# Hard Surface Application Guide

**Updated March 1, 2018** (supersedes all previous versions)

**This guide covers Auto Air Colors, Createx Illustration Colors & Wicked Colors.**

## QUICK REFERENCE

### Start with AutoBorne Sealers

AutoBorne Sealers are the starting foundation for all Auto Air Colors paint jobs.

- Reduce 10% per vol. 4012 High Performance Reducer.
- Apply 20-25 inlet psi with 1.2-1.4mm tip-size.
- Tenacious adhesion to any substrate without need for flex additive or adhesion promoter.
- Direct to aluminum, plastic, wood, glass & any type of cured paint & primer.
- Direct to galvanized metal; untreated metal prep with phosphoric acid or 1st apply DTM primer.

### Auto Air Colors Pearlescent & Metallic Colors

Lightfast, durable base-coat colors for application over AutoBorne Sealers.

- Mix 3:1 with 4030 Balancing Clear (25% per vol.). Reduce 10% per vol. 4012 High Performance Reducer.
- Apply 28-30 inlet psi with 1.2-1.3mm tip-size (1.4mm tip is too large & will under-atomize paint).
- Apply over AutoBorne Sealer. Scuffing not required prior to application.
- Apply Silver & Aluminum colors over 6013 AutoBorne Silver Sealer for even orientation.
- Covers semi-opaque. Underlying base color will affect value of finish. Match colors with sealer for improved coverage & minimal stacking.

### candy$_2$O

100% transparent, concentrated, aniline dyes for true candy performance.

- Mix 1:1 (100% per vol.) with 4030 Balancing Clear. Reduce 10% per vol. 4012 High Performance Reducer.
- Apply 30 psi inlet with a 1.2mm tip-size.

***Candy-Pearl Mixes***

- Mix candy$_2$O directly with Auto Air Pearlized & Metallic Colors for candy-pearl base colors.
- For best results, apply over a color-keyed AutoBorne Sealer; for example, 4650 candy$_2$O Blood Red mixed with 4316 Pearlized Radiant Red applied over 6006 AutoBorne Sealer Red.
  - Mix candy$_2$O 2:1 pearlescent color for very transparent candy-pearl colors.
  - Mix candy$_2$O 1:1 pearlescent color for higher covering candy-pearl colors.
- Use 4040 Bleed Checker as a non-reactive inter-coat over candy$_2$O to prevent dyes from leaching into top-coated colors.

### Airbrushing

4200 Series Auto Air Transparent, Wicked Colors & Createx Illustration Colors work best for airbrushing. Add 4030 Balancing Clear & reduce with 4012 High Performance Reducer. Refer to Reduction Matrix for mix ratios. Exact reduction ratios are not required; what is important is atomization. Add enough 4012 High Performance Reducer to achieve optimum atomization with each color.

***Always mix 4030 Balancing Clear with paint, then reduce with 4012 High Performance Reducer***

## REDUCTION

| Auto Air Colors, Createx Illustration Colors & Wicked Colors Reduction Matrix | | | | | |
|---|---|---|---|---|---|
| | **Pearls Aluminums Metallics** | **candy$_2$O** | **candy$_2$O-Pearl Mix Sparklescents** | **AutoBorne Sealers** | **Auto Air Colors, Createx Illustration Colors & Wicked Colors** |
| **Full Size Spray Gun 1.2mm tip 27-30 psi** | 4030: 10-25%<br>4012: 5-10% | 4030: 50-100%<br>4012: 10% | 4030: 25%<br>4012: 10-20% | **1.4mm tip 22-24 psi**<br>4030 - Not Recommended<br>4012: 10% | 4030: 25%<br>4012: 5-10% |
| **Mini-Gun 0.8 - 1.0mm tip 27-30 psi** | 4030: 10-25%<br>4012: 5-10% | 4030: ~50%<br>4012: 5-10% | 4030: 25%<br>4012: 10-20% | **1.2mm tip 22-24 psi**<br>4030 - Not Recommended<br>4012: 10% | 4030: 25%<br>4012: 10-20% |
| **Large Tip Size Airbrush 30+ psi** | 4030: 10-25%<br>4012: 20-30% | 4030: 30-50%<br>4012: 5-20% | 4030: 25%<br>4012: 20-30% | 4030 - Not Recommended<br>4012: 25% | 4030: 25%<br>4012: 10-20% |
| **Small Tip Size Airbrush Low psi** | Not Recommended | 4030: 30-50%<br>4012: 10-30% | Not Recommended | Not Recommended | 4030: 25%<br>4012: 25-50% |

## PAINTING CONDITIONS

Ideal painting conditions are 70-75°F (21-24°C) with low humidity. For temperatures 80°F (27°C) or more, reduce in greater amounts with 4012 Reducer to allow paint to flow out. This is especially important for metallic & pearlescent orientation. When painting in temperatures 60°F (16°C) or less or when humidity levels are greater than 50%, use 4020 Reducer or mix 4020 with 4012 Reducer to accelerate drying times.

4012 Reducer is the go-to reducer for most applications. When painting in cold or humid conditions, 4020 Automotive Reducer is recommended. 4020 may be used as a straight replacement for or mixed with 4012 to create a balance of solvents so colors flow & dry quickly without seeding in cup.

