

# Hard Surface Application Guide

Updated August 2016 (supersedes all previous versions)

**Auto Air Colors™, Wicked Colors™, Createx Illustration Colors™, AutoBorne™ Sealers**

## CONDITIONS

Recommended painting conditions: 70-75°F / 21-24°C in a dry, dust-free environment

When painting in humid or colder conditions, allow for extended drying time. Use of air flow decreases drying time and is recommended as the primary means to cure paint. Avoid painting in humidity over 75% and temperatures below 60°F / 15°C.

## REDUCTION

**Auto Air Colors and Wicked Colors Reduction Guide**

	Pearls Aluminums Metallics	<i>candy<sub>2</sub>O</i>	<i>candy<sub>2</sub>O</i> - Pearl Mix Sparklescents	AutoBorne Sealers	Auto Air Transparent / Semi-Opaque Colors & Wicked Colors	Reduction Notes High or Low Humidity
<b>Full Size Spray Gun 1.2 - 1.3mm tip 30-35psi</b>	4030: 10-25% 4012: 5-10%	4030: 25-50% 4020: 10%	4030: 25% 4012: 10-20%	4030 - Not Recommended 4012: 10%	4030: 25% 4012: 5-10%	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 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.
<b>Mini-Gun 0.8 - 1.2mm tip 30-35 psi</b>	4030: 10-25% 4012: 5-10%	4030: 20-30% 4020: 5-10%	4030: 25% 4012: 10-20%	4030 - Not Recommended 4012: 10%	4030: 25% 4012: 10-20%	4012 Reducer is the go to reducer for most applications. When painting in cold or humid conditions, 4020 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.
<b>Large Tip Size Airbrush 30+ psi</b>	4030: 10-25% 4012: 20-30%	4030: 30% 4012: 5-20%	4030: 25% 4012: 20-30%	4030 - Not Recommended 4012: 25%	4030: 25% 4012: 10-20%	<i>candy<sub>2</sub>O</i> when applied with a spray-gun neat (not mixed with pearlescent colors) are best reduced with 4020 so dyes melt in for best color & coating development. With an airbrush, <i>candy<sub>2</sub>O</i> can be reduced with 4012 and/or 4020.
<b>Small Tip Size Airbrush Low psi</b>	Not Recommended	4030: 30% 4012: 10-30%	Not Recommended	Not Recommended	4030: 25% 4012: 25-50%	<b>Key</b> 4030 = 4030 Mix Additive   Balancing Clear 4012 = 4012 High Performance Reducer 4030 = 4020 Automotive Reducer

### DRY TIMES – General Guidelines (set at 70°F and 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 and 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 and not able to cure under recommended conditions.
- **Tip:** Humidity and temperature greatly affect drying times. The colder or the more humid conditions are, beyond our recommended conditions, the longer paint should wait before taping or clear.

#### 4030 Mix Additive | Balancing Clear

- A water-soluble, polyurethane resin additive recommended for direct mixing for improved spray performance and durability.
- Mix with most colors 10-30% per volume. Generally, more 4030 mixed with paint improves flow and coating formation, especially when laying out color with a mini-gun or full sized spray gun.
- 4030 is not a reducer in that it does not truly lower paint's viscosity. 4030 is a flow & leveling enhancer that creates solvent-like performance and allows paint to air dry to a more durable coating with improved adhesion over hard-to-paint surfaces.
- Not for use with AutoBorne Sealers; reduce with 4012 High Performance Reducer.

#### 4012 High Performance Reducer

- Our go-to reducer for airbrushing.
- May be added to colors in any ratio.
- Allows colors such as Createx Illustration Colors to air-dry with its designed delayed-crosslinking for reductive techniques.

#### 4020 Automotive Reducer **Add 5% Acetone to 4012 To Make 4020**

- An aggressive reducer made with Acetone for making paint flow like solvent-based paint when airbrushing.
- Colors air dry to a harder coating when reduced with 4020 compared with 4012; use 4012 Reducer for soft-erasing & reductive techniques.
- Only for professional use in a controlled environment that is adequately ventilated and applied using proper safety gear including but not limited to a NIOSH / MSHA approved respirator.

**Spray Gun:** Auto Air Colors and Wicked Colors spray best with a 1.2 mm to 1.3mm tip operated around 30-35 psi inlet. AutoBorne Sealers spray best with a 1.3mm to 1.4mm tip-size operated around 25-30 psi inlet.

**Touch-Up Gun:** Auto Air Colors spray best with a 0.8mm to 1.0mm tip-size, operated about 30 psi inlet. AutoBorne Sealers spray best through a larger tip size of 1.2mm to 1.3mm operated 20-25 psi.

