

North America

Programmed System Technique (PST)

## MS Clearcoat

Clearcoats

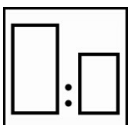
12/13/2016

MS Clearcoat is a two-component, mid-solids polyurethane clearcoat. Provides a high gloss finish two full wet coats. Excellent flow and leveling properties are easily achieved. MS Clearcoat can be used as a final clearcoat or as an integrated clearcoat with the U500 or U350 single stage. The ready to spray VOC is 4.6 lbs/gal.



### Safety Considerations

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



STICK #106

**Mix**  
3  
1

**By Volume**  
Parts MS Clearcoat  
Part MS Activator

- MS Clearcoat may also be mixed with 998 Accelerator, 997 Enhancer, or LV Flex Additive.  
✓ Review the complete TDS for details.

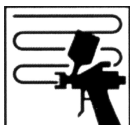


### Spray-Gun Set-Up:

- 1.4 – 1.5mm HVLP Gravity
- 1.3 – 1.4mm Compliant

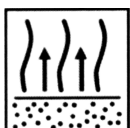
### Application Air Pressure:

- HVLP – 10 psi (<0.7 bar) at cap maximum
- Consult manufacturer specifications



### Application

- 2 – 3 x 1 Coats (Apply two to three single flowing coats)



### Flash Between Coats at 70°F (21°C)

- 5 minutes

### Final Flash at 70°F (21°C) Before Bake

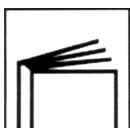
- 10 – 15 minutes



### Dry / Cure Time at 140°F (60°C) Metal Temp

- 20 – 45 minutes

✓ Dependent on film weight, air flow, and use of accelerator.



### Recoat Information

- MS Clearcoat is recoatable with itself after full drying cycle. Sanding becomes necessary after 24 hours.
- Striping or lettering on MS Clearcoat must be applied within 24 hours for good adhesion.
- Decals can be applied 48 hours (70°F (21°C)) after full cure.

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

# MS Clearcoat

Technical Data Sheet (TDS)  
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## Description

MS Clearcoat is a two-component, mid-solids polyurethane clearcoat. Provides a high gloss finish two full wet coats. Excellent flow and leveling properties are easily achieved. MS Clearcoat can be used as a final clearcoat or as an integrated clearcoat with the U500 or U350 single stage. The ready to spray VOC is 4.6 lbs/gal.

## Suitable Surfaces

U350 Single Stage  
U500 Single Stage

Existing finishes in the case of spot or blend repair, degrease and sand with #P800 to #P1000 DA. Properly degrease substrate prior to sanding with AutoPrep Ultra Prep surface cleaner and R859 wax and grease remover.

## Product and Additives

<b>Product</b>	MS Clearcoat	#399119	
<b>Hardener</b>	MS Activator	#399113	
	998 Accelerator	#483670	Accelerates dry times
	997 Enhancer	#398679	Pot life extender. Slows flash off, allowing better melt-in a high temperatures
<b>Additives</b>	LV Flex Additive	#398767	For flexible substrate application
	T890 Flattening Agent	#399084	Low gloss additive
	B91 Reducer SRA	#510324	Special solvent to dissolve fade out areas of spot repairs

## Basic Raw Material

MS Clearcoat	Hydroxyl acrylic resins
MS Activator	Polyisocyanate resin and solvent
LV Flex Additive	Special polyester resins

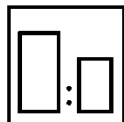
## Product Characteristics

WPG (a-component)	8.6 +/- 0.2 lbs/gal	Gloss	High
Volume Solids (RTS)	36 +/- 2%	Color	Clear
Theoretical Coverage	577 ft <sup>2</sup> /gal @ 1mil – 100%TE	Pot Life (no additives)	2 hrs @ 70°F (21°C)
		Pot Life (998 Accelerator)	1 hr @ 70°F (21°C)
		Pot Life (997 Enhancer)	2 ½ hrs @ 70°F (21°C)

## MS Clearcoat

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### Mixing

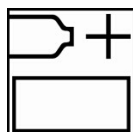


#### Standard mix ratio (by volume)

3 MS Clearcoat  
1 MS Activator

#### Flexible Plastic Parts mix ratio (by volume)

100 MS Clearcoat  
15 LV Flex Additive  
Then mix (by volume)  
3 MS Clearcoat (Flexed)  
1 MS Activator



Add a maximum of ½ oz of 998 Accelerator per RTS gallon or 3 - 4 grams per RTS quart to speed up cure times  
Add a maximum of 2oz of 997 Enhancer per RTS gallon or 12 – 14 grams per RTS quart to extend pot life and improve overspray melt-in

