

Alumigrip 4200

Technical Data Sheet

Product Group

Polyurethane topcoat

Characteristics



Product
Information

Alumigrip 4200 is a 3-component high solid durable polyurethane topcoat that provides premium gloss and distinctness of image (DOI) designed to meet and exceed the expectations of the general aviation (GA) industry.

- Optimal application properties in different environmental conditions
- Buffable
- Low VOC; High Solid technology
- Extended durability / UV resistance
- Resistant to aircraft hydraulic fluids and chemicals
- Compatible with Alumigrip 4450 Clear Coat.

Components



Base material
Curing Solution
Activator

Alumigrip 4200
Alumigrip PC-242
A4950(standard activator), AC-139(for
entire aircraft), A4951(Cool Weather),
A4952(Striping), A4953(Spot Repair) and
A4954(High Temperature) for entire aircraft.
Optional: TR-114 & TR-115

Thinner/Reducer

Specifications



Qualified
Product List

Cessna
Gulfstream
Pilatus
Piper Aircraft Inc

CMFS037, CSFS084
GMS 5008
VV0605-28
PMS-F1010

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

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Surface Conditions



Cleaning

- Surface pretreatment is an essential part of the painting process.
- Alumigrip 4200 is compatible with most commonly used aerospace primers. However, we advise to use the following primers / surfacers:
 - Alumigrip 10P8-11 & Alumigrip 4001
- Observe the recoatability times of the relevant primer.
- Apply Alumigrip 4200 on clean primer. Remove oil, grease and other contamination prior to application.
- Recondition aged primers or topcoats with sand/abrade to a uniform matt finish using grade P320 sandpaper or an aluminum oxide non-woven abrasive pad
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- Remove dust with e.g. tack rags just prior to application of Alumigrip 4200.

Instruction for Use



Mixing Ratio
(volume)

4200GXXX	1 part
PC-242	1 part
A4950 (AC-139), A4951, A4952, A4953 or A4954	0.125 part
TR-115 & TR-114 (Optional)	(for temp. below 70 °F)

- Allow products to acclimatize to room temperature before use.
- Stir or shake Alumigrip 4200 thoroughly until all pigment is uniformly dispersed before adding the curing solution.
- Add the Alumigrip PC-242 curing solution and add the A4950 (AC- 139), A4951, A4952, A4953, or A4954 and stir the mixture thoroughly.

Add the optional TR-115 or TR-114 (up to 10% of the base component) and stir mixture thoroughly.



Induction Time

15 minutes



Note

Exception: 4200G90006 (black) needs 30-45 minutes induction.

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

35 - 50 seconds ISO Cup #4
15 - 22 seconds Zahn-Cup #2, Signature series
16 - 23 seconds Ford-Cup #4



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. The addition of TR-115, or TR-114 will reduce viscosity for smoother films, better flow and leveling.



Pot life
(23°C/73°F)

A4950(standard activator) (AC-139),	4 hours for entire A/C
A4951(Cool Weather)	3-4 hours
A4952(Striping)	2-3 hours
A4953(Spot Repair)	1-2 hours
A4954(High Temperature)	4 hours



Note

A4950 and A4954 can be blended to further assist in desired leveling and dry time. The .125 parts overall system mixing ratio must still be achieved regardless of blend ratio.



Dry Film
Thickness
(DFT)

50-125 μm
2-5 mils



Note

Some colors may require increased film thickness to achieve acceptable hide.

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Application Recommendations



Conditions

Activator	<u>A4950</u>	<u>A4951</u>	<u>A4952</u>	<u>A4954</u>
Option:	21 – 27°C	15 – 27°C	15 – 35°C	27 – 36°C
Temperature:	70 – 80°F	59 – 69°F	59 – 95°F	80 – 96°F
Relative Humidity:	30 – 65%	70 – 80%	65 – 95%	45 – 90%



Note

Alumigrip 4200 may be applied in conditions outside the limits shown above. Care must be exercised to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the appropriate application techniques when environmental conditions fall outside of the recommended range.



