

Family Brand	Product Name	Primary Use	Per Ply Thickness	Max Temperature	Fabric Description	Resin Description
Clock Spring™	Clock Spring	Metal loss and small deformations	0.075 in. (1.9 mm)	201°F (94°C)	Unidirectional (hoop) Fiberglass	Pre-cured Polyester
	Clock Spring HT			264°F (129°C)	Unidirectional (hoop) Fiberglass	High-temp pre-cured Vinyl Ester
	SnapWrap	Metal loss and small deformations with limited thickness availability	0.075 in. (1.9 mm)	201°F (94°C)	Unidirectional (hoop) Fiberglass	Pre-cured Polyester
	SnapWrap HT			264°F (129°C)	Unidirectional (hoop) Fiberglass	High-temp pre-cured Vinyl Ester
A+ Wrap™	A+ Wrap	Metal loss and small deformations including non-straight geometries	0.014 in. (0.35 mm)	194°F (90°C)	Bi-directional fiberglass	Moisture cured Polyurethane
	A+ Max		0.027 in. (0.69 mm)	194°F (90°C)	Tri-directional fiberglass	Moisture cured Polyurethane
Atlas™	Atlas	Large deformation and crack/crack-like features	0.017 in. (0.43 mm)	180°F (82°C)	Bi-directional carbon fiber	High-strength epoxy
	Atlas HT			450°F (232°C)	Bi-directional carbon fiber	High-temp epoxy
	Atlas UA	Circumferentially oriented crack-like features and axially dominated repairs	0.016 in. (0.41 mm)	180°F (82°C)	Unidirectional (axial) carbon fiber	High-strength epoxy
	Atlas UA HT			448°F (231°C)	Unidirectional (axial) carbon fiber	High-temp epoxy
Contour Apex™	Contour Apex	Metal loss and small deformations	0.042 in. (1.07 mm)	212°F (100°C)	Multidirectional Fiberglass	High-strength epoxy

## COMPOSITES REPAIRS

### Addressable Defects

- Corrosion / Erosion
- Dents / Wrinkle Bends
- Cracks or Crack-Like Features
- Seam and Girth Weld Defects
- Manufactured Defects
- Gouges / Metal Loss

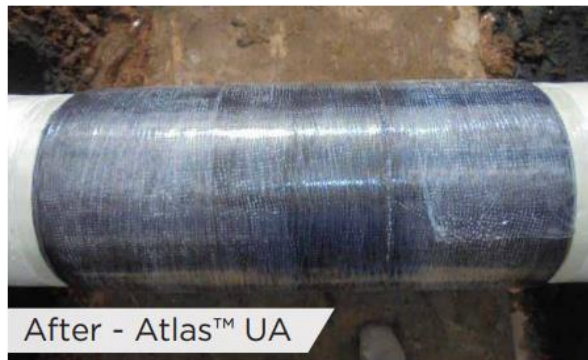
### Tested for Pipelines

- With high continuous pressure
- With high cyclic pressure lines
- With high temperatures ranges
- Above ground or buried
- Near- or Underwater lines
- Under axial or bending loads
- Located in Geohazards

### Defect Type Overview

<b>Metal Loss:</b>	Corrosion   Internal wall loss   Gouges   Minor manufacturing defects   Abrasion
<b>Deformation:</b>	Plain Dents   Dents on weld   Buckles   Ovality concerns   Wrinkle Bends (hoop)
<b>Crack/Crack Like:</b>	Seam-weld anomalies   SCC   Plain body cracks   Laminations   Severe manufacturing defects
<b>Axial Dominated:</b>	Girth weld anomalies   Geohazards   Bending loads   Thermal cycling   Wrinkle Bends (axial)

## uszkodzenia



## wgięcia



## zgięcia, zmarszczenia na rurociągach



## działanie czynników zewnętrznych ( ziemia)



[WWW.SYNTHOGLASS.COM.PL](http://WWW.SYNTHOGLASS.COM.PL)



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