bearings directly supporting the weight of the platform and the load applied to that platform shall be parallel with the direction of traffic. Pivots are to be supported over their entire length by self-aligning bearings, which shall be of high carbon steel and properly heat treated to a minimum Rockwell hardness of 58-62.

Cast iron lever system shall deliver reduced weight force to a single tension load cell. Load cell, junction boxes, and scale checking must be accessible and held in position by easily accessible hardware.

***2.1.5. Checking.*** The scale shall utilize longitudinal and lateral bumper checking. The scale shall be completely self-checking. No check rods or flexure checking plates are to be used. Checking shall be mechanically isolated from the load cell, or load cell stands/base plates.

***2.1.6. Load Cell and Controller/Junction Box Specifications.*** The scale shall have a load cell of an S-beam tension design. The load cell shall be provided with a shielded cable. If the scale is provided with Intalogix technology or similar, PC boards will be encapsulated in epoxy or similar material. A board that is not protected in this fashion is unacceptable. Furthermore, each encapsulated board shall be housed in a type 304 Stainless steel enclosure rated NEMA 4X. Access to the encapsulated board within the smart sectional controller enclosure shall be achieved without the use of tools. Bolts, screws or other hardware shall not be used to seal the smart sectional controller enclosure.

**2.2. Platform and Foundation Requirements*.*** The weighbridge and load cell assemblies shall be supported by a reinforced concrete pier type or full slab foundation as indicated on the drawings. The dimensions for the scale foundation and platform shall be as recommended by the equipment manufacturer and accepted by the Engineer. Reinforcing steel placement and structural steel embedment placement shall be performed as shown on the manufacturer's foundation drawings.

The scale manufacturer shall furnish the following items for construction of the scale platforms and pits:

- Weighbridge
- All components of lever system
- Longitudinal and lateral bumper checking devices
- Load cells and load cell assemblies
- Anchor bolts
- Platform and endwall painted structural steel embedments

## 3. PART 3 – EXECUTION

**3.1. Installation**. The scale shall be manufactured, provided, and installed by a scale company that has a minimum of five years of experience installing similar truck scale systems.

The installer shall configure the scale system as indicated on the certified drawings. All concrete work shall be as specified in the cast-in-place concrete section. Anchor bolts shall be set as required by the scale manufacturer’s drawings.

**3.2. Manufacturer's Field Services.** Where scheduled in the equipment schedule section, an experienced, competent, and authorized representative of the manufacturer shall provide field services for equipment furnished under this section. Field services shall meet the requirements of Manufacturer's Field Services in the quality control section.

**3.3. Field Testing and Acceptance.** An authorized manufacturer's representative shall provide the required scale certification for capacity and accuracy to the Engineer as required by the applicable state department of weights and measures and any other applicable state or county agency.

**3.4. Personnel Training.** An experienced, competent, and authorized representative of the manufacturer shall train the Owner's personnel in operating, maintaining, and repairing the equipment specified in this section. The training provided shall meet the requirements of Personnel Training Services in the quality control section. The number of training sessions and duration of each session shall be as scheduled in the equipment schedule section.

End of Section

Commercial Performance Coatings

CPCPB101

## Alkyd Shop Primers

# ASP Series Primers

ASP-495 2.8 – Gray
ASP-795 2.8 – Red Oxide
ASP-901 2.8 – Black
ASP-435 3.5 – Gray
ASP-735 3.5 – Red Oxide

The ASP Series Primers (alkyd shop primers) are cost-effective, fast dry, single component primers that can be sprayed through a variety of application equipment.

Factory-packaged colors, in both 2.8 and 3.5 lbs/gal VOC versions, are available in this primer series.