### DRY TIMES – General Guidelines (set at 70°F & humidity levels under 50%)

- In between coats should be approximately 2-5 minutes. It is best to wait until the paint dries to a matte finish.
- Time to tape & handle is approximately 30 minutes.
- Time to top-coat with a clear is approximately 60 minutes at a minimum. Allow for extended drying if working in an open environment & not able to cure under recommended conditions.
- **Tip:** Humidity & temperature greatly affect drying times. The colder or the more humid conditions are, the longer paint should wait before taping or clear.

## 4000 SERIES REDUCERS & ADDITIVES

### *4012 High Performance Reducer*

- Standard reducer. May be added to colors in any ratio. Refer to Reduction Matrix for recommended ratios.

### *4020 Automotive Reducer*

- An aggressive reducer made with Acetone for making paint flow like solvent-based paint when airbrushing.
- Only for professional use in a controlled environment that is adequately ventilated & applied using proper safety gear including but not limited to a NIOSH / MSHA approved respirator.

### *4030 Balancing Clear*

- A water-soluble, polyurethane resin additive that creates better-than-solvent performance.
- Mix with most colors 10-30% per volume. For candy$_2$O: mix 50% per volume up to 1:1.
- A flow & leveling enhancer that greatly improves spray performance & durability with excellent adhesion to hard-to-paint surfaces. Allows paint to air dry to a more durable coating.

### *4040 Bleed Checker*

- Apply 4040 Bleed Checker over candy$_2$O as an inter-coat. 4040 will prevent the underlying candy$_2$O's dye from leaching ("bleeding") into top-coated colors.
- Apply 4040 Bleed Checker un-reduced, straight from the bottle when applying as an inter-coat over candy$_2$O.

- After 4040 has thoroughly dried (30-60 minutes), other colors may be applied directly without scuffing.

## PREPARATION

Proper preparation is crucial to ensure a successful paint job. This guide does not cover preparation of substrate defects.
Prepare surface with attention to the following:

- Clean the surface thoroughly before & after sanding. Use both soap & water & a degreaser to remove oils before sealer or paint. Allow enough time to ensure all solvents & waters have flashed from paint-ready surface.
- Scuff with 600-800 grit sandpaper or equivalent grade scuff pad to ensure a flat surface. Use a sanding block, not finger tips, when sanding.
- Scuff thoroughly to remove all gloss areas from the surface, especially crevices, edges & areas difficult to reach as this is where paint will often peel. If metal is exposed, treat with phosphoric acid or apply DTM etch-primer before re-applying sealer.
- Apply AutoBorne Sealer directly to any substrate including plastics & aluminum. An adhesion promoter or flex additive is not required.

**STRAIN COLOR** – Use a nylon meshed-filter to strain colors prior to each usage, especially transparent or candy$_2$O colors.

## APPLICATION

1. Use the correct tip-size & psi setting.
   - Airbrush: Reduce as needed; refer to Reduction Matrix.
   - Spray gun: Auto Air Colors atomize best with a 1.2mm to 1.3mm tip sprayed around 30-35 psi. Use 1.2mm tip for candy$_2$O. AutoBorne Sealers best with a 1.3mm to 1.4mm tip size 20-25 psi. Reduction is generally 10% per volume to achieve viscosity for best atomization. Colors may require varying reduction amounts to achieve best viscosity for each color.
   - **Tip:** Proper atomization is everything. Paint dries quicker & performs best when finely atomized. Always test fan pattern each & every time right before painting, even after a short break as paint may have dried in tip where even minor clogging in air holes affects atomization.
2. Work in light coats. Full color saturation should require 3-4 coats over a neutral hue, 2-3 over a color-keyed AutoBorne Sealer. Transparent & candy colors often require 3-5 coats. Applying coats with excess material results in a textured finish & extended drying times.
3. Allow each coat to air dry tack free to a matte finish prior to applying the next coat. Do not use heat to force dry paint. Use air movement from a fan or other source such as an air gun to decrease drying times & assist curing. For best drying times, set air blowers & fans to 200 feet per minute (FPM).
4. A variety of spray patterns may be used. Generally, it's best to apply the 1st coat very lightly to ensure paint thoroughly dries & adheres to the surface. Apply the next coats medium, not wetted. Hand speed is quicker compared to painting with solvent-based paint, as paint is not applied so as to "flow-out".

## DRYING & CURING TIMES

Auto Air Colors are water-based paints which dry according to a variety of factors such as temperature, dew point & humidity levels of the spray environment & the amount of material applied per coat. AutoBorne Sealers dry much quicker compared to Auto Air Colors, making them the best starting point from which to work on. Color-keying Auto Air Colors to AutoBorne Sealer improves drying times as much less material is used for complete coverage.

