



Contour Apex

Contour Apex is a custom-engineered and optimized composite system for high-pressure pipeline repairs. It employs the proprietary Apex, optimized, bi-directional fiberglass in conjunction with a specially formulated and toughened epoxy system to address external corrosion and mechanical damage such as dents, wrinkle bends, and gouges on distribution and transmission lines.

Light-weight, corrosion-resistant Contour Apex makes maintenance easier, helping to prevent leaks and corrosion that lead to shutdowns. Repairs are fast, restoring line integrity and making the pipe stronger than it was before it went into service.

Contour Apex is compliant with ASME PCC-2 Article 4, and ISO 24817, and like all ClockSpring|NRI products, it has been rigorously tested to ensure repeatable, reliable performance with durability for decades.

Applications

- High-pressure pipeline repairs
- External corrosion and mechanical damage
- Distribution pipelines.
- Transmission pipelines

Features

- Optimized for high-pressure pipeline repairs
- Ambient-cured, toughened epoxy
- Design conforms to ASME PCC-2, ASME B31, ISO 24817, DOT, API, and CSA Z662 standards for nonmetallic reinforcing and repair

BENEFITS:

- Simplifies maintenance
- Extends the life of aging and corroding assets
- No pipe cutting or welding
- Prevents future external corrosion



QUALIFICATION DATA

COMPOSITE LAMINATE PROPERTIES

| PROPERTY | CIRCUMFERENTIAL DIRECTION | AXIAL DIRECTION |
|-------------------------------|----------------------------|-----------------------------|
| Tensile Strength | 87.7 ksi (604.7 MPa) | 29.5 ksi (203.4 MPa) |
| Tensile Modulus | 4.9 Msi (33.8 GPa) | 2.64 Msi (18.2 GPa) |
| Thermal Expansion Coefficient | 5.59 ppm/°F (10.06 ppm/°C) | 12.09 ppm/°F (21.77 ppm/°C) |
| Laminate Thickness | 0.041 inch (1.05 mm) | |
| Poisson Ratio | 0.120 | |
| Glass Transition Temperature | 248°F (120°C) | |
| Shear Modulus of Polymer | 122 ksi (841.2 MPa) | |
| Hardness | 87 Shore D | |
| Lap Shear Strength | 2,616 psi (18 MPa) | |

CURE SCHEDULE

| TEMPERATURE | SET TIME |
|-------------|------------|
| 50°F (10°C) | 9 hours |
| 60°F (16°C) | 4.5 hours |
| 70°F (24°C) | 2 hours |
| 90°F (32°C) | 45 minutes |

Warranty: ClockSpring|NRI routinely implements product improvements. Please contact your local distributor or office for the most current product specifications. ClockSpring|NRI warrants the quality of this product when used according to directions.



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