North America

Programmed System Technique (PST)
Basecoats
01/22/2026

Autowave® MM Optima

Autowave MM Optima is a comprehensive, one-stop, waterborne basecoat application system known for its excellent hiding properties. It facilitates the application of all basecoat layers using a wet-on-wet technique, without flash-off between coats, increasing application efficiency and productivity. Autowave Optima MM must be used in conjunction with a specified Sikkens clearcoat to provide protection from the environment.

Safety Considerations

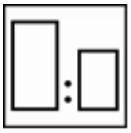
- Use suitable personal protection
- When exposed to paint or solvents AkzoNobel recommends the use of a fresh air supply respirator

Surface Preparation

- Complete Panel – Sand with P600, dry
- Color Blend Area – P1000 on an interface pad and D/A sander or de-gloss using a gray scuff pad

Mixing – Preparation

- Gently shake toner before each color pour
- Metallic MM toners must be hand stirred before first use
- Stir completed formula color before reducing



BY VOLUME
STICK #14

Mix	By Volume
100	Parts Autowave Optima Color
0 – 40*	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)

*When using toner MM Z145, the mixing ratio is 100:10, maximum using WB Activator Plus.
*When using toner MM W120 (solid whites), the mixing ratio is 100:10, minimum.
*When using Optima WB Activator HT/LH in extreme conditions, the ratio is up to 100:40.

Spray-Gun Set-Up – Compliant Gravity

- 1.2 – 1.3mm
- 1.4mm (High Temp / Low Humidity conditions)

Application Air Pressure

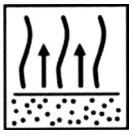
- Consult manufacturer specifications

Application Solid Colors

- 1 + ½ coats
- No flash-off between coats

Application Effect Colors

- 1 + ½ coats
- No flash-off between coats

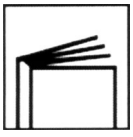


Flash Between Coats at 70°F (21°C)

- Do not flash-off between coats

Flash at 70°F (21°C) Before Clearcoat

- Until completely matte and dry



Recoatable With

- Autoclear Superior 250 2 Pack
- Autoclear HS+ 2 Pack
- Autoclear Performance LV
- Autoclear PC
- Autoclear 2121 LV
- Autoclear Energy Select LV
- Autoclear 2.0
- Autoclear Mix & Matt
- Autoclear Mix & Matt 250
- Autoclear Xpress

Read the complete TDS and the product Safety Data Sheet (SDS) for detailed product information.

Autowave® MM Optima

Description

Autowave MM Optima is a comprehensive, one-stop, waterborne basecoat application system known for its excellent hiding properties. It facilitates the application of all basecoat layers using a wet-on-wet technique, without flash-off between coats, increasing efficiency and improving productivity. Autowave Optima MM must be used in conjunction with a specified Sikkens clearcoat to provide protection from the environment.

Suitable Substrates

- Existing OEM finishes
- Stable existing finishes
- Sikkens primer surfacers and sealers
- Do not apply over thermoplastic acrylic lacquers
- Do not apply directly over acid containing washprimers or pre-treatments

Products and Additives

Product	• Autowave Optima MM toners	– Per color formula
Hardeners	• Autowave Optima WB Hardener	– Item # 605599
Activators	• Autowave Optima WB Activator • Autowave Optima WB Activator HT/LH • Autowave Optima WB Activator Plus	– Item # 605361 – Item # 609413 – Item # 605334
Additives	• Autowave Optima Blending Agent	– Item # 605344

- SDS and TDS for products available online at – https://my.anaac.net/

Basic Raw Materials

- Autowave Optima MM toners – Water based acrylic dispersion

Substrate Preparation

Pre-Cleaning

- If needed pre-wash the repair with warm soap and water. Rinse completely with clean water.
- The appropriate surface cleaners in the AkzoNobel assortment (M600, Autoprep Ultraprep, Antistatic) should be used for initial cleaning steps.

Note: For comprehensive surface cleaning information, refer to the Technical Service Bulletin *TSB AN23.01 AkzoNobel Surface Cleaning Recommendations and Best Practices* at https://my.anaac.net/

Sanding Preparation	Repair Area	Blend Area
Existing Finishes – Dry	• Final sanding step – #P600	• Sand with P1000 on an interface pad and D/A sander

Existing Finishes – Wet	• Final sanding step – #P1000	• Abrade using a gray scuff pad and a quality scuffing paste with water.

Surface Cleaning – Prior to Paint Application

- Clean with M600 Surface Cleaner, Autoprep Ultraprep (VOC compliant), or Antistatic surface cleaners, as appropriate.
- Use M200 or M25 Surface Cleaner as a final wipe-down before refinishing.