MS Clearcoat Flexed should be used in combination with flexed primers, sealers and topcoats

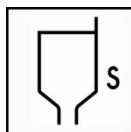
**Note: Raw flexible plastic body parts require U-TECH Plastic Adhesion Promoter.**

T890 Flattening agent can be used to reduce the gloss units (GU) of the MS Clearcoat. Add T890 after activating the MS Clearcoat using the below table to achieve the desired gloss level. A spray out should be done first to determine desired gloss.

Gloss Level	% of T890 Flattening
Antique (70 – 80 gu)	10%
Eggshell (50 - 60 gu)	20%
Semi-gloss (40 -50 gu)	30%
Matte (20 – 30 gu)	40%
Flat (10 – 20 gu)	50%

Use AkzoNobel Measuring Stick #106. Mix thoroughly.

### Viscosity



MS Clearcoat	21 – 28 sec	EZ ZAHN #2 at 70°F (21°C)
	13 – 17 sec	DIN #4 at 70°F (21°C)

Viscosities are reported as Ready to Spray

### Spray gun set-up / application pressure



RP – Pressure Feed	0.8 – 1.4mm	30 – 36psi (2-2.5 bar)	12 – 16 oz/min
RP – Gravity Feed	1.3 – 1.4mm	30 – 35psi (2-2.4 bar)	
HVLP – Pressure	1.0 – 1.2mm	Max 10psi (<0.7 bar) (cap)	12 – 16 oz/min
HVLP – Gravity Feed	1.4 – 1.5mm	Max 10psi (<0.7 bar) (cap)	

## MS Clearcoat

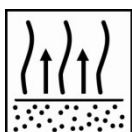
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### Application



Apply two (2) or three (3) single wet flowing coats

### Flash off



5 minutes at 70°F (21°C) between coats

10 – 15 minutes at 70°F (21°C) final flash before bake

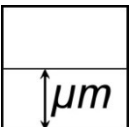
### Dry times



	No Additives		½ oz 998 Accelerator per gal		1oz 997 Enhancer per gal	
	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)	70°F (21°C)	140°F (60°C)
Dust Free	45 min	N.A.	12 min	N.A.	1 hr	N.A.
Dry to handle	15 hrs	45 min	3 hrs	20 min	15 hrs	45 min

**Note:** 998 will decrease pot life. Extreme temperatures may require higher amounts of 997.  
Using LV Flex will extend curing times and effect the sandability of MS Clearcoat

### Dry Film Thickness



2.0 – 2.5 mils

Apply 1.2 - 1.4 mils per coat

### Polishing



Dust and minor damage can be polished out after stated dry times. If baking, allow cool down of the object to ambient temperature.  
- Carefully de-nib out dust particles with #P1500 then #P2000 grit paper. Clean and dry the surface to be polished  
- Mechanically polish area using quality rubbing compounds followed by polishing glaze

### Recoatability



MS Clearcoat is recoatable with itself after full drying cycle. Sanding becomes necessary after 24 hours.

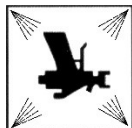
Striping or lettering on MS Clearcoat must be applied within 24 hours for good adhesion. Sanding becomes necessary after 24 hours.

Decals can be applied after 48 hours 70°F (21°C)

## MS Clearcoat

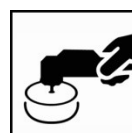
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### Cleaning of equipment



Clean equipment with extra strong cleaning solvents

### VOC



MS Clearcoat 4.42 lb/gal 530 g/l

VOC is ready to spray at a mix ratio of 4:1

### Product Storage and Shelf Life



Store products unopened and used products with closed lids. Store products between 70°F-95°F (21°C-35°C). Optimal storage temperature is 77°F (25°C). Avoid extreme temperature fluctuation when storing.

MS Clearcoat	2 years
MS Activator	1 year
998 Accelerator	1 year
997 Enhancer	1 year
LV Flex Additive	1 year
T890 Flattening Agent	2 years

### FOR PROFESSIONAL USE ONLY

**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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