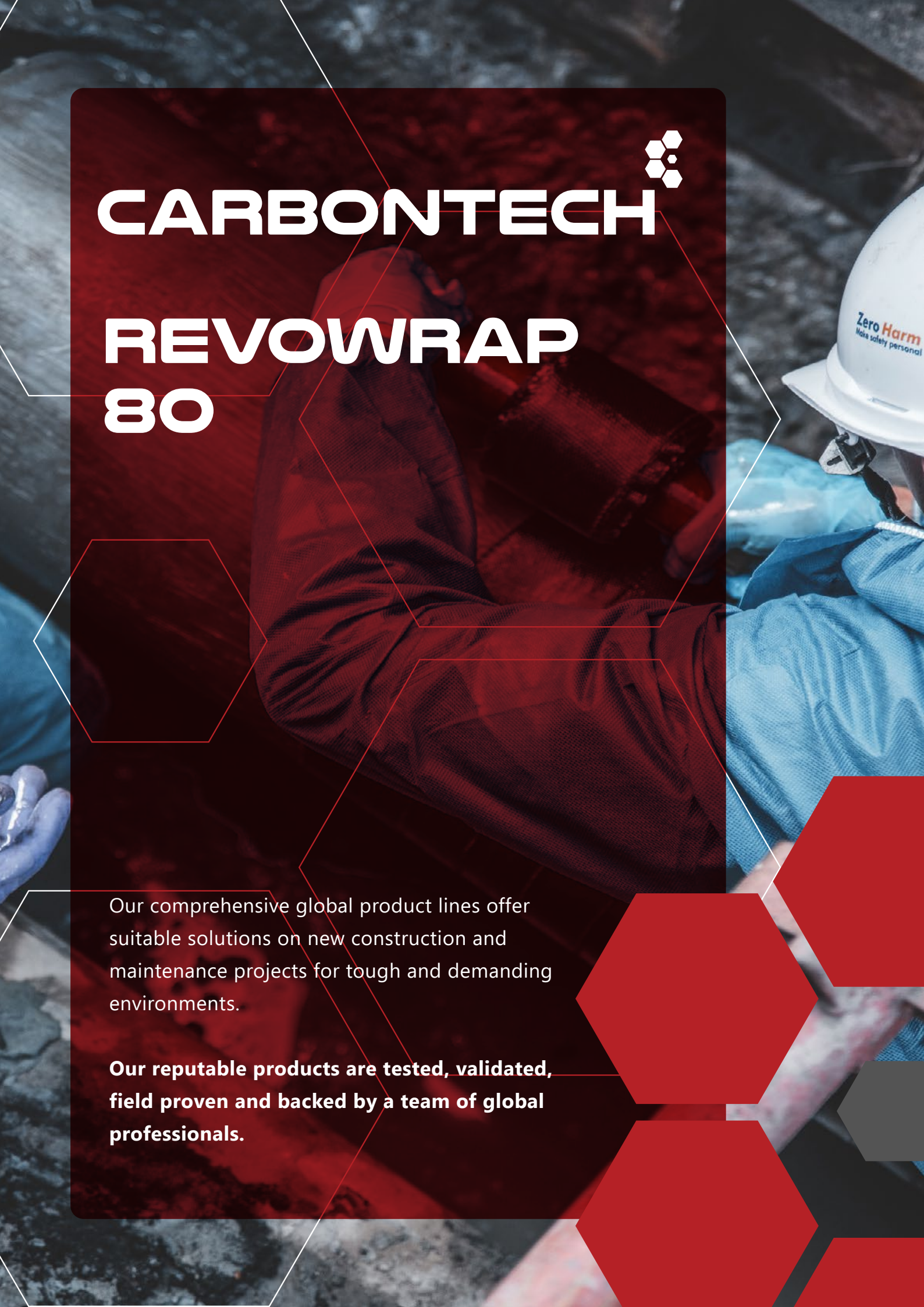


CARBONTECH

REVOWRAP 80

Our comprehensive global product lines offer suitable solutions on new construction and maintenance projects for tough and demanding environments.

Our reputable products are tested, validated, field proven and backed by a team of global professionals.

REVOWRAP 80

-50°C TO 84°C - YIELDING AMAZING PRESSURE CAPABILITIES

PRODUCT OVERVIEW

Revowrap®80 is an engineered composite solution used to restore damaged critical assets back to the original design specification of the equipment. Each repair is engineered using ASME PCC2 or ISO TS 24817 engineering codes for high-risk non-metallic repairs.

