

Aerowave 5001 Matt & SG

Technical Data Sheet

Product Group

Polyurethane Top Coat

Characteristics



Product Information

Aerowave 5001 is a low VOC, water-based, 3-component, isocyanate cured polyurethane finish for interior and exterior use.

- Water-based technology
- Compatible with all products of the Aerowave Series
- Low VOC emission
- Excellent appearance, MAR resistance and durability
- CARC resistance to STANAG 4360 Issue 2
- Various gloss ranges available
- Resistance to aircraft hydraulic fluids and chemicals

Aerowave 5001 is a product part of the Aerowave Series which utilizes the latest water-based technology and sets the standard for minimum process times, reduced process cycle costs and environmental care.

Components



Base	Aerowave 5001
Curing Solution	Curing Solution 6002
Thinner	D.I. water or tap water

Specifications



Qualified Product List

Airbus Helicopters	ECS 0097
Eurofighter	SP-J-513-C-0083 Type III CL A
Eurofighter	SP-J-513-C-0083 Type III CL B
UK Ministry of Defense	BS 2X 34 Type A and B

Product specifications change constantly, to ensure the most accurate information regarding specifications, please check our online qualified product list (QPL) at aerospace.akzonobel.com/products.

Surface Conditions

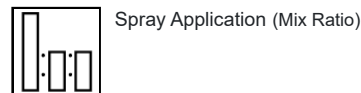


Surface Preparation/
Cleaning

- Observe the recoat limitations of the relevant primer.
- Remove oil, grease and other contaminations carefully prior to application of the finish.
- Clean aged primer or epoxy/polyurethane finishes and recondition by sanding using grade P320 sandpaper or an aluminum oxide non-woven abrasive pad to a uniform matt surface.
- Remove dust and debris with clean tack rags or equivalent just prior to application of the finish.

Aerowave 5001 Matt & SG

Instruction for Use



Spray Application (Mix Ratio)

	Volume	Weight
Aerowave 5001	100 parts	100 x density parts
Curing Solution 6002	30 parts	32 parts
Thinner*	10 parts	10 parts

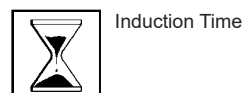
* Thinner options: D.I. water or tap water

When mixing by weight, use 100 x density base paint for weight of the component. Always does by weight when mixing <1L.

- Allow products to acclimate to room temperature before use.
- When mixing by volume, ensure the base paint is de-aerated before dosing.
If in doubt, use mixing by weight.
- Add 30 parts by volume / 32 parts by weight of Curing Solution 6002 to 100 parts by volume / 100 x density base of Aerowave 5001 (as mentioned in the SDS) and mix the components mechanically with a toothless disc-stirrer for 60 seconds at the highest possible speed avoiding air introduction by the vortex.
- Add 10 parts by volume / weight of water and mechanically stir the mixture for an additional 60 seconds at the maximum speed avoiding air introduction.

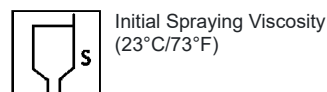
For mixing with kit packaging (3.9L):

- Allow products to acclimate to room temperature before use.
- Add 0.9L Curing Solution 6002 (one bottle) to the 3L Aerowave 5001 in the supplied 5L container and mix on a high-energy mechanical paint shaker (preferably electrical) for 30 – 60 seconds.
- 300 mL of water must be added and again shaken for 30 – 60 seconds on a high-energy mechanical paint shaker (preferably electrical).



Induction Time

Not applicable. The product is ready for use directly after mixing.



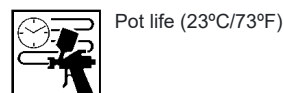
Initial Spraying Viscosity
(23°C/73°F)

50 – 90 seconds ISO Cup #4
24 – 41 seconds Gardner Signature Zahn Cup #2



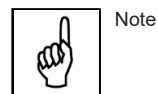
Note

Viscosity measurements are provided as guidelines only and are not to be used as quality control parameters. Certified information is provided by certification documentation available on request. Flow-cup viscosity measurement for Aerowave 5001 will not be reliable due to air introduction during the shaking process. Only measure the flow-cup viscosity when mixed with a toothless mechanical stirrer and air introduction during the mixing process is avoided as much as possible. Entrapped air in the wet paint mixture will not negatively affect the final appearance when the spray is applied.



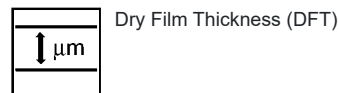
Pot life (23°C/73°F)

2 hours



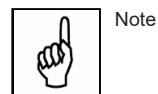
Note

The end of pot life is not visible by means of viscosity increase. Please respect described pot life as described, and mind that pot life depends on the temperature.



Dry Film Thickness (DFT)

35 – 55 μm
1.6 – 2.2 mils



Note

Some bright colors require additional layer thickness or a foundation color in order to reach the required opacity.

Aerowave 5001 Matt & SG

Application Recommendations



Conditions

Temperature: 15 – 35 °C
59 – 95 °F

Relative Humidity: 35 – 75 %



Note

Aerowave 5001 may be applied in conditions outside of the limits shown above. Care must be exercised to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the proper application techniques when environmental conditions fall outside of the recommended range.