Product Agitation

Color Preparation

- Shake paint on a paint shaker or vigorously by hand for 45 seconds before first use.
- For metallic, pearl or effect toners, also stir the mixing color before first use.
- Gently shake the Autowave Optima toner before each pour.
- Once all the toners in a formula have been combined, stir the paint prior to reduction and then stir again after the Autowave Optima WB Activator has been added.

Mixing Color Formulas and Products

Formulas

- Formulas are available to match the most popular OEM colors. These are available in MIXIT.
  - Follow the recommended undercoat color/shade guidance provided in MIXIT.
  - For easy mixing of color formulas or products, final mixing including hardening, reduction and the addition of additives can be done through the MIXIT program.

Custom Mixed Colors

NOTE:

- Colors mixed without a formula or when using a pure Autowave Optima MM toner (except MM Z145) MUST be mixed with MM C063 Converter according to the *Custom Color Mix* in the *Mixing* section below to maintain the appropriate system properties.

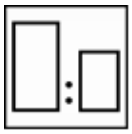
Mixing

BY VOLUME
STICK #14

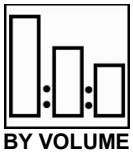
Mix	**Standard Mix – All Color Formulas**
100	Parts Autowave Optima color formula (stir to combine)
0 – 40*	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)

*Colors with toner MM W120 minimum mixing ratio is 100:10 with WB Activator/ WB Activator Plus

- Optima WB Activator
  - For standard climate conditions. Add the required amount of WB Activator to the Autowave Optima color formula based on the relative humidity, application temperature, job size, and airflow.
- Optima WB Activator HT/LH
  - Designed for high-temperature, low-humidity conditions. May also be used to optimize application properties in less extreme conditions.
- Optima WB Activator Plus
  - Designed specifically for Autowave Optima MM Z145 Deep Black toner to optimize viscosity and application properties.


BY VOLUME

Mix	MM Z145 Mix
100	Parts Autowave Optima MM Z145 toner
0 – 10	Parts Autowave Optima WB Activator Plus


BY VOLUME

Mix	Custom Color Mix
60	Parts Autowave Optima custom color
40	Parts Autowave Optima MM C063 Converter (stir to combine)
0 – 40	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)

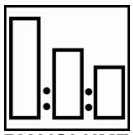

BY VOLUME

Mix	Blending Agent Mix
70	Parts Autowave Optima Blending Agent
30	Parts Autowave Optima MM C063 Converter
0 – 25	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)

If improved system robustness including stone chip resistance, adhesion and system hardness is desired, Autowave Optima basecoat may be mixed with WB Hardener before reduction.

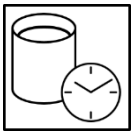

BY VOLUME

Mix	Hardened Basecoat Mix
100	Parts Autowave Optima color formula
5	Parts Autowave Optima WB Hardener (stir to combine)
0 – 40	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)


BY VOLUME

Mix	Underhood Color Mix
100	Parts Autowave Optima underhood color formula
10	Parts Autowave Optima WB Hardener (stir to combine)
0 – 40	Parts Optima WB Activator / WB Activator HT/LH (stir to combine)

Potlife When Mixed



Product Mixes	At 70°F (21°C)
• Autowave Optima colors (including M85/M88 metallics)	– 1 month
• Autowave Optima colors with WB Hardener	– 1 hour
• Autowave Optima colors containing SE8NB and/or SE8ND	– 1 week
• Autowave Optima metallic colors containing C070, SE8NB and/or SE8ND	– 1 day

Spray Gun Setup

Consult spray gun manufacturer instructions for detailed spray gun information.

Spray Gun	Fluid Tip	Notes
Compliant Gravity Feed	1.2 – 1.3 mm	Psi per spray gun manufacturer
Compliant Gravity Feed	1.4 mm	Application in high temp / low humidity conditions
Paint Strainers	• Use waterborne suitable 125-micron paint strainers	

Application

Application – Solid Colors

- First, apply an even-flowing wet coat (80% opacity) with a 6 to 8-inch (15-20 cm) application distance.
- Immediately follow the first coat by applying an intermediate coat (reaching full opacity) with a 6 to 8-inch (15-20 cm) application distance from the panel surface.

Application – Metallic and Effect Colors

- First, apply an even-flowing wet coat (80% opacity) with a 6 to 8-inch (15-20 cm) application distance.
- Immediately follow the first coat by applying an intermediate coat (reaching full opacity) with an increased spray gun distance of 12-16 inches (30-40 cm) from the panel surface.