**Airbrush:** Reduction for airbrushing is about creating the best viscosity to achieve optimum atomization. There is no rigid set of reduction ratios. This changes, depending on color type (e.g. opaque vs. transparent), airbrush tip-size, psi and technique (e.g. base color vs. fine-line). Reduction ratios are generally 25% for large tip-sizes (0.5mm) and 30-50% for medium tips (0.35mm) and even more for smaller tip sizes. These are starting suggestions; reduce as needed to achieve best atomization.

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## PREPARATION

Proper preparation is crucial to ensuring 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 and 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 and areas difficult to reach as this is where paint will often peel. We agree, sanding isn't always fun, but good paintjobs are. Sand thoroughly all crevices being careful not to burn through an edge exposing bare metal. If metal exposed, treat with phosphoric acid or apply DTM etch-primer before re-applying sealer.
- As mentioned elsewhere in guide, we highly recommend starting with AutoBorne Sealers due to their excellent adhesion. Custom painting involves paint abuse such as excessive taping and cutting into with a blade during graphic application.

### Strain Color

Use a nylon meshed-filter to strain colors prior to each usage especially transparent or **candy<sub>2</sub>O** colors.

### Plastics

AutoBorne Sealers have excellent adhesion to soft and medium plastics with a Shore D Durometer of 80 or less. Prepare plastic by scuffing 400 grit paper or a coarse scuff pad. For most plastics, AutoBorne Sealers adhere directly with excellent adhesion without the need for an adhesion promoter.

**Tip:** Perform a simple tape test to determine whether an adhesion promoter is required. Scuff, clean and paint a small portion of the plastic. Allow paint to thoroughly dry and cure. Next, apply tape directly to the paint then peel off. If paint peels up with the tape, an adhesion promoter is required.

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## APPLICATION

1. Use the correct tip-size and psi setting.
  - Airbrush: Reduce as needed; refer to reduction on front page.
  - Spray gun: Auto Air Colors atomize best with a 1.2mm to 1.3mm tip sprayed around 30-35 psi. AutoBorne Sealers best with a 1.3mm to 1.4mm tip size 20-25 psi. Reduction is generally 10% per volume to achieve viscosity best for atomization. Colors may require varying reduction amounts compared to others to achieving best viscosity for each color.
  - **Tip:** Proper atomization is everything. Paint dries quicker and performs best when finely atomized. Always test fan pattern each and 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 and candy colors require often 3-5 coats. Applying coats with excess material results in a textured finish and 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 and assist curing. For best drying times, set air blowers and fans to 200 feet per minute (FPM).
4. A variety of spray patterns may be used when painting large panels with a spray gun or touch-up gun. Make sure even coverage is achieved by using a consistent pattern throughout the paint job. Traditional 50/50 overlapping patterns may be used so long as they are consistent and material is not flooded on. Make sure paint is applied from the best atomized portion of the spray fan.
5. The orientation of the Auto Air Colors 4300 Series, Auto Air Colors 4500 Series, and Wicked Pearlescent Colors will benefit from a drop-coat or control coat after full coverage has been achieved. Reduce psi by approximately 7-10 psi. Apply either by a single pass or a cross coat pattern. Allow control coat to air dry.
6. Set gun so paint is finely atomized. If large paint drops are noticeable, the paint is under-atomized. Dial in fluid adjustment knob to 1/4 to 1/2 turn from full shut-off.

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## 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 and 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 and humidity levels of 50% and 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 and closer to the temperature of the substrate greatly increases drying times and 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. Mixing paint with 4030 creates a very durable coating. Further reduction with 4020 Automotive Reducer is recommended when maximum dry & cure times are required.
4. 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 and dew point is less than 10°F.) is not recommended due to condensation on paint surface.
5. Work in light coats. Allow each coat to air dry tack free prior to applying the next coat. This is the quickest time to tape and clear. Recommended film build with non-metallic colors is 0.8 to 1.0 mils per coat.
6. Use air movement to assist curing, not heat. Wind from a fan works excellent to decrease drying times, especially when paint is applied lightly without excessive material. Avoid force drying with heat as this may create a latex-like film which easily peels up. For best drying times, set air blowers and fans to 200 feet per minute (FPM).
7. Auto Air Colors air dry to a cured film suitable for direct taping and top-coating with a catalyzed, urethane clear. Use of heat as a final cure after paint has thoroughly air dried is only essential when painting textiles or other substrates which will be washed.
8. There are no time windows when painting with Auto Air Colors and AutoBorne Sealers. Additional coats of paint and the top-coat clear may be applied at any time after the underlying coat has air dried. Scuffing is not required. Colors or top-coat may be applied directly to paint any time after it has air dried.

