

# Hard Surface & Automotive Guide



This guide covers the application of Createx Colors paints as part of a basecoat / clearcoat process to hard surfaces, otherwise referred to an “automotive”. This guide covers the basic process of the application. For color information, refer to that color’s Technical Data Sheet available at [www.creatextech.com](http://www.creatextech.com). Effective January 2020.

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## **Dry Times & Curing are set to a constant Temperature of 70°F / 21°C and 50% Relative Humidity**

Extend drying times in colder temperatures down to 60 F° / 16°C. Painting in lower temperatures not recommended.

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### **SET-UP MIX / REDUCTION**

#### **Add 4030 Balancing Clear 10% per volume to paint, then thin with 4011 Reducer 5% - 10% per vol.**

- Allow mix 10+ minutes to acclimate before spraying for best leveling
- 4011 Reducer’s alcohol breaks down water surface tension in paint for improved flow while spraying.

4011 Reducer – the go-to, standard thinner for all Createx Colors paints and clears.

- 4013 Reducer - substitute thinner for 4011, 4013 is complaint for CA’s South Coast AQMD Rule 1401.
- 4012 Reducer – more aggressive compared to 4011, 4012 can re-activate the under-lying coat of paint, prolonging dry & cure times. Use 4012 as (1:1) mix with 4011 Reducer when painting in high humidity.
- 4020 Reducer – add to 4011 when painting in humid conditions. Contains Acetone.

4030 Balancing Clear – add to Createx paints at 10% per volume to create an acrylic-urethane paint. Mix with paint, then thin with 4011 Reducer at 5% - 10% per volume.

- Mixing with 4030 Balancing Clear improves adhesion & mar resistance of cured coating, as well as drying times.
- Recommended times are spec’d with 4030 mixed with paint.

**NO POT-LIFE:** Createx paints do not have a pot-life after mixing with 4030 Balancing Clear or 4011 Reducer, however, the reduced paint will eventually loose water-content and thicken after several weeks. Repeated exposure to fresh air when the cap is opened to pour paint also promotes curing, which will eventually thicken paint.

- Paint is best only kept for a short duration under a month after mixing with 4011 Reducer or other thinners.
- Keep capped air-tight when not pouring paint. Store in paint cabinet or a box in a dry, cool closet.

**STRAIN COLORS PRIOR TO USE.** Once opened, dried paint inside the bottle & cap may go back into the paint.

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**SPRAY GUN** – Compatible with any HVLP & conventional gravity-fed spray gun.

- Tip-size: 1.2mm – 1.3mm
  - Double-atomization style tips, ex. Iwata LPH-400, a 1.3mm size flows best
  - SATA – “i” style tip for Createx paints, “o” style for UVLS Clears and Scenix paint.
- Psi (inlet): ~ 18/ 24
- Mini Spray Gun: 0.8 – 1.2mm, 20 / 24 psi
  - Iwata LPH80 – the E4 cap works best, not the E2 cap

**AIRBRUSH** – All Createx Colors paints can be sprayed through a 0.5mm tip-sized, larger volume airbrush.

- For smaller tip-sized airbrushes, use transparent colors such as Wicked Colors, Illustration Colors, Auto Air or Createx Airbrush Transparent Colors.
- Mix each with 4030 Balancing Clear 10% per volume, then thin 10% or more with 4011 Reducer. Add 4011 Reducer in small increments of 5% at a time, up to 25% per volume.
- candy2o sprays well through any airbrush tip-size. Refer to candy2o Tech Data Sheet for airbrush mix info.

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## PREPERATION

This guide covers substrates in good condition, or otherwise ready for paint using a quality primer.

Createx paints are compatible with any primer, paint and clear type. If applying a primer, allow it to thoroughly dry, then sand or scuff before applying paint.

Sandpaper 400 – 800 grit may be used to prepare for Createx paints.