### Features and Benefits:

- One component, easy-to-use
- Fast dry time for productivity
- VOC compliant options

### Associated Products:

- ASP-495 2.8 VOC Shop Primer (Gray)
- ASP-795 2.8 VOC Shop Primer (Red Oxide)
- ASP-901 2.8 VOC Shop Primer (Black)
- ASP-435 3.5 VOC Shop Primer (Gray)
- ASP-735 3.5 VOC Shop Primer (Red Oxide)

### Physical Constants:

*All values are theoretical, depend on color and are Ready-to-Spray. Actual values could vary slightly due to manufacturing variability.*

| | ASP-435/735 | ASP-495/795/901 |
|---|---|---|
| Percent solids (by weight) | 71.3 / 70.6 | 77.8 / 77.7 / 77.5 |
| Percent solids (by volume) | 46.5 / 46.1 | 57.0 / 56.8 / 57.2 |
| HAPs | ≤0.1 lbs/gal | ≤0.1 lbs/gal |
| Photo-chemically reactive | No | No |

Flashpoint:
ASP-435, 495, 735, 795, 901 – 73°F (22.7°C)

| RTS Combinations: | ASP-435/735 | ASP-495/795/901 |
|---|---|---|
| Volume Ratio: | As is | As is |
| Applicable Use Category | Primer Sealer | Primer Sealer |
| VOC Actual | 415 / 417 g/L<br>3.46 / 3.48 lbs/gal | 333 / 334 / 332 g/L<br>2.78 / 2.79 / 2.77 lbs/gal |
| VOC Regulatory (less water less exempt) | 413 / 417 g/L<br>3.45 / 3.48 lbs/gal | 333 / 334 / 332 g/L<br>2.78 / 2.79 / 2.77 lbs/gal |
| Density | 1444 / 1419 g/L<br>12.04 / 11.83 lbs/gal | 1504 / 1499 / 1474 g/L<br>12.54 / 12.50 / 12.29 lbs/gal |
| Volatiles wt. % | 28.7 / 29.4 | 22.2 / 22.3 / 22.5 |
| Water wt. % | 0.0 | 0.0 |
| Exempt wt. % | 0.0 | 0.0 |
| Water vol. % | 0.0 | 0.0 |
| Exempt vol. % | 0.0 | 0.0 |

Product Information Effective 10/09

PPG

# ASP Series Primers

## Directions for Use

**Substrate Preparation:**

The surface to be coated must be sanded and free of all contamination (including dust, dirt, oil, grease, and oxidation). A chemical treatment (or conversion coating) will improve adhesion and performance properties of the finished coat. Variability can occur with substrates, preparation, application method or environment. We recommend that adhesion and system compatibility be checked prior to full application.

| Metal (Direct to Substrate) | ASP-x35* | ASP-x95/901* |
|---|---|---|
| Cold Rolled Steel | Excellent | Excellent |
| Hot Rolled Steel | Excellent | Excellent |
| Galvaneal | Not Recommended | Not Recommended |
| Galvanized | Not Recommended | Not Recommended |
| Aluminum | Not Recommended | Not Recommended |
| Plastic / Fiberglass | Not Recommended | Not Recommended |

** It is recommended that the substrate be cleaned with SSPC-SPC2 Hand Tool or SSPC-SPC3 Power Tool clean Minimum. For best performance, SSPC-SP6 (NACEE#3), Commercial Blast Cleaning is recommended.*

**Mix Directions:**

Mix Directions: Single component product, stir thoroughly before and occasionally during use. No induction needed.

| Thinning: | ASP-x35 | ASP-x95/901 |
|---|---|---|
| | Do not thin. | Do not thin. |

| | |
|---|---|
| Blend Ratio | N/A - Single component product |
| Pot Life @ 77°F (25°C): | N/A |
| Spray Viscosity Range: | #3 Zahn: ~ 20 seconds |
| Unopened Shelf Life: (each component) | 2 years |