Carbontech is at the forefront of composite repair solutions, employing advanced Finite Element Analysis [FEA] to accurately evaluate and enhance the integrity of damaged piping systems along with our Revowrap® products. Engineered for flexibility, Revowrap®80 effectively reinforces piping systems across both axial and hoop directions, ensuring even load distribution throughout the repair zone. Qualified for use with both glass and carbon fiber reinforcements, Revowrap®80 marks a significant advancement in composite repair technology. This unique feature allows for tailored repair solutions that meet specific structural and environmental demands, enhancing durability and operational reliability. Suitable for a wide temperature range, from -50°C to 84°C, Revowrap®80 composite systems are designed to deliver exceptional performance across diverse operational conditions.

Our composite systems can be applied by hand lamination or by infusion methods and may be applied to live piping systems without shutting down for the repair. Revowrap® is resistant to the harsh chemical environment prevalent in the oil and gas industry. Revowrap® may be applied to any pipe size, most substrates and almost any piping configuration including tanks, vessels, flanges, and other compromised structural assets.

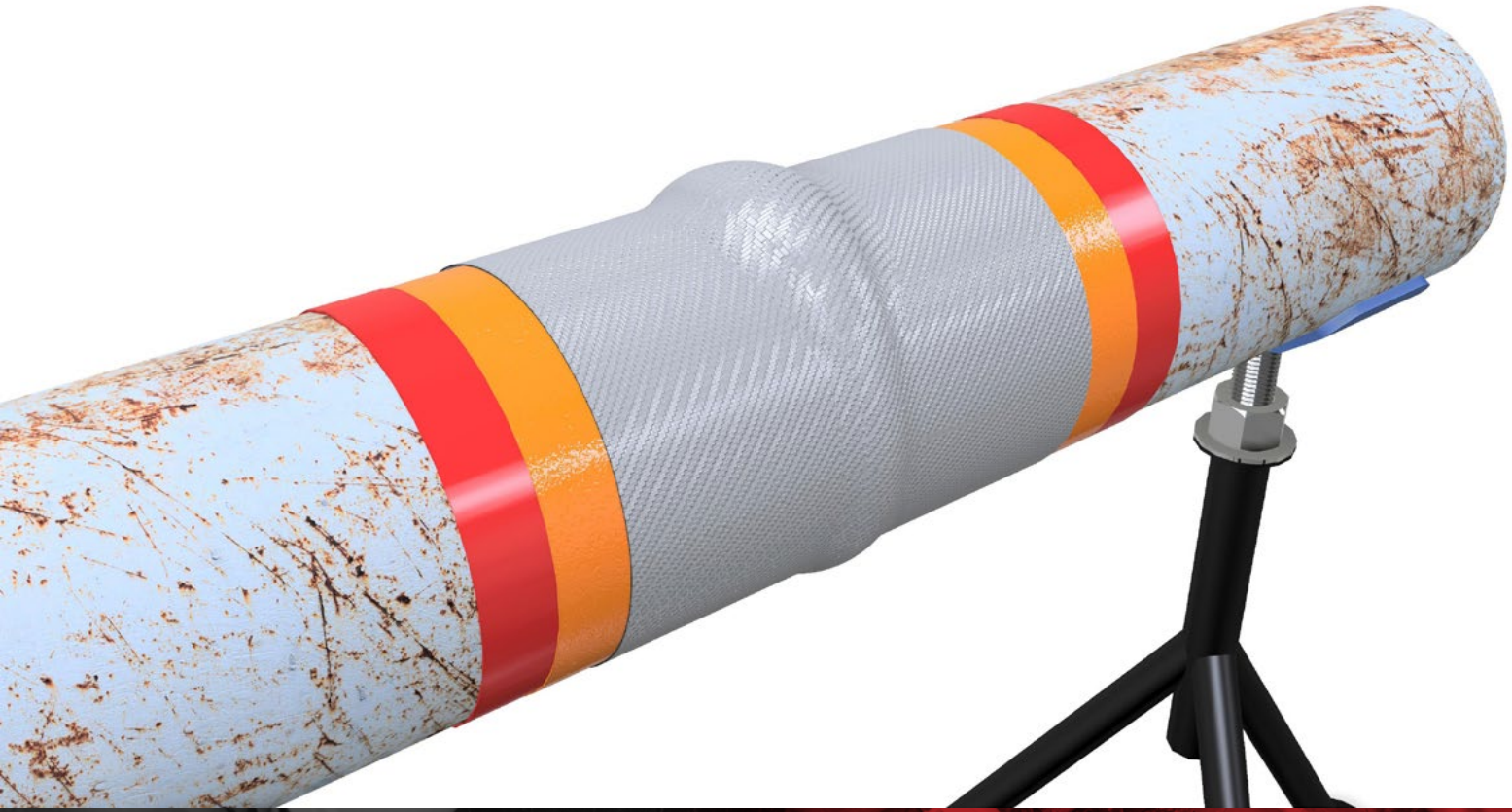
PRODUCT PERFORMANCE INDICATORS

ASME PCC 2 Compliancy	Fully Compliant
ISO TS 24817 Compliancy	Fully Compliant
Certification	TUV & ABS