Equipment*

Spray gun type	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet*
Conventional	Gravity Feed: 1.2mm- 1.4mm	350-475ml/min	Use enough Air Pressure. ≤ 100 psi or (7 bar)
	Pressure Feed: 1.2mm- 1.4 mm		
HVLP/ next generation	Gravity Feed: 1.2mm- 1.4mm,	240ml 350ml/min	- **Maximize and ensure uniform fan pattern, not to exceed regulatory guideline for air pressure at the cap.
	Pressure Feed: 1.2mm -1.5mm		
Air spray electrostatic	1.2mm & 1.5mm	1.2mm tip: fluid flow 230-240 ml/min	58-65 psi / 4-4.5 bar

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1.5mm tip-fluid
flow rate up to
300-360 ml/min

High pressure Air Assisted electrostatic	angle 0.09 – 0.13 inch/60°	260 – 300ml/min	Fluid pressure: 75-90 psi / bar 0.9-1.3 psi Air pressure at gun inlet: 58-65 psi / 4-4.5 bar
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*) measured with open trigger

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



Number of
Coats

Apply a wet and closed film, followed after 30 minutes flash off time by another closed and homogeneous layer. Do not "paint to hide" in the first layer application.



Cleaning of
Equipment

TR-15, Solvent Cleaning C28/15 or Solvent Cleaning 98068 for electrostatic equipment and TR-19, Solvent Cleaning C28/15 or Solvent Cleaning 98068 for conventional spray equipment.



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



Drying Times
(23°C/73°F)

Dry to tape	12-16 hours	A4950 (standard activator) (AC-139)
	9-13 hours	A4951 (Cool Weather)
	4-9 hours	A4952 (Striping)
	2-4 hours	A4953 (Spot Repair)
	12-16 hours	A4954 (High Temperature)

Dry to fly* White: 24 hours*

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Dry to fly* Colors: 48 hours*
Full cure 7 days

*When cured at 70°F (21°C) to 77°F (25°C)
and defined as to resistance 50 double rubs
MEK.

Min. recoat time When dry to tape.
Max. recoat time Alumigrip 4200 is recoatable within 48 hours. If a drying time
of 48 hours is exceeded, sand/abrade to a uniform matt finish
using grade P320 sandpaper or an aluminum oxide non-
woven abrasive pad.

Alumigrip 4200 can be recoatable within 7 days when
reconditioned with sanding paper P400 and properly cleaned
and degreased.



Theoretical
Coverage

10.4 m² per liter ready to apply at 50 µm dry film thickness.
425 ft² per US gallon ready to apply at 2 mils dry film thickness.



Dry Film Weight

For white:
1.50 g/m²/µm
0.00778 lbs/ft²/mil



Note

Dry film weight depending on color.



Volatile Organic
Compounds

Maximum 420 g/l
Maximum 3.51 lbs/gal

TR-114 and TR-115 are thinners based on US EPA VOC exempt solvents.
When local VOC exemption does not apply, VOC will increase to max. 450 g/l /
3.76 lbs/gal when using these optional thinners (at 10% relative to base volume).



Gloss (60°)

Minimum 90 GU

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Color As required.



Flash-point	4200GXXX	12°C / 54°F
	PC-242	35°C / 95°F
	A4950 (AC-139)	36°C / 96°F
	A4951	36°C / 96°F
	A4952	36°C / 96°F
	A4953	36°C / 96°F
	A4954	36°C / 96°F
	TR-114	-17°C / 1°F
	TR-115	-17°C / 1°F



Storage Store the product dry and at a temperature between 5 and 38°C / 41 and 100°F per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature and shelf life may vary per OEM specification requirements. Refer to container label for specific storage life information.

Shelf life	4200GXXX	24 months
5 - 38°C	PC-242	24 months
(41 - 100°F)	A4950 (AC-139)	24 months
	A4951	24 months
	A4952	24 months
	A4953	24 months
	A4954	24 months
	TR-114	24 months
	TR-115	24 months

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.

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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.

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