**Application Equipment:**

| | ASP-x35 | ASP-x95/901 |
|---|---|---|
| Conventional (with or without pressure pot): | 30 – 60 psi at the gun, 1.3" or larger cap | 30 – 60 psi at the gun, 1.3" or larger cap |
| HVLP (with or without pressure pot): | 10 psi at the gun, 1.3" or larger cap | 10 psi at the gun, 1.3" or larger cap |
| Airless: | 0.011 – 0.019 mm: 1700 psi fluid pressure | 0.011 – 0.019 mm: 1700 psi fluid pressure |
| Air-Assisted Airless: | No Recommendation | No Recommendation |
| Brush: | High quality, natural bristle brush | High quality, natural bristle brush |
| Roll: | 3/8 – ¾ inch nap roller | 3/8 – ¾ inch nap roller |
| Electrostatic: | No Recommendation | No Recommendation |

**Application:**

Apply: Apply only when air, product and surface temperatures are above 60°F (16°C) and when surface temperature is at least 5°F (3°C) above the dewpoint.

| | ASP-x35 | ASP-x95/901 |
|---|---|---|
| Recommended Wet Film Build: | 3.2 – 3.9 mils | 2.6 – 3.2 mils |
| Recommended Dry Film Build: | 1.5 – 1.8 mils | 1.5 – 1.8 mils |
| Square Foot Coverage @ 1mil no loss: | 739 – 746 sq. ft. | 911 - 917 sq. ft. |

**Dry Times:**

Air Dry @ 77°F 50% RH:

| | ASP-x35 | ASP-x95/901 |
|---|---|---|
| To Touch | 10 – 20 minutes | 20 minutes |
| To Handle* | 1 hour | 1 hour |
| To Recoat | 1 hour | 1 hour |

** Paint film is not fully cured for 7 days. Drying time listed may vary, depending upon film build, color selection, temperature, humidity and degree of air movement.*

# ASP Series Primers

## Technical Data*

**Performance Properties:**

**System:**
***Bonderite 1000***
***ASP-435 / ASP-495***

| Test | ASTM Method | Results ASP-x35 | Results ASP-x95/901 |
|---|---|---|---|
| Gloss @ 60° Angle | D523 | 1 | 2 |
| Pencil Hardness | D3363 | H | 3B |
| Impact (Forward/Reverse) | D522 | 50 / < 5 in - lbs | 50 / < 5 in - lbs |
| Adhesion | D3359 | 4B | 4B |
| In Service Temperature Limit | | 200°F | 200°F |

**Weather Resistance:**

**System:**
***Bonderite 1000***
***ASP-435 / ASP-495***

| | ASTM Method | Results ASP-x35 | Results ASP-x95/901 |
|---|---|---|---|
| **Salt Spray – 250 hours** | B117 | | |
| Corrosion Creep | D1654 | 10A | 6A |
| Scribe Blisters | D714 | None | None |
| Face Blisters | D714 | None | None |
| **Humidity – 100 hours** | D2247 | | |
| 5 Minute Recovery Adhesion | D3359 | 4B | 3B |
| 1 Hour Recovery Adhesion | D3359 | 5B | 2B |
| 24 Hour Recovery Adhesion | D3359 | 3B | 2B |

All tests results assume proper cure and preparation of test substrates. Unless otherwise stated, all results were obtained spraying product direct to metal on Bonderite 1000.

* The application and performance property data above are believed to be reliable based on laboratory findings. It is for the buyer to satisfy itself on the suitability of the product for its particular use. Variation in environment, procedures of use, or extrapolation of data may cause unsatisfactory results.

**Miscellaneous**

Not to be used on zinc substrates.

# ASP Series Primers

**Alkyd Shop Primers**

**Safety:**

These materials are designed for application only by professional, trained personnel, using proper equipment under controlled conditions and are not intended for sale to the general public.

Safe application of paints and coatings requires knowledge of equipment, materials and individual training. Directions and precautionary information on both equipment and products should be carefully read and strictly observed for personal safety and property protection. Consideration must be given to eliminate conditions, which may generate hazardous atmospheres during spray application or subject operators or bystanders to injury or illness.

Special precautions must be taken when utilizing spray equipment, particularly airless equipment. High-pressure injection of coatings into the skin by airless equipment may cause serious injury requiring immediate medical attention at a hospital. Treatment advice may also be obtained from Poison Centers.