Minimum Application Temperature	Please contact Carbontech Composite Systems' Engineering department for project-specific guidance
Maximum Application Temperature	Please contact Carbontech Composite Systems Engineering department for project-specific guidance
Minimum Allowable Operating Temperature	-50°C
Maximum Allowable Operating Temperature	84°C for Fibre Glass and 72°C for Carbon Fibre
Maximum Allowable Operating Pressure	Design Specific
Shelf Life	2 Year - Extendable
Cure Time	Refer to Carbontech Engineering for specific cure regimes
Minimum Pipe Diameter	No Limitations
Maximum Pipe Diameter	No Limitations
Repair Lifespan	20 Years
Wall Loss Defects (Type A)	Permissible
Through Wall Defects (Type B)	Permissible

ISO TS 24817 AND ASME PCC2 REPAIR SYSTEM QUALIFICATION DATA

FIBRE GLASS

TEST	TEST CODE	METRIC	IMPERIAL
Ply Thickness [mm, inches]	ASTM D3039	0.62	0.024409
Tensile Modulus Circumferential [GPa, ksi]	ASTM D3039	16.08	2333.8
Tensile Modulus Axial [GPa, ksi]	ASTM D3039	8.48	1229.5
Tensile Strength Circumferential [MPa, ksi]	ASTM D3039	310.584	45.046
Tensile strain to failure [%]	ASTM D3039	4.17	4.17
In Plane Shear Modulus [GPa, ksi]	ASTM D3039	1.31	190
Poisson's Ratio	ASTM D3039	0.409	0.409
CTE [mm/mm/°C, In/In/°F]	ISO 11359-2	5.34*10^-5	2,96*10^-5
Heat Distortion Temperature [°C/°F]	ISO 75-3	99	210.2
Shore D Hardness	ISO 868	85.8	85.8
Lap Shear Strength - SA2.5 [MPa, ksi]	ASTM D3165	12.7	1.8415
Lap Shear Strength to Steel SSPC-SP3 [MPa, ksi]	ASTM D3165	8.66	1.26
Lap Shear Strength to Steel SSPC-SP2 [MPa, ksi]	ASTM D3165	7.36	1.07