Spot Repair Application

A pre-coat “wet-bed” application using Blending Agent mixed ready-to-spray (RTS) should be used for spot repairs.

- First, apply a full-wet coat of Blending Agent (RTS) over the blend area.
- Immediately follow by applying an intermediate (blending/fading-out) coat using increased distance into the wet Blending Agent. Avoid hard stops by fading the color out and away to the sides.
- Next, on the repair area, apply an even-flowing wet coat (80% opacity) with a 6 to 8-inch (15-20 cm) application distance, followed by an intermediate coat (reaching full opacity) with an increased spray gun distance of 12-16 inches (30-40 cm) on the repair area.

Note: If increased color transparency is desired, the Blending Agent “wet-bed” may be added to the mixed color prior to blending at a ratio of 100 parts RTS color with 30 parts RTS Blending Agent.

Flash Drying

Flash Between Coats at 70°F (21°C)

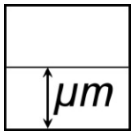
- Do not flash-off between coats.

Flash at 70°F (21°C) Before Clearcoat

- Until completely matte and dry.

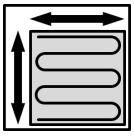
- Flash time is influenced by ambient temperature, humidity, applied thickness, and available air flow.
  - Flash can be reduced to a minimum by using air accelerator systems no closer than 3 feet (≈1 m) from the repair.
  - Introducing heat is also an option. When heat is used for drying, allow the object to cool down to application temperature before proceeding with color or clearcoat application.
- Maximum flash time is 24 hours at 70°F (21°C). If this time is exceeded, the basecoat must be abraded and reapplied.

Film Thickness – Using Suitable Application



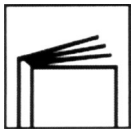
- 1 coat will achieve a thickness of 0.3 – 0.8mils (8 – 21µm), dry.
- The maximum total thickness is 1.2 mils (30µm).

Theoretical Coverage



- With the recommended application the theoretical material usage is ≈256 ft^2/gallon (≈6.3 m^2/liter) at 1 mil thickness (25.4µm) and 100% transfer efficiency.
- Actual coverage is dependent on many factors. These may include the shape of the object, surface smoothness, application technique, and other variables.

Recoating



After the stated dry time Autowave Optima may be recoated with the following materials:

- Autoclear Superior 250 2 Pack
- Autoclear HS+ 2 Pack
- Autoclear Performance LV
- Autoclear PC
- Autoclear 2121 LV
- Autoclear Energy Select LV
- Autoclear 2.0
- Autoclear Mix & Matt
- Autoclear Mix & Matt 250
- Autoclear Xpress

Points of Attention

Denibbing

- Allow Autowave Optima to flash-off until completely matte and dry.
- Lightly sand the contaminated basecoat surface with a P1000, preferably a soft-backed dry sanding paper.
- Thoroughly remove any sanding dust residue before reapplying Autowave Optima using the recommended application.

Note: Do not apply multiple lighter coats. This will result in a coarse basecoat surface.

Two-Tone Masking

- Autowave Optima colors can be taped (i.e. two-toning) after completely matte and dry.
- Increasing temperature, especially in combination with air movement, improves the ability to apply masking. If heat is used, let the object cool down to ambient temperature before masking.

Black Pre-coat

- In the event of a black pre-coat requirement, such as with special effect colors, use ready-to-spray MM Z145 deep black.

Cleaning of Equipment

- Clean equipment and dispose of waste following local and federal regulations.
- Clean and rinse the spray gun thoroughly after use with water from a squirt or spray bottle.
- Finish cleaning with Autowave Gun Cleaner.
  - Do not use any conventional thinner unless removing dried waterborne paint deposits.
  - Do not soak the spray gun for long periods either with Autowave Gun Cleaner or WB Activator.
- Purge the spray gun with Autowave WB Activator and blow dry as a final step.

VOC / Regulatory Information

Product	VOC Pounds per Gallon	VOC Grams per Liter
• Autowave Optima (Ready to Spray)	– <3.50	– <420

- Do not handle until the Safety Data Sheets have been read and understood. Regulations require that all employees be trained on Safety Data Sheets for all chemicals with which they come in contact. The manufacturer recommends the use of an air-supplied respirator when exposed to vapors or spray mist.

Product Storage

- Store unopened, or products in use with approved closed containers and proper labeling. Store in moderate temperatures between 40°F - 95°F (5°C – 35°C). Avoid too much temperature fluctuation. Optimum storage temperature is approximately 70°F (21°C).
- Refer to the Product Shelf-Life Overview TDS or the current price list for the most up-to-date shelf-life information.

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