Equipment Recommendation

Spray gun type	Product supply	Fluid Pressure	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet *
Conventional	N/A	N/A	1.2 – 1.5mm	N/A	4 – 4.5 bar / 58 – 65 psi
HVLP / Next Generation	N/A	N/A	1.2 – 1.5mm	N/A	2 – 2.5 bar / 29 – 36 psi**
Air Atomizing (electrostatic)	N/A	N/A	1.2 – 1.5mm	350 mL/min	4 – 4.5 bar / 58 – 65 psi
Pressure Atomizing (electrostatic)	N/A	65 – 75 bar/1.02 kpsi, 25 – 35 bar/0.43 kpsi	0.009 inch/60°, 0.013 inch/60°	350 mL/min	4 – 4.5 bar / 58 – 65 psi

*Measured with an open trigger.

**General advice to meet the HVLP / next-generation spray gun requirements. Please validate with your local authorities.



Note

When using water-based products, ensure you select suitable electrostatic equipment. To avoid contamination of water-based / solvent-based coating products, dedicated water- / solvent-based spray equipment is advised. To apply water-based products, use non-corrosive spray equipment (e.g., stainless steel).



Number of Coats

Spray-apply a homogeneous, wet and closed coat in order to achieve a dry film thickness of 35 – 55 µm / 1.6 – 2.2 mils. If a higher layer thickness is required, allow 10 minutes ambient flash-off time and then apply another uniform and wet coat. Avoid the application of an intentional mist coat.



Note

Repairing Aerowave 5001: In order to have the best possible repair it is advised to do only panel repairs. When making a spot repair, the overspray edge will be visible due to gloss differences. Make the repair preferably with the same equipment as used for the whole object in similar conditions for application, flash-off times, and drying times. Ensure a consistent and homogeneous layer thickness is applied on the repair area (including the edges) in a similar layer thickness as the rest of the object.



Cleaning of Equipment

Selecting the correct cleaning solvent for cleaning the spray equipment (gun, hoses, pumps) will prevent coagulation or clogging of the paint material inside the equipment due to incompatibility. Clean and rinse the equipment with water directly after use. If necessary semi-cured material can be cleaned with organic solvents like cleaning solvent C 28/15, 98068 or Thinner C 25/90 S.

In case of the switch from water-based to solvent-based always first clean and rinse with water, followed by two times rinsing with fresh Thinner C25/90S. Due to the chemical composition of this material, it is compatible with water.



Note

The quality of the application of all coatings will be influenced by the spray equipment chosen and the temperature, humidity, and air flow of the paint application area. When applying the product for the first time, it is recommended that test panels be prepared to identify the best equipment settings to be used in optimizing the performance and appearance of the coating.

Physical Properties

Aerowave 5001 Matt & SG

Drying Times	23°C/73°F, 55% RH	70°C/158°F
	Surface Dry	3 hours
Dry to Tape	8 – 10 hours	N/A
Dry to Handle	10 hours	60 minutes
Recoat Minimum	3 hours	
Recoat Maximum	48 hours	

Elevated temperature drying times refer to substrate surface temperature. When forced cured, allow the paint 15-30 minutes ambient flash-off time with enough air movement before entering the component into the oven in order to obtain the best results.

If a drying time of 48 hours is exceeded, recondition the surface with grade P400 sandpaper or an aluminum oxide non-woven abrasive pad type very fine to a uniform matt surface.

Note	
	Curing of waterborne products depends on temperature, relative humidity, and airflow. Increased temperatures, low RH and efficient airflow can decrease the drying times significantly.

Theoretical Coverage	
	9m ² per liter ready to apply at 35 µm dry film thickness* 354 ft ² per US gallon ready to apply at 1.4 mil dry film thickness* *Value for matt version in mid grey color.

Dry Film Weight	
	1.6 g/m ² /µm* 0.0084 lbs/ft ² /mil* *Value for matt version in mid-grey color.

Volatile Organic Compounds	
	< 120 g/L (1.0 lbs/gal) product ready to apply < 250 g/L (2.1 lbs/gal) exempt water according to ASTM D-3960

Gloss	
	Matt finish: < 2 GU (dark colors only) Matt finish: < 5 GU Semi-gloss finish: 15 – 25 GU Semi-gloss finish: 30 – 45 GU

Color	
	Available colors on request.

Flash Point		
Aerowave 5001		>21°C / 70°F
Curing Solution 6002		>21°C / 70°F
D.I. water or tap water		NA

Shelf life 5 - 35°C (41 - 95°F)		
Aerowave 5001		12 months
Curing Solution 6002		18 months
D.I. water or tap water		N.A

Safety Precautions Comply with all local safety, disposal and transportation regulations. Check the Material Safety Data Sheet (MSDS) and label of the individual products carefully before using the products. The MSDS's are available on request.

Revision date: July 2024 (supersedes October 2023) - FOR PROFESSIONAL USE ONLY

Aerowave 5001 Matt & SG

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 advice given is 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. Brand names mentioned in this data sheet are trademarks of or are licensed to AkzoNobel