DUROMAR®

PRODUCT DATA SHEET

WE-9100

Fiber-Reinforced Repair Material – Wind Energy

GENERAL DESCRIPTION

WE-9100 is a fiber reinforced, zero VOC, two component epoxy repair putty, engineered specifically to repair cracked and damaged wind turbine blades. This material provides an optimal combination of strength, flexibility, and crack prevention for service in the most rigorous conditions.

FEATURES

- Environmentally friendly, Zero VOC coating system
- Excellent adhesion to all blade materials
- Can be overcoated in less than 1 hour, allowing for quick turnarounds
- Lightweight for larger repairs
- Engineered to match the strength and flexibility of a wind turbine blade

PACKAGING

½ kg or 1 kg kits

COVERAGE

WE-9100 has the consistency of thick putty and can be applied up to 1-1/4" (1,250 mils) per coat.

Theoretical coverage at ¼ inch is 1.48 square feet per kilogram or 52.7 cubic inches per kilogram.

MIXING RATIO

1.2 parts base (B) to 1 part (A) hardener by weight

1 parts base (B) to 1 part (A) hardener by volume

POT LIFE

For a ½ kg unit, mixed at 70ºF, pot life is approximately 15 minutes. Higher temperatures or larger mass will shorten this time, lower temperatures or smaller mass will extend it. Pot life can also be extended by spreading the mass out to dissipate heat.

COLORS

WE-9100 is available in red and grey. This product has moderate UV stability and is not intended as a top coat.

TECHNICAL DATA AND INFORMATION

Physical Properties of Cured System:	
Density	1.25 g/mL
% Solids	100
Flexural Strength @ 70ºF	31,900 psi
Tensile Strength @ 70ºF	19,300 psi
Tensile Shear @ 70ºF	4,900 psi
Adhesion (Fiberglass)	>2000 psi
Adhesion (Aluminum)	>2000 psi
Abrasion Resistance[1]	44.3 mg lost
Impact Resistance	124 in lbs
Hardness	80 – 77 Shore D

[1] ASTM D 4060 Taber Abrasion Test, CS 17 wheel with 1 kg weight. Weight lost per 500 cycles.

SURFACE PREPARATION

- For maximum adhesion, material should be applied to a firm, clean, dry and abraded surface.
- Best results will be obtained by abrasive blasting the surface.
- If blasting is impractical, a grinding wheel, needle gun, or very stiff wire brush may be used.
- Clean greasy, oily or waxed surfaces with suitable solvent before applying material.

MIXING

For standard kits mix ALL of Part A with ALL of Part B. Pour Part A into Part B bucket and mix for 5 minutes while scraping down the sides. Duromar recommends boxing material to ensure adequate mixing.

CLEANUP

Most solvents and commonly used thinners such as MEK, acetone and xylene can be used for cleaning tools and equipment. Duromar also supplies a non-flammable, non-hazardous safety solvent **Duromar T-1** which can be used. DO NOT USE TO THIN MATERIAL FOR APPLICATION.

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APPLICATION

WE-9100 is best applied by trowel or plastic applicator

- Min. Thickness/Coat (mils) 60
- Max. Thickness/Coat (mils) 1250
- Number of Coats 1
- Min. Application Temperature (ºF) 50

For best results, do not apply:

- When humidity is over 90%
- When there is moisture on the surface
- When surface temperature is not 5 ºF above dew point

OVERCOATING

For thicker coating and repairs, two or more coats may be employed. **WE-9100** can be overcoated with most Duromar high performance materials. In high humidity or cold temperatures a blush may develop which should first be wiped down with clean water. The following table is an approximate guide to the earliest and latest times an overcoat may be applied:

WE-9100 Overcoating Window:

55ºF	70ºF	85ºF
2 - 72 h	1 – 48 h	30 min - 24 h

At 70 ºF, if 48 hours have elapsed the surface must be roughened before overcoating. The preferred method is a light abrasive brush blasting, light sanding, grinding or wire brushing.

CURING SCHEDULE

Temperature	50 ºF	70 ºF	90 ºF
Dry to Touch	2 hours	1 hour	30 min
Functional Cure	24 hours	12 hours	6 hours
Full Cure	72 hours	36 hours	24 hours

Q/C

The material should be visually inspected just after application and touched up where necessary.

STORAGE/SHELF LIFE

Store in dry area in closed containers between 50 ºF and 100ºF. Shelf life at these conditions is greater than one year.

HEALTH AND SAFETY

READ AND UNDERSTAND ALL MATERIAL GIVEN IN THE MSDS SHEETS BEFORE USING THE PRODUCT.

WE-9100 DOES NOT CONTAIN ANY FLAMMABLE MATERIAL OF ANY KIND. HOWEVER, THE MATERIAL IS COMBUSTIBLE. IN THE EVENT OF A FIRE, DRY POWDER, FOAM, OR CARBON DIOXIDE FIRE EXTINGUISHERS SHOULD BE USED. FIRE FIGHTERS SHOULD WEAR RESPIRATORS.

USE PROTECTIVE GLOVES AND EYEGLASSES WHEN USING.

USE IN AREAS OF GOOD VENTILATION.

LIMITED WARRANTY

All recommendations covering the use of this product are based on past experience and laboratory findings. Methods or conditions of application and use of the product are beyond our control. We assume responsibility only for the uniformity of our product within normal manufacturing balances.

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