Air quality should be maintained with adequate ventilation; applicators can achieve additional protection by wearing respirators and other protective garments such as gloves and overalls. In all cases, wear protective eye equipment. During the application of all coatings materials, all flames, welding and smoking must be prohibited. Explosion proof equipment must be used when coating these materials in confined areas.

**PRECAUTIONARY INFORMATION**

Before using the products listed herein, carefully read each product label and follow directions for its use. Please read and observe all warnings and precautionary information on all product labels. Prevent all contact with skin and eyes and breathing of vapors and spray mist. Repeated inhalation of high vapor concentrations may cause a series of progressive effects including irritation of the respiratory system, permanent brain and nervous system damage and possible unconsciousness and death in poorly ventilated areas. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

KEEP OUT OF THE REACH OF CHILDREN

**MEDICAL RESPONSE**

Emergency Medical or Spill Control Information (412) 434-4515; CANADA (514) 645-1320
Have label information available.

**Material Safety Data Sheets for the PPG products mentioned in this publication are available through your PPG Distributor.**

For additional information regarding this product, see the MSDS AND LABEL information.


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Part No. CPCPB101 10/09

Commercial Performance Coatings

CPCPB226

## DTM Polyurethane

# AUE-370

AUE-370 is a surface tolerant, high solid, high build, two component acrylic urethane formulated for direct-to-metal applications. The product is easy to mix and apply for airless or air-assisted spray applications.

This product is compliant for applications in areas with VOC requirements of less than 2.8 lbs/gal (340 g/l).

### Features and benefits:

- Apply direct-to-metal
- Airless or Air-assisted application capable
- 2.8 VOC capable

### Associated Products:

- AUE-3501, 2K High Solids Urethane Hardener
- GXH-1086, Urethane Hardener
- UA-11, Urethane Accelerator

### Physical Constants*:

| | With AUE-3501 | With GXH1086 |
|---|---|---|
| Weight per gallon (US) | 9.43 - 10.50 lbs/gal | 9.33 - 10.35 lbs/gal |
| Percent solids (by weight | 61.0 - 68.2% | 59.5 - 66.7 |
| Percent solids (by volume) | 57.0 - 61.3% | 55 - 59.1% |
| Flashpoint | 86°F (30°C) – AUE-370 | 86°F (30°C) – AUE-370 |
| VOC | 2.25 - 2.65 lbs/gal (RTS, unreduced) | 2.44 - 2.8 lbs/gal (RTS, unreduced) |
| HAPs | <0.1 lb/gal (RTS, unreduced) | <0.1 lb/gal (RTS, unreduced) |
| Photo-chemically reactive | Non-Photochemically Reactive | Non-Photochemically Reactive |

**Constants vary from color to color*

### Directions for Use:

**Substrate Preparation:**

The surface to be coated must be free of all contamination (including moisture, dust, dirt, oil, grease, andoxidation). Substrate preparation has a direct relationship to the performance of a coating.

SSPC-SP15 Commercial Grade Power Tool Cleaning is minimum preparation, this includes but is not limited to a 1.0 mil blast profile minimum.

Commercial Blast Cleaning is recommended (SSPC-SP6, NACE #3) to maximize adhesion and performance properties of the finished coat.

Variability can occur with substrates, preparation, application method or environment. We recommend that adhesion and system compatibility be checked prior to full application.

| Metal | Direct to Substrate |
|---|---|
| Cold Rolled Steel | Recommended |
| Hot Rolled Steel | Recommended |
| Galvaneal | Recommended |
| Galvanized | Recommended |
| Aluminum | Recommended |
| Plastic / Fiberglass | Not Recommended. |

Note: *For acceptable compatibility between this topcoat and CPC primers please see the CPC Primer/Topcoat compatibility chart (CPCTB01).*

