



# DIAMONDWRAP

DiamondWrap is an engineered composite repair system made of proprietary carbon fiber cloth applied with a two-part epoxy and a high-modulus filler material. It functions as a pressure-containing repair to seal leaks and as a reinforcing repair to restore original pipe strength in both the hoop and axial directions.

DiamondWrap is used regularly in plants, refineries, tank farms, terminals, and offshore locations around the globe and is ideal for complicated geometry, such as tees, flanges, and varying diameter pipe. It is available in multiple kit sizes for any temperature and diameter pipe and can be installed with minimal disruption to operations.

## APPLICATIONS

- › Cooling water lines
- › Flare lines
- › Blow down lines
- › Chemical processing lines
- › Oil and gas risers
- › Steel pipe
- › Stack towers
- › Steam piping
- › Underwater pipeline
- › Storage tanks and vessels

## COMPLIANT WITH: (standards/regulations)

- › AB-539
- › ASME PCC-2
- › ISO 24817
- › ASME B31
- › US DOT
- › API
- › CSA Z662



## BENEFITS:

- › Eliminates unplanned down time for high-consequence piping
- › Extends the life of aging and corroding assets
- › No pipe cutting or welding
- › Minimal creep ensures a long service life
- › No VOCs
- › Prevents future external corrosion

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## TECHNICAL DATA

|                                         | DIAMONDWRAP<br>(Field-saturated)                          |         | DIAMONDWRAP MT<br>(Field-saturated) |         | DIAMONDWRAP HT<br>(Field-saturated) |         | DIAMONDWRAP UHT<br>(Pre-saturated) |         |
|-----------------------------------------|-----------------------------------------------------------|---------|-------------------------------------|---------|-------------------------------------|---------|------------------------------------|---------|
| Fabric                                  | FCB-033                                                   | FCB-123 | FCB-033                             | FCB-123 | FCB-033                             | FCB-123 | FCB-033                            | FCB-123 |
| Ply Thickness                           | 0.0105"                                                   | 0.0175" | 0.0105"                             | 0.0175" | 0.0105"                             | 0.0175" | 0.0105"                            | 0.0175" |
| Shore D Hardness                        | 85                                                        |         | 85                                  |         | 84                                  |         | 80                                 |         |
| Max Installation Temp                   | 120°F (50°C)                                              |         | 180°F (80°C)                        |         | 250°F (121°C)                       |         | 250°F (121°C)                      |         |
| Max Operating Temp                      | 200°F (93°C)                                              |         | 313°F (156°C)                       |         | 430°F (221°C)                       |         | 597°F (314°C)                      |         |
| Min Operating Temp<br>(after full cure) | -58°F (-50°C)                                             |         | -58°F (-50°C)                       |         | -58°F (-50°C)                       |         | -58°F (-50°C)                      |         |
| Shelf Life                              | 12 months                                                 |         | 12 months                           |         | 12 months                           |         | 6 months                           |         |
| Chemical Resistance                     | Wide range (see Chemical Compatibility Chart for details) |         |                                     |         |                                     |         |                                    |         |

### CURE SCHEDULE<sup>1,2</sup> (HOURS)

| TEMP |      | DIAMONDWRAP             |          | DIAMONDWRAP MT          |          | DIAMONDWRAP HT          |          | DIAMONDWRAP UHT         |
|------|------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|
| (°C) | (°F) | Option 1<br>Recommended | Option 2 | Option 1<br>Recommended | Option 2 | Option 1<br>Recommended | Option 2 | Option 1<br>Recommended |
| 25   | 77   | 24                      | -        | 3                       | 3        | -                       | -        | -                       |
| 60   | 140  | -                       | 18       | 2                       | 2        | 5                       | 5        | -                       |
| 90   | 195  | -                       | -        | 1                       | -        | 1                       | 1        | -                       |
| 120  | 250  | -                       | -        | 1                       | -        | -                       | -        | 1                       |
| 150  | 300  | -                       | -        | 1                       | 10       | -                       | 1        | -                       |
| 175  | 350  | -                       | -        | 3                       | -        | 1                       | -        | 1                       |
| 205  | 400  | -                       | -        | -                       | -        | -                       | 3        | 1                       |
| 232  | 450  | -                       | -        | -                       | -        | 2                       | -        | 6                       |
| 280  | 536  | -                       | -        | -                       | -        | -                       | -        | 1                       |
| 320  | 608  | -                       | -        | -                       | -        | -                       | -        | 1                       |

(1) For exact post-curing schedule please refer to the technical binder. The listed cure schedule should be followed from the lowest temperature to the highest with the hold times listed in hours completed prior to ramping up to the next temperature.

(2) The cure schedule of the chosen column must be fully completed to reach the recommended cure and achieve 90% of the Target Shore D hardness.

**WARRANTY** CSNRI routinely implements product improvements. Please contact your local distributor or office for the most current product specifications. CSNRI warrants the quality of this product when used according to directions.

PS\_1025

ISO 9001 Certified