

# Autowave<sup>®</sup> MM 2.0

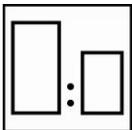
**FOR PROFESSIONAL USE ONLY**

## Description

Autowave MM 2.0 waterborne basecoat provides excellent coverage, metallic control and sprayability when used to duplicate OEM solid, metallic and pearl effect colors. Autowave MM 2.0 must be used in conjunction with a specified Sikkens clearcoat in order to provide protection from the environment. Autowave MM 2.0 is the superior choice to achieve an optimum color match.



Gently shake the Autowave MM 2.0 can prior to use



100 Autowave MM 2.0  
 10-50 Activator WB



Use Sikkens measuring stick

**14** Blue



Spray gun set-up:

1.3 mm  
 \*1.4 mm (for application in extreme HT/LH conditions)

Application pressure:

1.7-2.2 bar at the air inlet  
 HVLP max 0.6-0.7 bar at the air cap



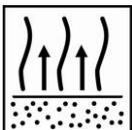
Application\* metallic colors:

2 x 1 layer followed by a mistcoat

Application\* solid colors:

2 x 1 layer

\*Alternative method: No flash off needed between 1<sup>st</sup> and 2<sup>nd</sup> layer  
 (please read application process information explained in this tds)



Between coats:

Until completely matt and dry

Prior to clearcoat application:

Until completely matt and dry



Clearcoat application  
 See clearcoat T.D.S.



Use suitable respiratory protection

Akzo Nobel Car Refinishes recommends the use of a fresh air supply respirator.

Read complete TDS for detailed product information

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## Suitable substrates

Existing finishes.  
 All current Sikkens preparatory products with the exception of washprimers.  
*\*For appropriate system properties, 5-10% Autowave 2.0 hardener must be used in Autowave basecoat when applied directly to (Primer Surfacer EP) or (Primer Surfacer EP II). For best system robustness it is recommended to precede Autowave 2.0 with Colorbuild Plus primer surfacer.*

### Note:

Autowave SEC colors: most will require a specific groundcoat/Colorbuild Plus color, either to achieve the best color match or to assist with coverage. Colorbuild Plus Black, Autowave MM 2.0 MM 400 black or fully cured and sanded black single stage topcoat may also be required for specific colors.  
 Autowave SEC2322 (NIS AV2) should be applied over color NIS1052.

## Products and additives

**Product:** Autowave MM 2.0 colors  
 Autowave RM SEC colors

**Activators:** Activator WB

**Additives:** Autowave Separator  
 Autowave Guncleaner  
 Autowave 2.0 Hardener (see TDS S5.01.02)  
 Autowave Additive LP

*No plasticizer required for application on plastic car parts.*

## Basic raw materials

Water based acrylic dispersion

## Surface preparation



Final sanding step P500  
*For detailed surface preparation see TDS S8.06.02*



Final sanding step P1000  
*For detailed surface preparation see TDS S8.06.02*



Remove contamination using an appropriate cleaner

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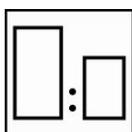
## Mixing



Gently shake Autowave MM 2.0 several times for better pour viscosity.  
 Stir Autowave MM 800 Metallic toners and MM245 toner thoroughly before first use; thereafter they should be gently shaken as recommended for all other MM toners.



The Autowave MM colors must be stirred thoroughly directly after mixing the formula.



### Standard climatic conditions

10-20 parts of Activator WB for all Autowave MM 2.0 colors.

20-30 parts of Activator WB for Autowave 2.0 colors sensitive to cloudiness or difficult to blend.

### Extreme climate conditions

Below in short the advise for the amount of activator in different application conditions.

Relative Humidity		Temperature	
		< 35°C	> 35°C
> 70%	Metallic / Pearl	10 - 20	10 - 20
	Solid	5 - 10	5 - 10
< 20%	Metallic / Pearl	10 - 30	10 - 30
	Solid	10 - 20	10 - 20
< 10%	Metallic / Pearl	10 - 30	40 - 50
	Solid	10 - 20	10 - 20

For more detailed information concerning application in more extreme conditions please refer to the Technical Bulletin S8.06.12

Use measuring stick No.14 or mix on the scale using Addit.