Product Information Effective 11/07

# AUE-370

## Directions for Use (continued)

**Mix Directions:**

| | |
|---|---|
| Mix Directions | Stir thoroughly before and occasionally during use.<br>Mix component "A" AUE-370 Color thoroughly before blending. Once component "B" is added, product must be adequately mixed prior to use. A mechanical mixer is recommended. UA-11 may be added, if desired, up to 6 oz / RTS GAL.<br>**Use with adequate ventilation. Keep out of reach of children.** |
| Thinning: | Up to 10% Q70 (MAK) can be added to RTS AUE-370 where VOC regulations allow. Thinning in this manner will not exceed 3.5 VOC as applied. |

| Blend Ratio: *w/AUE-3501:* | **Without UA-11** | | **With UA-11** | | |
|---|---|---|---|---|---|
| | AUE-370 | AUE-3501 | AUE-370 | AUE-3501 | + UA-11 |
| | 5 | 1 | 5 | 1 | 6oz. / RTS Gal |
| Pot Life @ 77°F: | 2 – 3 hours | | 1 – 2 hours | | |
| Spray Viscosity Range: | 30 – 40 sec. #3 EZ Zahn | | 20 – 30 sec. #3 Zahn EZ | | |

| Blend Ratio: *w/GXH-1086:* | **Without UA-11** | | **With UA-11** | | |
|---|---|---|---|---|---|
| | AUE-370 | GXH-1086 | AUE-370 | GXH-1086 | + UA-11 |
| | 4 | 1 | 4 | 1 | 6oz. / RTS Gal |
| Pot Life @ 77°F: | 2 – 3 hours | | 1 – 2 hours | | |
| Spray Viscosity Range: | 25 – 35 sec. #3 Zahn EZ | | 20 – 30 sec. #3 Zahn EZ | | |

**Application Equipment:**

| | |
|---|---|
| Conventional: | 1.6 - 2.0 mm fluid tip, 50 - 65 psi |
| Conventional on Pressure Pot: | 1.3 - 1.8 mm fluid tip, 12 - 20 ounces per minute fluid |
| HVLP: | 1.4 - 1.8 mm fluid tip, maximum psi per gun MFG settings |
| HVLP on Pressure Pot: | 1.3 - 1.8 mm fluid tip, 12 - 20 ounces per minute fluid |
| Airless: | .013 - .017 fluid tip, 2000 psi and up fluid pressure |
| Air-Assisted Airless: | .013 - .017 fluid tip, begin at 1400 psi fluid & minimum required air pressure to remove tails from pattern |
| Brush or Roll: | High Quality Natural Bristle Brush<br>High Quality 3/8" nap roller cover with a solvent resistant core |
| Electrostatic: | Information above incorporated with gun MFG settings |

**Application:**

| | |
|---|---|
| Apply: | 1 – 2 coats |
| Recommended Wet Film Build: | 5.0 – 8.5 mils |
| Recommended Dry Film Build: | 3.0 – 5.0 mils |
| Coverage (varies by color): | 915 – 982 sq. ft. at 1.0 mil dry film per U.S. gallon |

**Dry Times:**

| Air Dry @ 77°F 50% RH: | **Without UA-11** | **With UA-11** |
|---|---|---|
| To Texture | 3 – 5 hours | 1 – 2 hours |
| To Handle | 8 – 12 hours | 2 – 4 hours |
| Recoat | Min, When Dry Through<br>Max. 7 days | Min, When Dry Through<br>Max. 7 days |

Paint film is not fully cured for 7 days. Drying time listed may vary, depending upon film build, color selection, temperature, humidity and degree of air movement.

# AUE-370

## Technical Data*

**Performance Properties:**

| Test | ASTM Method | Without UA-11 | With UA-11 |
|---|---|---|---|
| Pencil Hardness | ASTM D3363 | H-2H | H-2H |
| Impact (direct) | ASTM D2794 | 80"lbs | 80"lbs |
| Mandrel | ASTM D522 | 1/8" No Cracks | 1/8" No Cracks |
| Chip Resistance | ASTM 3170 | 8 | 8 |
| Gloss - 60° | ASTM D523 | 85 - 92 | 85 - 92 |
| Adhesion | ASTM D3359 Method B | 5B | 5B |

