

BladeRep® Topcoat ALP20

Technical Data Sheet:
547-LP / BR207E

1. Introduction

ALEXIT® BladeRep® Topcoat ALP20 is a coating system that is specifically designed to enhance the performance of existing lightning protection systems on wind blades. The system features an innovative ArcGuide® technology that facilitates the formation of stronger leaders from the receptor, increasing the probability of lightning strikes attaching to the receptor instead of causing damage to the blade.

2. Range of application

ALEXIT® BladeRep® Topcoat ALP20 is a specialized topcoat designed to be applied as the final coating on wind turbine rotor blades. It can be applied to specific areas of the blade in close proximity to the lightning receptor(s), via roller. BladeRep® Topcoat ALP20 has been tested and validated on blades that have lightning receptors and internal down conductors. Applying the product over blades that use expanded metal foil/mesh or carbon fibre in the vicinity of lightning receptors (within 1 meter) is not recommended.

3. Color

721E - light grey (similar to RAL 7035)
3256 - traffic red (similar to RAL 3020)

4. Coverage

	m ² /kg	m ² /kit
Theoretical coverage at 100 µm / 4 mil approx. of mixed material	3.8	3.8

Recommended dry film thickness: 100 (±20) µm (4 mil).

5. Substrate pre-treatment

Sand the surface with P120 grit paper prior to applying ALEXIT® BladeRep® Topcoat ALP20. The surface must be clean, dry and free from dust, grease, oil and other contaminants.

6. Trade names/part no.

Base material	BR207E	ALEXIT® BladeRep® Topcoat ALP20
Hardener	BR12H0	ALEXIT® BladeRep® Hardener 12
Standard Thinner	BR12T4	ALEXIT® BladeRep® Thinner 12 Medium
Fast Thinner	BR12T7	ALEXIT® BladeRep® Thinner 12 Fast

7. Mixing ratio

4.5 Parts	BR207E	ALEXIT® BladeRep® Topcoat ALP20
1 Part	BR12H0	ALEXIT® BladeRep® Hardener 12
10% (Base + Hardener)	BR12T4 / BR12T7	ALEXIT® BladeRep® Thinner 12 Medium / Fast

Prior to mixing, shake vigorously by hand for 1 minute. Puncture both container lids, empty entire hardener into base and mix thoroughly. Depending on environmental conditions the use of BR12T4 or BR12T7 is recommended. Add 10% thinner (2 almost full caps of thinner bottle 1kg or use scale) and mix thoroughly all three components.

8. Application

Roller:

High quality solvent resistant rollers, foam or short nap fur type.

Application conditions:

15-35 °C (60-95 °F) and 20-85 % relative humidity. The minimum application condition should be 3 °C (5 °F) above dew point.
If applying the product in conditions which are not listed above, please consult your ALEXIT® BladeRep® representative.

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The information contained in this data sheet is based on our level of research and development. Revisal by the user with regard to the intended aim is necessary due to the diverse processing and application possibilities.

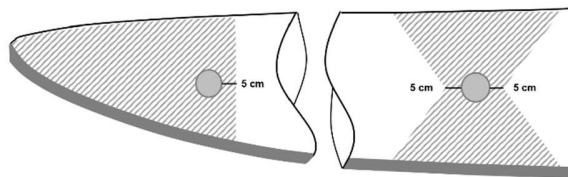
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Rolling application: Apply 2 coats of ALEXIT® BladeRep® Topcoat ALP20 to a wet film thickness (WFT) of 100 -125 µm (4 - 5 mils) each. Allow a flash-off time of 45 minutes at 23 °C (73 °F) between each coat before applying the next coat. In case the same mixture is used for the second coat, it needs to be agitated prior to application. The total dry film thickness (DFT) should be approx. 100 (±20) µm (4 mils) for a 2-coat application.

Application area: The coating should be applied according to below graphic and should cover the whole surface from leading edge (excluding LEP and receptor itself) to trailing edge. If the blade only has a receptor on one side, only that side should be coated. If the blade has receptors on both sides, both sides should be coated. Uncoated gaps around the receptor need to be avoided. Exceeding the recommended application area either at the receptor or at the blade tip (beyond 5cm / 2 inches inboard of blade surface) will negatively impact the coating's lightning protection performance. For blades with multiple receptors, please consult your ALEXIT® BladeRep® representative for guidance.

-  BladeRep® Topcoat ALP20
-  Lightning receptor
-  Leading edge protection



After application of ALEXIT® BladeRep® Topcoat ALP20, no additional process is required before the blade can be put into operation. Before taking turbine into operation, ALEXIT® BladeRep® Topcoat ALP20 needs time to fully cure. The curing time depends on environmental conditions (also see item 10.).

9. Pot life 120 min at 23 °C (73 °F)

10. Drying time

Temperature conditions	15 °C (60 °F)	23 °C (73 °F)	30 °C (86 °F)
Recommended ALEXIT® BladeRep® Thinner system	BR12T7		BR12T4
Drying time (able to handle)	5-6 h	3.5 h	4 h
			2-3 h

11. Packaging

ALEXIT® BladeRep® Topcoat ALP20 1 kg kit*
ALEXIT® BladeRep® Thinner 12 10 kg, 1 kg (Medium and Fast)

*Kit contains 0.82 kg base material and 0.18 kg hardener – premeasured for proper mix ratio

12. Storage

Store in original, unopened containers at a temperature of 5 – 35 °C (41 – 95 °F) (in acc. with DIN EN 3840:2007).

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