### Color mixing without formula:

If an Autowave MM 2.0 metallic color is made without the use of a formula, it is essential to incorporate sufficient MM600 into the hand mix formula.

- **AW800 Metallic colors:** mix 60 parts of the MM800 toner with 40 parts MM600 (60/40).
- **AW336 colors:** mix 70 parts of the MM336 toner with 30 parts MM600 (70/30)
- **AW3360 midcoat:** add 5% MM600 for optimal application

**Note:** colors containing 338NA, NB, ND toners, mix 20 parts of the MM338 toner with 80 parts MM666 (20/80).

### Diluting a mixed color (optional)

In situations where you want to dilute the mixed color (RTS) to decrease opacity supporting your color blending add MM666/MM600 (60:40 RTS) to your color mixture.

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## Points of attention

### Filtering:

For optimum straining use waterborne suitable paint strainers, size: 125µm.

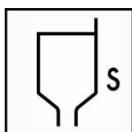
### Application:

In the event of a black pre-coat requirement i.e. special effect colors, use deep black MM400 RTS

### Solvents:

Avoid contact between waterborne products and any solvents.

## Viscosity



20-30 seconds DIN cup no. 4 at 20°C

## Spray gun set-up / application pressure



**Spray gun**  
Gravity feed

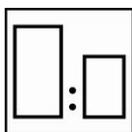
**Fluid tip – set-up**  
1.3 mm

### Application pressure

1.7-2.2 bar at the spray gun air inlet  
 HVLP max 0.6-0.7 bar at the air cap

1.4 mm\*  
 \*For use at extremely high temperature  
 and/or Low humidity

## Pot-life



All mixed Autowave RM 2.0 colors:	3 months at 20°C.
Autowave 338NA, NB, ND metallic colors:	1 week at 20°C.
Autowave 338NA, NB, ND metallic colors containing MM 700:	1 day at 20°C.
Autowave 2.0 colors containing Autowave 2.0 Hardener:	1.5 hours at 20°C

**NOTE:** By adding 5 w% of Autowave Additive LP the pot life of 338 metallic colors is extended to 3 months. In combination with AW245 mixed colors: before use, homogenize properly by stirring or shaking.

**Restriction:** Autowave Hardener 2.0 cannot be added to ready mixed Autowave colors containing Additive LP in combination with Autowave toners 338NA, 338NB, 338ND, 338NS

## Application process

### Solid Colors

Apply 2 single layers or until opacity is achieved. Flash-off between each layer by increasing the airflow and heat until the basecoat completely dries to a matt finish. Allow the surface to cool prior to clearcoat application

### Alternative Application Method

Apply 2 single layers wet-on-wet or until opacity is achieved without the need to flash-off in-between each layer. Increase the airflow and heat until the basecoat completely dries to a matt finish. Allow the surface to cool prior to clearcoat application.

**Note:** It is strongly recommended to produce a sprayout sample to check the colour accuracy prior to completing the repair.

*At force drying using windjets, keep a minimum distance of 1 meter.*

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## Application Process *continued*

### **Metallic/pearl/SEC colors**

Apply a closed wet layer, followed by a flash-off, then apply a light wet layer. Flash-off between each layer by increasing the airflow and heat until the basecoat completely dries to a matt finish. Allow the surface to cool prior to applying a controlled drop coat.

*For optimal metallic orientation, apply a controlled drop/orientation coat by reducing the air pressure to 1-1 ½ bar at the gun inlet and increasing the distance approximately 30 cm*

### **Alternative Application Method**

Apply a closed wet layer followed directly by a light wet layer wet-on-wet without the need to flash-off between each layer. Increase the airflow and heat until the basecoat completely dries to a matt finish. Allow the surface to cool prior to applying a controlled drop coat.

*For optimal metallic orientation, apply a controlled drop/orientation coat by reducing the air pressure to 1-1 ½ bar at the gun inlet and increasing the distance approximately 30 cm*

**Note:** It is strongly recommended to produce a sprayout sample to check the colour accuracy prior to completing the repair.