**Chemical Resistance:**

| Chemical ASTM D1308 | Without UA-11 | With UA-11 |
|---|---|---|
| Xylene | Slight Swell - recovers | Slight Swell - recovers |
| 10% NaOH (Sodium Hydroxide) | No Effect | No Effect |
| 10% HCl (Hydrochloric acid) | No Effect | No Effect |
| 10% $H_2SO_4$ (Sulphuric acid) | No Effect | No Effect |
| 10% $HNO_3$ | Slight Stain | Slight Stain |
| Hydraulic Oil | No Effect | No Effect |
| Gasoline | Slight Swell - recovers | Slight Swell - recovers |
| Diesel Fuel | No Effect | No Effect |
| Water | No Effect | No Effect |

**Weather Resistance:**

| | ASTM Method | Without UA-11 | With UA-11 |
|---|---|---|---|
| **Salt Spray – 1000 hours** | B117 | | |
| Corrosion Creep | D1654 | 7A - 8A | 7A - 8A |
| Face Blisters | D714 | None | None |
| Adhesion | D3359 Method A | 10A | 10A |
| **Humidity – 100 hours** | D2247 | | |
| 5 Minute Recovery Adhesion | D3359 Method B | 5B | 5B |
| 1 Hour Recovery Adhesion | D3359 Method B | 5B | 5B |
| 24 Hour Recovery Adhesion | D3359 Method B | 5B | 5B |
| **QUV-UVA: 60° angle** | D4587 | | |
| 500 hour retention | D523 | 98% | 98% |
| 1000 hour retention | D523 | 98% | 98% |
| **QUV-UVB: 60° angle** | D4587 | | |
| 500 hour retention | D523 | 90% | 90% |
| 1000 hour retention | D523 | 65% | 65% |

All tests results assume proper cure and preparation of test substrates. Unless otherwise stated, all results were obtained spraying product direct to metal on HRS with Commercial Blast Cleaning (SSPC SP6), and product color is black. QUV tests were performed over B1000 steel.

* The application and performance property data above are believed to be reliable based on laboratory findings. It is for the buyer to satisfy itself on the suitability of the product for its particular use. Variation in environment, procedures of use, or extrapolation of data may cause unsatisfactory results.

# AUE-370

**DTM Polyurethane**

**Safety:**

These materials are designed for application only by professional, trained personnel, using proper equipment under controlled conditions and are not intended for sale to the general public.

Safe application of paints and coatings requires knowledge of equipment materials and individual training. Directions and precautionary information on both equipment and products should be carefully read and strictly observed for personal safety and property protection. Consideration must be given to eliminate conditions, which may generate hazardous atmospheres during spray application or subject operators or bystanders to injury or illness.

Special precautions must be taken when utilizing spray equipment, particularly airless equipment. High-pressure injection of coatings into the skin by airless equipment may cause serious injury requiring immediate medical attention at a hospital. Treatment advice may also be obtained from Poison Centers.

Air quality should be maintained with adequate ventilation; applicators can achieve additional protection by wearing respirators and other protective garments such as gloves and overalls. In all cases, wear protective eye equipment. During the application of all coatings materials, all flames, welding and smoking must be prohibited. Explosion proof equipment must be used when coating these materials in confined areas.

**PRECAUTIONARY INFORMATION**

Before using the products listed herein, carefully read each product label and follow directions for its use. Please read and observe all warnings and precautionary information on all product labels. Prevent all contact with skin and eyes and breathing of vapors and spray mist. Repeated inhalation of high vapor concentrations may cause a series of progressive effects including irritation of the respiratory system, permanent brain and nervous system damage and possible unconsciousness and death in poorly ventilated areas. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

KEEP OUT OF THE REACH OF CHILDREN

**MEDICAL RESPONSE**

Emergency Medical or Spill Control Information (412) 434-4515; CANADA (514) 645-1320
Have label information available.

**Material Safety Data Sheets for the PPG products mentioned in this publication are available through your PPG Distributor.**

For additional information regarding this product, see the MSDS AND LABEL information.


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