ER-100

Technical Data Sheet

Product Group

Specialty Coating

Characteristics

Product Information

Two-component high-solid polyurethane finish used for the erosion protection of aeronautical parts such as radomes, leading edges, air intakes or any other area prone to erosion phenomenon.

This product has been developed to be suitable for a robotic application as well as a manual application.

Components

Base	ER-100 Base
Hardener	ER-100 Hardener
Thinner	Thinner P2

Specifications

Qualified Product List

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

- ER-100 is compatible with the most used primers. Observe the recoat times of the relevant primer technical data sheet.
- Apply ER-100 preferably on freshly applied primer. Remove oil, grease and other contamination prior to application.
- Please contact your local AkzoNobel Aerospace Coatings representative to determine the appropriate reconditioning in case of aged primers.
- Remove dust with e.g., tack rags just prior to application of ER-100.
- SP350, Aerolith P27-CF and Aerodur HS2121 can be used for metallic substrates.

Instruction for Use

Spray Application (Mix Ratio)

	Volume	Weight
ER-100 Base	100 parts	3 parts
ER-100 Hardener	35 parts	1 part
Thinner*	0 - 5 parts	0 to 0.2 part

* Thinner options: Thinner P2

- Ideally, the unmixed products should be stored between 18°C and 25°C (64°F and 77°F) for 24 hours before use.
- ER-100 Base must be mixed for 10 minutes before use with a pneumatic or oscillating mixer.
- Mixing ratio in weight is highly recommended for optimal accuracy. Uncertainties linked to mixing in volume can lead to a variation of the aspect while keeping all technical properties. This phenomenon is emphasized with the mixing of small quantities.
- Mix the base and the hardener until completely homogeneous, then add thinner and mix.
- The mixture should be at a temperature between 15 °C and 35 °C (59°F and 95°C).
- Filter the ready-to-apply paint at 125 µm.

Induction Time

Not Applicable.

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

Base and Hardener undiluted:
ISO 4 Cup - 60 +/- 15s
Afnor 4 Cup - 35 +/- 5s

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ER-100

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.

Pot life (23ºC/73ºF)

Base and hardener undiluted:
2 hours at 23°C (73°F) for black color.
1 hr 30 mins at 23° (73°F) for white color.

Dry Film Thickness (DFT)

60-300 µm dry (120 to 600 µm wet)
2.4 to 12 mils dry (4.8 to 24 mils wet)

Application Recommendations

Conditions

Temperature:	15 – 35 °C 59 – 95 °F
Relative Humidity:	35 – 75 %

Conditions

Note

ER-100 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 Recommendation

Spray gun type	Product supply	Fluid Pressure	Nozzle orifice	Product flow	Dynamic air pressure at gun-inlet *
Conventional	NA	NA	1.0 to 1.8 mm	NA	1.8 to 4 bars / 26 to 44 psi
HVLP / Next Generation	NA	NA	1.0 to 1.4 mm	NA	1.2 to 2 bars / 17 to 29 psi
Air Atomizing (electrostatic)	NA	NA	NA	NA	NA
Pressure Atomizing (electrostatic)	NA	NA	0.28 to 0.33 mm	200 cc/min	NA

[1] Product Flow is not applicable when using gravity/suction feed guns.
[2] Dynamic Air Pressure at the gun-inlet measured with an open trigger.
[3] General advice to meet the HVLP / next-generation spray gun requirements, please validate with your local authorities.

Number of Coats

-Apply 2 to 3 cross layers spaced by 5 minutes of solvent evaporation to obtain 80 µm dry (3 mils dry).
-It is possible to apply one or more additional cross-layers to obtain the desired thickness, spacing each cross-layer by 5 minutes of solvent evaporation.

Cleaning of Equipment

Methyl Ethyl Ketone (MEK), Thinner P2, Thinner 713 or a Ketonic solvent.

Note

The quality of the application of all coatings will be influenced by the spray equipment chosen and the temperature, humidity, and airflow 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.

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Physical Properties

Drying Times

	60°C/140°F	80°C/176°F
Dry to Handle	45 min	30 min
Dry to Tape	1.5 hours	1 hour
Full Cure	12 hours	6 hours

Substrate surface temperature
-Drying times have been determined using test pieces of a thickness <2mm and for 80µm (3.2 mils) of dry film.
-30 minutes to 1 hour at room temperature must be applied on applied parts, depending on the film thickness before accelerated curing.

Note

The curing of solvent- and water-based products depends on temperature, relative humidity and airflow. Increased temperatures, low RH and efficient airflow can decrease the drying times significantly.

Theoretical Coverage

Base and hardener undiluted
6.5 m²/L – 265 ft²/gal (for 80µm / 3.2 mils dry)
6.5 m²/kg – 70 ft²/kg (for 80µm / 3.2 mils dry)

Dry Film Weight

1.15 g/m²/µm

Volatile Organic Compounds

Base and hardener undiluted
420 g/L ready to use.

Gloss (60°)

Maximum 10 GU

Color

Black
Off-White

Flash Point

ER-100 Base	30ºC / 86ºF
ER-100 Hardener	38ºC / 100ºF
Thinner P2	32ºC / 90ºF

Shelf life 5 - 35°C (41 - 95°F)

ER-100 Base	24 months
ER-100 Hardener	18 months
Thinner P2	48 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.

Revision date: March 2023 (Supersedes None) - 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

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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

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