



TECHNICAL DATA SHEET – ULTRACHROME 452

Revised: 01/2017
Replaces: 05/2014

PRODUCT DESCRIPTION

Single component, water based aliphatic urethane, which may be used as either an in-mold coating or post finish coating. **For post-finish (non in-mold) applications, Adhesion Promoter 1552 is required.**

FEATURES

- Excellent color retention
- Excellent resistance to chalking
- Low VOC (Volatile Organic Content)
- Fast drying
- Excellent flexibility and impact resistance
- Water Based – simple cleanup

RECOMMENDED USES

As a finish topcoat or in-mold coating for a variety of Futura's products where color retention and/or flexibility are important.

PRIMERS

None required. Apply directly to properly prepared recommended substrates. **Adhesion Promoter 1552 is required for post finish (non in-mold) applications.** Contact ITW Engineered Polymers for recommendations.

TYPICAL PROPERTIES

| | |
|---|---|
| SOLIDS BY VOLUME | 35% ± 2 |
| VOC (452) CALCULATED | 0.47 lb/gal (52 g/l) |
| VOC (452/1552 BLEND) CALCULATED | 0.45 lb/gal (51 g/l) |
| THEORETICAL COVERAGE | 560 ft ² /gal @ 1 mil (52 m ² /gal @ 25 μ) |
| RECOMMEND DFT | 1 – 2 mils (25 – 50 μ) |
| NUMBER OF COATS | 1 or 2 |
| MIX RATIO FOR POST FINISH APPLICATIONS 452/1552 | 10:1 by volume |
| FLASH POINT (PMCC) | >200°F (93°C) |
| SHELF LIFE @ 50-90°F (10-32°C) | 12 Months |
| COLOR (STANDARD) | Black & Tint Base |
| GLOSS | Matte |

SPECIFICATION DATA

| | |
|----------------------------------|----------------------------------|
| ELONGATION - ASTM D 412 | 150% |
| TENSILE STRENGTH - ASTM D 412 | 3000 psi |
| TEAR STRENGTH (PLI) - ASTM D 624 | 400 |
| WEATHERING - ASTM G 53 - QUV | 1000 hours |
| FLEXIBILITY - ASTM D 1737 | -20°F Passes ¼" mandrel bend. |

ULTRACHROME 452

ALIPHATIC WATER BASED URETHANE



ORDERING INFORMATION

| | |
|------------------------|---|
| PACKAGING | 1 gal kits (Includes Adhesion Promoter 1552) |
| SHIPPING WEIGHT | ~ 12 lbs (5.5 kg) |

SURFACE PREPARATION

Remove all oil, grease or other contaminants from the surface to be coated in accordance with SSPC-SP 1.

Contact ITW Engineered Polymers for specific recommendations.

When used as an in-mold coating, ITW Engineered Polymers recommends using Frekote FRP-NC or ChemTrend 2002 as a mold release.

DRY TIME TO LAMINATE FOR IN-MOLD APPLICATIONS

| 75°F (24°C) | 110°F (43°C) | 120°F (49°C) |
|-------------|--------------|--------------|
| 3-5 MINUTES | 1-2 minutes | < 1 minute |

MIXING

POWER MIX TO A SMOOTH CONSISTENCY.

- For post finish (non in-mold) applications, add Adhesion Promoter 1552 at a ratio of 10 parts UC452 to 1 part 1552 (12.8 oz / gal) and power mix for an additional 5 minutes.
- NOTE:** Mix only the amount of material that can be used in 1 hour.

THINNING: DO NOT THIN

TINTING OF TINT BASE

Add no more than 8% by volume of color pigment. Use Degussa #877 or #896 pigments, only.

POT LIFE

In-mold applications: Not applicable

Post Finish (non in-mold) applications: Once the Adhesion Promoter 1552 has been added, the mixed material has a 1-hour working life. Do not use the mixed material once the 1-hour has expired, the mixture will still be liquid but the adhesion promoter will no longer be effective. Do not add additional adhesion promoter, discard material.

APPLICATION CONDITIONS

| | NORMAL | MINIMUM | MAXIMUM |
|-----------------|----------------------|----------------|-----------------|
| MATERIAL | 75-90°F (24-32°C) | 55°F (13°C) | 95°F (35°C) |
| SURFACE | 75-90°F (24-32°C) | 65°F (18°C) | 110°F (43°C) |
| AMBIENT | 75-90°F (24-32°C) | 65°F (18°C) | 100°F (38°C) |

| | | | |
|-----------------|--------|----|-----|
| HUMIDITY | 30-50% | 0% | 85% |
|-----------------|--------|----|-----|

APPLICATION EQUIPMENT AIRLESS:

| | | | |
|-----------------------|-------------------------|-------------------------|------------|
| PUMP RATIO | 30:1 MIN | TIP SIZE | .015-.021" |
| MATERIAL HOSE* | 3/8" ID min 100' max | TIP PRESSURE PSI | 2400-2800 |

Conventional: Binks 2001 spray gun (a paintbrush may also be used for coloring small areas or highlighting). 40 to 50 psi pressure to gun is sufficient (lower pressures may be used depending on need).

Can be applied by brush or roller but appearance may be affected.

CLEAN UP

Water only.

CURE TIME

These times are based on a 30-50% RH. Excessive film thickness, cooler temperatures or inadequate ventilation will require longer cure times and could result in premature failure.

SURFACE TEMPERATURE

| | 50-69°F (10-21°C) | 70-89°F (21-32°C) | 90-110°F (32-43°C) |
|---------------------|----------------------|----------------------|-----------------------|
| SURFACE DRY | 7 minutes | 6 minutes | 5 minutes |
| HARD FILM | 25 minutes | 20 minutes | 15 minutes |
| RECOAT (MIN) | 10 minutes | 10 minutes | 10 minutes |
| FULL CURE | 36 hours | 24 hours | 12 hours |

- If the maximum recoat time has been exceeded by more than 24 hours' contact ITW Engineered Polymers for recommended recoat procedures.

SAFETY INFORMATION

- Read the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information.
- Do not apply material in enclosed areas without adequate air exchange and ventilation.
- All application personnel must use respirators rated for organic vapors, or in confined spaces wear fresh air respirators or fresh air hoods.
- Wear protective clothing, gloves and eye protection.
- Breathing fumes or contact with the skin may cause severe allergic reactions.
- This product is intended for industrial use by properly trained professional applicators only.**

STORAGE CONDITIONS

- Store drums and pails in a dry location at 55-90°F (11-32°C).
- Materials **must** be kept above 50°F (10°C).
- DO NOT ALLOW TO FREEZE.**

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