

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



Curing Solution
Thinner
Activator

| | |
|-----------------|--|
| Curing Solution | Alumigrip PC-242 |
| Activator | A4950 (standard activator) (AC-139) for entire aircraft A4951 (Cool Weather) A4952 (Striping) A4953 (Spot Repair) A4954 (High Temperature) for entire aircraft |
| Thinner/Reducer | TR-115 Optional TR-114 Optional |

Specifications



Qualified
Product List

AkzoNobel Spec
Cessna - CMFS037
Beechcraft BS22455
GMS 5008
GAR110VK

For most recent up-date or missing specifications please check the qualified product list (QPL) on www.akzonobel.com/aerospace

Alumigrip 4200

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 e.g. Scotch-Brite® Type A very fine to a uniform matt surface.
- Remove dust with e.g. tack rags just prior to application of Alumigrip 4200.

Instruction for Use



Mixing Ratio
(volume)

1 part (1 gal)
1 part (1 gal)
.125 parts (1 pint)

Base: 4200GXXX
Curing Solution: PC-242
Activator: A4950 (AC-139), A4951, A4952,
A4953 or A4954
TR-115 (for temps below 70 °F)
TR-114 (for temps above 70 °F)

Optional

- 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

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



Initial Spraying
Viscosity
(25°C/77°F)

35 - 50 seconds ISO Cup #4
17 - 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.

Alumigrip 4200



Pot life
(25°C/77°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 microns (μm)
2.0 – 5 mils
Depending on the color to achieve proper hide.

Application Recommendations



Conditions

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



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 in order to identify the best equipment settings to be used in optimizing the performance and appearance of the coating. Alumigrip 4200 may be applied in conditions outside of the limits shown. Care must be exercised to ensure a satisfactory result. Please contact your local AkzoNobel Aerospace Coatings representative to determine the proper application techniques and choice of activators when environmental conditions fall outside of the recommended range.



Note

The use of compounds with polisher may have a tendency to dull darker colors. Our recommendation is to apply Alumigrip 4450 Clear Coat **prior** to buffing.

Alumigrip 4200



Equipment

High pressure air-assist/airless electrostatic spray equipment. (e.g. Graco Pro 4500)

| | |
|------------------------|-----------------------------------|
| Fluid pressure | 120 – 170 bar / 1800 – 2500 psi |
| Atomizing air pressure | 4,5 – 4,8 bar / 65-70 psi |
| Flow rate | 260-280 mL per minute |
| Tip size | 0.23 mm / 0.009 inches, angle 60° |

Air Electrostatic spray equipment (e.g. Graco Xs3 / Xs4)

| | |
|------------------------|-----------------------|
| Fluid pressure: | Fluid pressure: |
| Atomizing air pressure | 5 bar / 70 psi |
| Flow rate | 270-290 mL per minute |
| Nozzle orifice | 1.0 mm / 0.026 inch |

Air assist airless electrostatic spray equipment.

| | |
|-------------------------|---|
| Fluid pressure: | 850 - 1000 psi |
| Atomizing air pressure: | 55 - 65 psi |
| Tip size: | 0.33mm (.013 inch) or smaller, preferably 0.28mm (.011 inch) |

Next generation spray equipment (e.g. HVLP / RVL P)

| | |
|--------------------|------------------------------------|
| Input air | Max. 3,1 bar / 45 psi |
| Fluid/pot pressure | 0,3 – 1,4 bar / 5 to 20 psi |
| Tip size | 1.2 to 1.4 mm / 0.047 – 0.055 inch |

Conventional Air

| | |
|-------------------------------|--------------|
| Atomizing air pressure: | 45-65 psi |
| Pot pressure (if applicable): | 5-20 psi |
| Tip size: | 1.2 – 1.4 mm |



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.

Alumigrip 4200

Physical Properties



Drying Times
(25 +/- 2°C / 77
+/- 2°F, 55 +/-
5% RH)

A4950 (standard activator) (AC-139)
A4951 (Cool Weather)
A4952 (Striping)
A4953 (Spot Repair)
A4954 (High Temperature)

Dry to tape times
(77°F @ 50%RH):

12 – 16 hours
9 – 13 hours
4 – 9 hours
2 – 4 hours
12 – 16 hours

Full cure 7 days
Dry to fly* White: 24 hours*
Dry to fly* Colors: 48 hours*

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, recondition with e.g. Scotch-Brite® type A very fine.

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



Note: Dry to fly*

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



Theoretical
Coverage

21 m² per liter ready to apply at 25 µm dry film thickness
837 ft² per US gallon ready to apply at 1 mil dry film thickness (no loss)



Dry Film Weight





37.8 g/m²/25 micron
0.0077 lbs/ft²/1 mil (depending on color).



Volatile Organic
Compounds

Max 420 g/l
Max 3.5 lb/gal
TR-115 is an exempt solvent, but use outside of the Americas causes VOC to increase.

Alumigrip 4200

| | | |
|---|--|--|
|  | Gloss (60°) | 90 GU minimum |
|  | Color | As required |
|  | Flash-point | Alumigrip 4200 (Base: 4200GXXX) 12°C / 54°F Alumigrip PC-242 35°C / 95°F A4950 (AC-139), A4951, A4952, A4953, A4954 36°C / 96°F TR-115 -17°C / 1°F |
|  | Storage | Store the product dry and at a temperature between 5 and 38°C / 40 and 100°F per AkzoNobel Aerospace Coatings specification. Store in the original unopened containers. Storage temperature may vary per OEM specification requirements. Refer to container label for specific storage life information. |
| | Shelf life 5 - 38°C (40 - 100°F) | 24 months per AkzoNobel Aerospace Coatings commercial specification for Alumigrip 4200, Alumigrip PC-242, A4950 (AC-139), A4951, A4952, A4953 A4954. Shelf life may vary due to OEM specification requirements. Refer to container label for specific shelf life information. |

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.

Issue date: January 2021 (supersedes Aug 2020) - 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 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.

cotch-Brite® is a registered trademark of 3M Corporation