- 400 grit for AutoBorne Sealer & 4050 UVLS Gloss Clear used as adhesion primer.
- 600 – 800 grit when airbrushing direct to substrate or using transparent colors.
- Medium & coarse scuff pads may be used. 320-grit & coarse scratch marks will be covered by AutoBorne Sealer.

Cleaning prior to paint:

- Wipe with a mild solvent-based degreaser prior to paint, then dry with a lint-free cloth.
  - Do not clean with a water-based cleaner before paint.
  - Avoid over cleaning. A simple, dry wipe with a clean cloth works well in a clean paint environment.
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## ADHESION to Substrates and Sanded Primers

2 options to start with:

1. AutoBorne Sealer – direct to sanded primer and to most substrates.
2. UVLS 4050 Gloss Clear – Exceptional adhesion as Direct to Metal primer, plastic adhesion promoter and more.
  - 4050 has exceptional adhesion direct to any substrate except silicone
  - 4050 may be used as substitute for AutoBorne Sealer
  - UVLS 4051 Satin & 4052 Matte may also be used as adhesive primer, technically 4050 Gloss has the best adhesion but all 3 have excellent adhesion.

### Substrate Type

- Soft - Medium Durometer Plastic – AutoBorne Sealer
- Hard Durameter Plastic (if in doubt) – 4050 Gloss Clear
- Steel, Stainless Steel – 4050 Gloss Clear
- Aluminum – AutoBorne Sealer
- Fiberglass – AutoBorne Sealer
- Glass – 4050 Gloss Clear
- 3D Print Composite, hard nylon – 4050 Gloss Clear
- Wood – 4050 Gloss Clear
- Automotive finish – AutoBorne Sealer
- Brass – 4050 Gloss Clear
- Chrome – 4050 Gloss Clear
- Polished substrates not scuffed – 4050 Gloss Clear with 48 hours drying for full cure.
- Rubber – 4050 Gloss Clear

### Airbrushing direct to an existing finish

Createx paints have good adhesion when airbrushed direct to primers and most substrates.

- For added adhesion onto harder to paint substrates, a light coat or two of 6000 AutoBorne Transparent Sealer or 4050 Gloss Clear works well to ensure even the lightest airbrush lines adhere well to the surface.
- AutoBorne Sealer will adhere well to many substrates listed above as those recommended for 4050 Gloss Clear. Recommendations are for optimum adhesion. With adequate drying times, AutoBorne Sealer works well to most substrates other than metal.
- Always test first to determine adhesion of any new paint & substrate application.

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## APPLICATION

Proper atomization is important for achieving recommended dry times, adhesion and a level finish.

Well atomized paint should hit the surface in fine droplets that are wetted.

- Follow the spray gun manufacture's recommendations for ideal fan pattern and distance from surface, generally 6" – 8" from the surface.
- Avoid over-atomizing paint by applying at too high a pressure / psi setting.
  - Over-atomized paint leads to texture, especially with metallics
  - Over-atomized paint applied too far a distance and dry onto the substrate does not adhere well

### Spray Gun

Refer to color's Technical Data Sheet for specific application information for that paint type.

Generally, Createx paints are best applied with a gravity-fed HVLP or conventional spray-gun.

- Tip-size: 1.2mm – 1.3mm
- Psi (inlet): ~ 18/ 24
- Mini Spray Gun: 08 – 1.2mm, 20 / 24 psi
  
- Apply medium coats with a 50 / 50 overlapping pattern.
- Each coat should be 0.5 – 0.75 mil wet
- Avoid wetted coats
- Each coat should cover ~ 50%
- Complete coverage should require 3 – 4 coats
  
- Allow each coat to dry matte before re-coating.
- Re-coat times are generally 5 – 10 minutes.
- Use moving air to assist drying. Do not use heat to force-dry paint as this will result in a loss of adhesion.

