

### 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 composite or metal blades
- Tack-free in 2 hours at 70 °F, allowing for quick turnarounds
- Designed for superior strength and flexibility

#### PACKAGING

¼ gal or ½ gal kits and 1.5 kg Dual cartridge caulk tubes

#### COVERAGE

**WE-9100** has the consistency of thick putty and can be applied up to 1250 mils per coat. Theoretical coverage at ¼ inch is 6.5 square feet per gallon.

#### MIXING RATIO

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

#### POT LIFE

For a ½ gallon unit, mixed at 70°F, pot life is approximately 20 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 grey and off white.

#### TECHNICAL DATA AND INFORMATION

##### Physical Properties of Cured System:

Density	1.28 g/mL
% Solids	100
Flexural Strength @ 70°F	31,900 psi
Tensile Strength @ 70°F	19,300 psi
Tensile Shear @ 70°F	4,900 psi
Adhesion (Fiberglass)	>2000 psi
Adhesion (Aluminum)	>2000 psi
Abrasion Resistance <sup>1</sup>	44.3 mg lost
Impact Resistance	124 in lbs
Hardness	80 – 77 Shore D

<sup>1</sup> 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 plural component airless spray or by hand with a roller or brush.

- Min. Thickness/Coat (mils) 60
- Max. Thickness/Coat (mils) 1250
- Number of Coats 1
- Min. Application Temperature (°F) 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 °F 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:**

55°F	70°F	85°F
4 - 72 h	2 - 48 h	1 - 24 h

At 70 °F, 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 °F	70 °F	90 °F
<b>Dry to Touch</b>	4 hours	2 hours	1 hour
<b>Functional Cure</b>	48 hours	24 hours	12 hours
<b>Full Cure</b>	128 hours	72 hours	48 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 °F and 100°F. 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 EYEGASSES 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.

All Duromar products are formulated based on over 25 years of experience, laboratory tests, material data, field installations, and technical publications, which we believe to be, to the best of our knowledge, accurate and reliable. This information is intended to be used for guidance only. Because the only true reliable test is one that is in actual operation, Duromar will make available at no charge samples of materials for that testing purpose. Duromar, Inc. has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Duromar, Inc. does, therefore, not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise). The data contained herein is liable to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues, and it is, therefore, the user's responsibility to ensure that this sheet is current prior to using the product.

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706 Washington Street, Pembroke, MA 02359 USA • Tel. (781) 826-2525 • Fax (781) 826-2150

www.duromar.com