*At force drying using windjets, keep a minimum distance of 1 meter.*

### **Spot repairs**

Decrease application pressure and apply thin coats until opacity is achieved. Dry until matt before fading out well beyond the edges. In case of metallic colors apply a drop coat if needed.

*In the case of well hiding colors, transparency can be increased by adding MM666 / MM600 (60:40 RTS) to the mixed color.*

**Note:** Fade out of Autowave MM 2.0 can be done on:

- Existing finish, prepared according to TDS S8.01.01
- A wet or dried coat of mixture MM666 / MM600\_(60:40)

### **Under the hood**

For under the hood application add 10% of Autowave 2.0 Hardener to the Autowave MM 2.0 color. If needed, add 10% of Activator WB. The use of clearcoat is not needed.

### **Special enhancements to the Autowave 2.0 system**

To improve: recoat properties, stone chip resistance, adhesion properties and total system robustness, it is recommended to add 5% Autowave 2.0 Hardener to the color before adding Activator WB.

### **Three Stage System Application**

In case of Three Stage multi-layer and low hiding single stage colors requiring multiple layers, it is recommended to add 5% Autowave 2.0 Hardener into the color before adding Activator WB. This will help improve the overall total system robustness when applying multiple layers of basecoat.

- Extended flash-off times should be observed
- For further information and recommendations see TDS S8.01.03b

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### Autowave drying and air acceleration

Humidity and airflow will influence the Autowave MM 2.0 flash off times. This can be reduced using air accelerator systems with a **minimum distance** of 1 meter from the object.  
When heat is used for drying, allow object to cool down to application temperature before proceeding with color or clearcoat application.

### Film thickness

By recommended application; Autowave MM 2.0 colors: 12-25 µm.  
*The total dry layer thickness of Autowave MM 2.0 should never exceed 30 µm).*

### Masking

Autowave MM 2.0 colors can be taped after it is completely matt and dry.

### Denibbing

Allow Autowave MM 2.0 to flash off until completely matt.  
Then lightly sand the damaged area with P800 sanding paper while applying compressed air.  
Thoroughly remove sanding residue before continuing Autowave MM 2.0 application.

### Recoatable with

Autoclear LV Superior TDS S1.05.01  
Autoclear Expert HS-HSR (HSR version only) TDS S1.05.32a  
Autoclear Rapid (Small spot repair only) TDS S1.05.04  
When recoated with Autoclear Aerodry\* it is mandatory to add 5% Autowave 2.0 Hardener to the:  
-Autowave MM 2.0  
-Pre-coat/Wet Bed\*  
\*Please refer to the Autoclear Aerodry TDS S1.05.26

### Recoat time

Maximum 24 hours at 25°C  
*Should this maximum time be exceeded, abrade the surface and apply another coat.*

### Material usage

By using the recommended application the theoretical material usage is ± 8-14 m<sup>2</sup>/liter RTS mixture.  
*The practical material usage depends on many factors i.e. shape of the object, roughness of the surface, application techniques, pressure and application circumstances.*

### Cleaning of equipment

Clean and rinse the spray gun thoroughly with Autowave Guncleaner.  
Purge the spray gun with Activator WB prior to Autowave MM 2.0 use.

- Do not use conventional thinner.
- Do not soak the spray gun for longer periods either with Autowave Guncleaner or Activator WB.

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### VOC

The EU limit value for this product (product category: IIB. d) in ready to use form is max. 420 g/liter of VOC.  
The VOC content of this product in ready to use form is max. 420 g/liter.

### Storage



Product shelf-life is determined when products are stored unopened at 20°C.  
Avoid too much temperature fluctuation.

- For optimal performance, store opened products at application temperature
- Maximum transport and storage temperatures between 3°C-35°C.
- Frost causes gelling / lumps in Autowave MM 2.0 toners after which they no longer can be used.
- Product shelf life data see TDS S9.01.02

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### FOR PROFESSIONAL USE WITH SUITABLE HS&E EQUIPMENT

**IMPORTANT NOTE** The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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#### Head Office

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