### Pressure Feed Spray Gun

Createx paints spray well through pressurized fed spray guns. A wide variety of tips may be used. Generally,

- 1.0mm tip-size
  - 7 – 10 psi at the post, 20 psi inlet
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## Top-Coat Clear

For exterior and automotive paintjobs, a durable clear must be applied over Createx paints.

- Createx paints are compatible with most any clear type, both solvent-based and water-based.
- For best results, allow Createx paint to thoroughly dry for at least 1-hour prior to top-coating with a clear.
- There are no time windows. Createx paints may be top-coated with a clear any time after drying.
- Sanding Createx paints prior to applying a clear is never required for adhesion.
  
- Automotive: use a solvent-based, catalyzed (2k) urethane clear.
  - Use a slower, higher temperature reducer
  - Avoid fast-cure clears and additives. A longer flow time allows for better adhesion to Createx paints.
  
- Outdoor architectural & sign: Createx UVLS Clears, or other durable clear type
  - UVLS Clears are a durable, water-based, acrylic – aliphatic polyurethane clear.
  - UVLS Clears are the recommended top-coat for Createx paints for any paint project other than automotive. UVLS Clears are available in 4050 Gloss, 4051 Satin and 4052 Matte.
  - UVLS Clear have exceptional adhesion to plastics and are flexible, perfect for modeling & costuming
  
- Cleaning paint before clear is not recommended. A simple, dry wipe with a clean tack cloth is often enough.
  - If cleaning, use a solvent-based, post-sanding degreaser or odorless mineral spirits.
  - Do not use a water-based cleaner or water to clean Createx paints prior to clear.

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## DRYING TIMES & CURING

Dry time are dependent upon a wide range of factors, especially temperature & relative humidity, and how well-atomized the paint is when applied without excess material build.

- All dry times are set at 70°F and 50% relative humidity.
- Allow for extended drying when painting in lower temperatures and higher humidity levels.

The quickest time to tape, time to clear, etc. is achieved by allowing each coat to dry matte (dry to the touch) before applying the next coat. Applying a fresh coat of paint over a wet coat extends dry times.

### Minimum Dry Times

- Re-Coat: 5 – 10 minutes
- Time to tape: 45 – 60 minutes
- Time to Clear: 60 minutes
- Applying Createx paint over a color-keyed AutoBorne Sealer shortens drying times as less material is required for complete coverage.

No Time Windows – Createx paints can be re-coated or top-coated with a clear any time after they've dried without having to sand for adhesion. If in doubt, allow for extended drying time.

48 Hours Drying Required for a Full Cure - Even after Createx paints have dried and are safe to tape or top-coat with a clear, they're still in the process of curing. Best adhesion and hardness of the coating is after the initial after 48 hours. For optimum curing, allow paint to dry in temperatures over 60 F° / 16° C during the initial 48 hours after application.

Assisted Drying - Use warm, moving air to assist drying. Do not force dry wet paint with heat.

- Force drying with heat may create a latex-like film which lacks adhesion and easily peels off the surface.
- Humidity – add 4012 or 4020 Reducer to 4011 Reducer to assist flashing in higher humidity levels and cooler temperatures. 4012 and 4020 Reducers contain more-aggressive solvents compared to 4011 Reducer; mix in equal parts (1:1) with 4011 Reducer to assist evaporation of water-content from paint.

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## CLEANING AFTER PAINT

Clean spray-gun or airbrush with soapy, warm water after paint. Soak metallic parts in 4008 Restorer to remove any cured, dried paint. After cleaning, rinse with 4011 Reducer or 4020 Reducer.

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## HEALTH & SAFETY

Read cautions and warnings on labels & Safety Data Sheets, available at [www.creatextech.com](http://www.creatextech.com).

Always spray in a well-ventilated area. Wear a NIOSH / MSHA approved respirator when painting.

First Aid: In case of eye contact, flush immediately with plenty of water; for skin, wash thoroughly with soap & water. If swallowed, get medical attention immediately.

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