PIPE REPAIR SOLUTIONS FOR THE OIL & GAS INDUSTRY

With more than 60% of the nation's oil & gas pipeline infrastructure being 40 years old or more, the challenge of pipeline repair and rehabilitation has never been greater[1].

Every pipeline and every subsequent repair is unique, so you need a variety of solutions at the ready to solve whatever challenge is thrown your way.

Follow the flow chart to find the ClockSpring|NRI product that fits your unique pipe repair challenge.

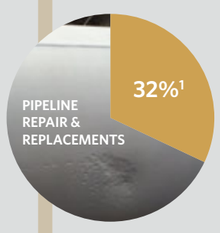
The leading known causes of hazardous pipeline accidents, as reported by the Office of Pipeline Safety [OPS]:

External Corrosion: 15%
Internal Corrosion: 12%
Excavation Damage/Vehicle Impact: 12%
Seal Leaks: 8%
Incorrect Operation: 8%
Weld Failure: 7%
Acts of God: 6%
Component Failure: 6%

SELECT YOUR REPAIR TYPE:

STRUCTURAL DAMAGE

Primary causes of STRUCTURAL DAMAGE include excavation, poor welds & materials defects.



$23 – $48 MILLION ANNUALLY[1]

PRE-IMPREGNATED

A+ WRAP™

Resin-impregnated bi-axial fiberglass wrap

51,800 psi · 365° F

★ Can be applied on wet, dry or submerged surfaces

ON-SITE MIX

COMPLEX GEOMETRIES

FORMASHIELD™

Tri-axial fiberglass wrap + pre-measured two-part epoxy

74,000 psi (hoop) / 17,900 psi (axial)

450° F

★ Chemical-resistant formulations available

STRAIN REDUCTION

ATLAS™

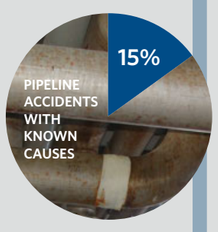
Bi-axial carbon fiber wrap + pre-measured two-part epoxy

151,000 psi · 450° F

★ Chemical-resistant formulations available

CORROSION PROTECTION

CORROSION is the leading cause of pipeline failures in the U.S., with EXTERNAL CORROSION accounting for 15% of all failures.



$$$$
$7 BILLION ANNUALLY

$$$
spent on corrosion mitigation & repair[2]

2nd only to sewer & water industry

2015: 40 pipeline accidents caused by external corrosion, resulting in $303 million dollars in damages[3]

PREVENTION

PIPE SOCK™

Size-specific fiberglass wear pad

54,000 psi · 250° F

★ Ideal for metal-to-metal interfaces, fully compatible with cathodic protection

ABRASION RESISTANT COATING (ARC)

Pre-measured epoxy wear-resistant coating + fiberglass wrap

35,000 psi · 250° F

★ Especially effective at soil-to-air interfaces/transition zones

REPAIR

OFF SHORE

SPLASHGARD™

Water activated for large or small diameter

51,800 psi

250° F

★ Can be applied to wet surfaces, rated for underwater or air/water transition use as a corrosion barrier and UV block

ON SHORE

GENWRAP™

Polyolefin corrosion barrier tape + polyurethane-impregnated fiberglass wrap

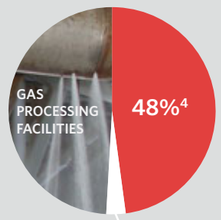
Not rated for pressure containment

176° F (submerged) / 250° F (dry)

★ **Fully compatible with active cathodic protection**

LEAK CONTAINMENT IN PIPING SYSTEMS

Gas processing plants are the largest source of LEAKS in the oil & gas industry.



>500 Mcf GAS LEAKED ANNUALLY

3% NO LEAKS

NON-ACTIVE LEAK

Requires system to be de-pressurized prior to

PIPE DIAMETER <12"

PIPE WRAP®

Bi-axial resin-impregnated fiberglass wrap

450 psi · 400° F

★ Adheres to all pipe types

FORMASHIELD™

Tri-axial fiberglass wrap + pre-measured two-part epoxy

74,000 psi (hoop) / 17,900 psi (axial)

315° F

★ Chemical-resistant formulations available

A+ WRAP™

Resin-impregnated bi-axial fiberglass wrap

51,800 psi · 365° F

★ Can be applied on wet, dry or submerged surfaces

ACTIVE LEAK

PIPE DIAMETER >12"

RIDGEBACK™

FRP shell + metallic compression bands

150 psi · 250° F

★ Addition of composite over-wrap system can extend service life

PIPE DIAMETER <14"

ACTIVE LEAK REPAIR KIT (ALRK™)

QuickStrap compressive strap + resin-impregnated fiberglass wrap

75psi · 176° F

LEAKSTOP™

FRP shell + metallic compression bands

100 psi · 250° F

★ Addition of composite over-wrap system can extend service life

EMERGENCY PIPE REPAIR KIT (EPRK)

All-inclusive emergency response kit for hazardous or non-hazardous service

300 psi

★ 4 size ranges: 1"-12"

★ Installs in under 30 minutes

LEGEND: TEMPERATURE RATING · PRESSURE RATING · TENSILE STRENGTH · ★ NOTE

1. International Journal of Critical Infrastructure Protection
2. WorleyParsons Corrosion Costs & Engineering Issues Report
3. PHMSA Pipeline Safety Reports
4. EPA Report on Oil & Natural Gas Sector Leaks, 2014

CLOCK SPRING | NRI | pipe wrap