#### **DRY TIMES – General Guidelines (set at 70°F and 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 and 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 and not able to cure under recommended conditions.
- **Tip:** Humidity and temperature greatly affect drying times. The colder or the more humid conditions are, beyond our recommended conditions, the longer paint should wait before taping or clear.

#### **TAPING & MASKING**

After colors have thoroughly dried, they are safe to directly tape on without the use of an inter-coat .

- After thoroughly drying, Auto Air Colors and AutoBorne Sealers are safe to directly tape on with medium and high tack tape & masking film.
- 4004 Auto Air Colors Transparent Base may be used as a light, protective inter-coat over paint on which to tape over. Urethane inter-coat clears and bases may also be applied as an inter-coat.
- **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 and crawl in slightly under the tape line, creating a crisper line when the graphic color is next applied.

#### **SANDING – Auto Air Colors and AutoBorne Sealers**

- Sanding not required prior to applying paint. It is optional for graphic considerations and repairs.
- AutoBorne Sealers shave when sanded. Auto Air Colors tend to roll in paper and do not shave as well as do AutoBorne Sealers. Auto Air Colors require a coarser grade of paper compared to AutoBorne Sealers and solvent paints.
- Dry sand colors only. Do not wet sand with water.
- If wet sanding is preferred use odorless mineral spirits as sanding lubrication, not water. Dry sand using 800-grit sandpaper . Generally, Auto Air Colors sand better with a coarser grade of sandpaper than what is commonly used for solvent-based paints. Drying times to effectively sand paint with finer shave particles requires extended drying times. If sanding paint, a re-coat must be applied prior to top-coating with a clear to hide scratch marks.

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#### **CLEANING – 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 contaminants and has not sat open for an extended time.
- Clean with lint-free rag using post-sanding solvent-based degreaser or odorless mineral spirits.
- Be careful when trying to clean metallic colors. Try to avoid the need to clean 4100 Series Aluminum Bases. The actual aluminum flakes, which will bend when touched, show streak marks in final finish.

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## MATERIAL USAGE

On average, one 4oz. bottle of Auto Air Colors covers 3 square feet.

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## IMPROVE COVERAGE – AutoBorne Sealers

AutoBorne Sealers are our absolute best way to get the most out of Auto Air Colors for base paint and graphic application. Color-key with Auto Air Colors for best results, coverage and quality of finish. For example, applying 4315 Pearlescent Orange over 6005 AutoBorne Sealer Orange will require about 2 light coats as opposed to 3 or 4 heavier coats over a white sealer, which may result in uneven metallic orientation and extended drying times.

6013 AutoBorne Silver Sealer – use as ground coat prior to applying 4100 Series Aluminum and 4300 Series silver pearl & metallic base colors. 6013 Silver Sealer allows silvers to be applied with much less material, allowing for even, uniform orientation. 6013 Silver Sealer should always be used as the ground coat anytime applying silver as a graphic or base color.

AutoBorne Sealer benefits go beyond coverage and adhesion; a more uniform orientation of pearls and metallic is achieved due to less material being applied. Color-keyed over AutoBorne Sealers, colors are applied as a mid-coat with most often less material per coat compared to applying same color over a traditional black, grey or white. Of course, sometimes a black or white base may be best, e.g. silvers over a black base and pearl whites over a white base.

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## CLEARING

Auto Air Colors are compatible with all urethane and 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 and pearl graphic colors.

- In addition to urethane clear, many other types of clears are also compatible including nitrocellulose lacquer clears, waterborne clears and 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.
- Avoid use of hyper-cure additives as well as low temperature reducers, especially with spot panel and speed production clears.
- 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.

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## CLEANING

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

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## COMPATIBILITY

Auto Air Colors™, Createx Illustration Colors™ & Wicked Colors™ (herein collectively referred to as “Auto Air Colors”) are inter-mixable and inter-coatable. AutoBorne™ Sealers are inter-coatable with Auto Air Colors and all Createx Colors™ paints. Auto Air Colors are universally compatible with most any primer, paint and 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.

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## SAFETY

Although Auto Air Colors and 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 and handling procedures to minimize potential hazards. See Safety Data Sheets for complete safety and handling information. Water-based waste should be segregated from solvent-based waste and disposed of in accordance with all federal, state, provincial and local laws and regulations.

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