1. 75-80°F & humidity levels of 50% & below are ideal for painting with water-based paints, especially for larger paint jobs. Avoid painting when the temperature of the substrate is not greater than 25°F above the dew point. Painting in conditions where the dew point is high & closer to the temperature of the substrate greatly increases drying times & loss of adhesion.
2. Using the correct tip size not only atomizes paint properly, but decreases the drying times. Properly atomized paint dries much quicker compared to paint applied heavily or under-atomized.
3. Humid & Cold Conditions – reduce with 4020 Automotive Reducer. 4020 Reducer flashes faster compared to 4012 Reducer allowing paint to dry quicker when painting in less than ideal conditions. Painting in high humidity (difference in air temperature & dew point is less than 10°F) is not recommended due to condensation on paint surface.
4. Use air movement to assist curing. In a spray booth, bake cycles may be used to cure. Avoid force drying with heat from a local source such as a heat gun as this may affect coating creating a film which lacks adhesion.
5. There are no re-coat time windows when painting with Auto Air Colors & AutoBorne Sealers. Additional coats of paint & the top-coat clear may be applied at any time after the underlying coat has air dried. Scuffing is not required.

## TAPE & CLEAR TIMES – General Guidelines (set at 70°F & humidity levels under 50%)

- In between coats should be approximately 2-5 minutes. It is best to wait until the paint dries to a matte finish.
- Time to tape & handle is approximately 30 minutes.

- Time to top-coat with a clear is approximately 60 minutes at a minimum. Allow for extended drying if working in an open environment & not able to cure under recommended conditions.
- **Tip:** Humidity & temperature greatly affect drying times. The colder or the more humid conditions are, the longer paint should wait before taping or clear.

### TAPING & MASKING

- After thoroughly drying, Auto Air Colors & AutoBorne Sealers are safe to directly tape on with medium & high tack tape & masking film.
- **Tip:** To create clean edges along tape lines, apply another light coat of the base color along the graphic edge prior to applying the graphic's color(s). The additional coat of the base color will fill-in any open space under the tape & crawl in slightly under the tape line, creating a crisper line when the graphic color is next applied.

### SANDING – Auto Air Colors & AutoBorne Sealers

- Sanding not required prior to applying paint. It is optional for graphic considerations & repairs.
- AutoBorne Sealers shave when sanded. Auto Air Colors tend to roll in paper & do not shave as well as do AutoBorne Sealers. Auto Air Colors require a coarser grade of paper compared to AutoBorne Sealers & solvent paints.
- Dry sand colors only. Do not wet sand with water.

## CLEANING SURFACE – Prior to Top Coat

- Cleaning Auto Air Colors prior to top-coating with a clear is not absolutely essential. Often, it is best not to clean if paint job has been kept free of contaminates & has not sat open for an extended time.
- Clean with lint-free rag using post-sanding solvent-based degreaser or odorless mineral spirits.

## CLEARING

Auto Air Colors are compatible with all urethane & polyurethane clears. A slower, higher temperature reducer is recommended. The longer flow time allows not only better acclimation with the paint but also minimizes any texturing when top-coating over metallic bases, pearl flakes & pearl graphic colors.

- In addition to urethane clear, many other types of clears are also compatible including nitrocellulose lacquer clears, waterborne clears & enamels.
- Always test first. A test panel is highly recommended prior to using a new clear type to determine the resulting finish prior to the actual paint job.
- There are no time windows to work with when deciding to top-coat Auto Air Colors or Wicked Colors. Clear may be applied at any time after paint has thoroughly dried. Scuffing prior to clearing is never required.
- When top-coating with polyester clears or gel, apply 6000 AutoBorne Transparent Sealer over colors as a non-reactive barrier as increased surface tension of polyester may create craters when directly applied over colors.

## CLEANING EQUIPMENT

Clean all spray guns & airbrushes immediately after use. 4008 Auto Air Colors Restorer works excellent to clean all parts & partially dissolve any dried or cured paint, making clean up with water & a brush effective & easy. Flush with water after using Restorer. Final rinse with 4012 Auto Air Colors High Performance Reducer.

## COMPATIBILITY

Auto Air Colors™, Createx Illustration Colors™ & Wicked Colors™ (herein collectively referred to as "Auto Air Colors") are inter-mixable & inter-coatable. AutoBorne™ Sealers are inter-coatable with Auto Air Colors & all Createx Colors™ paints. Auto Air Colors are universally compatible with most any primer, paint & clear type. Urethane clear recommended as top-coat, however, many other clear types are also compatible; test first. For best results, AutoBorne Sealers should be the foundation for Auto Air Colors.

## SAFETY

Although Auto Air Colors & AutoBorne Sealers are ultra-low V.O.C., the user or any persons who may be exposed to the airborne particulates are required to wear a NIOSH / MSHA approved respirator. Protect from contact with skin or eyes. Use standard safety & handling procedures to minimize potentials hazards. See Safety Data Sheets for complete safety & handling information. Water-based waste should be segregated from solvent-based waste & disposed of in accordance with all federal, state, provincial & local laws & regulations.

## MATERIAL USAGE GUIDE

4oz. covers more than 3 sq. feet; helmets or graphics over base paint.

- 16oz. approx. enough material for a motorcycle tank, fenders & side-covers.
- Small vehicles with jambs: 2 x 32oz.
- Large vehicle & trucks (including tonneau cover) with jambs: 3 x 32oz.

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