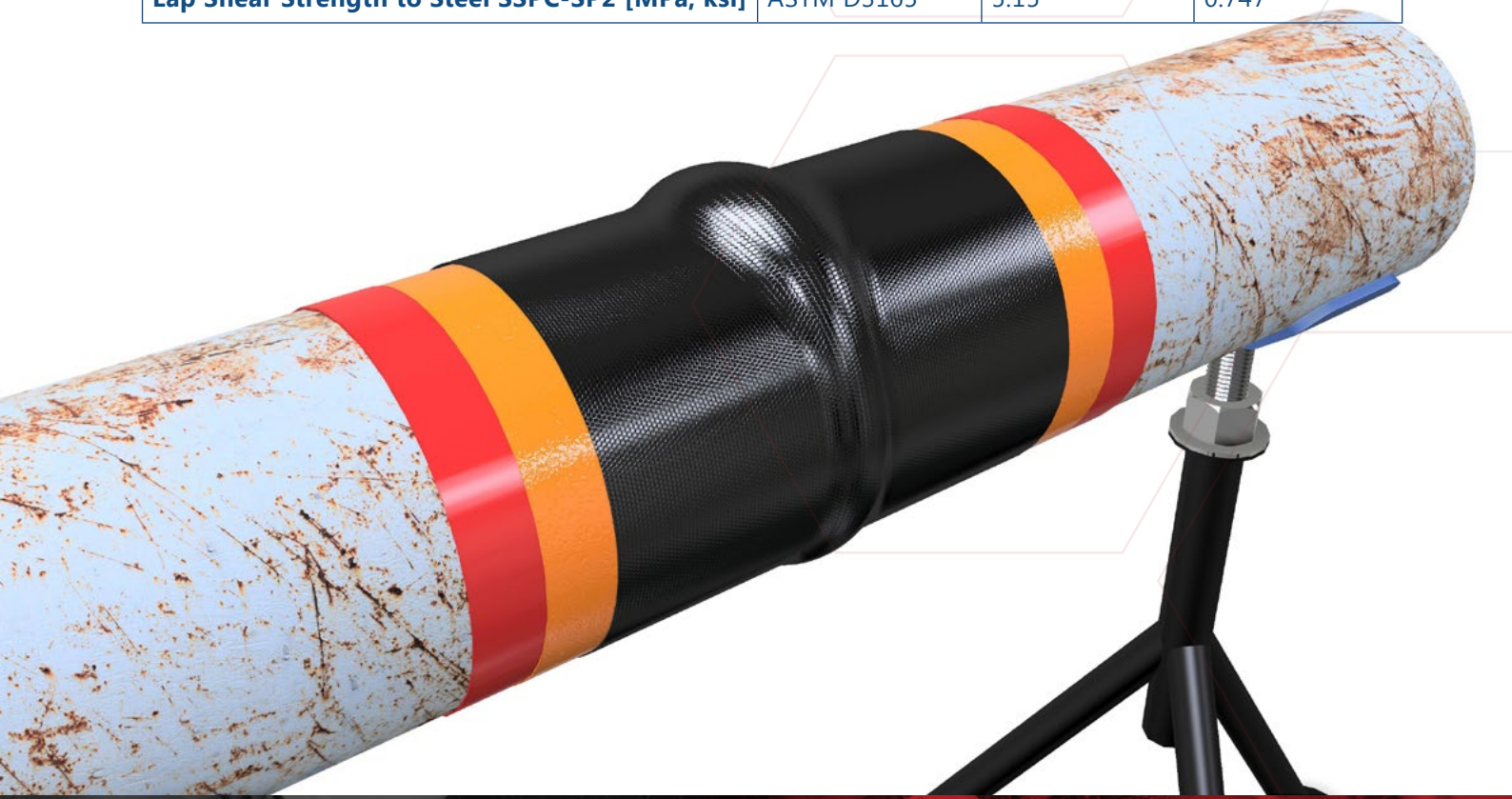


REVOWRAP 80

ISO TS 24817 AND ASME PCC2 REPAIR SYSTEM QUALIFICATION DATA

CARBON FIBRE

TEST	TEST CODE	METRIC	IMPERIAL
Ply Thickness [mm, inches]	ASTM D3039	0.497	0.0196
Tensile Modulus Circumferential [GPa, ksi]	ASTM D3039	43.9	6363.2
Tensile Modulus Axial [GPa, ksi]	ASTM D3039	42.4	6147.6
Tensile Strength Circumferential [MPa, ksi]	ASTM D3039	384.6	55.8
Tensile Strain to Failure Circumferential [%]	ASTM D3039	3.51	3.51
Tensile Strain to Failure Axial [%]	ASTM D3039	3.79	3.79
In Plane Shear Modulus [GPa, ksi]	ASTM D3039	1.20	174.05
Poisson's Ratio	ASTM D3039	0.046	0.046
CTE [mm/mm/°C, In/In/°F] - Circumferential	ISO 11359-2	8.645 x 10^-6	4.80 x 10^-6
CTE [mm/mm/°C, In/In/°F] - Axial	ISO 11359-2	8.69 x 10^-6	4.83 x 10^-6
Heat Distortion Temperature [°C/°F]	ISO 75-3	80.5	176.9
Shore D Hardness	ISO 868	84.7	84.7
Lap Shear Strength - SA2.5 [MPa, ksi]	ASTM D3165	10.57	1.533
Lap Shear Strength to Steel SSPC-SP3 [MPa, ksi]	ASTM D3165	9.5	1.378
Lap Shear Strength to Steel SSPC-SP2 [MPa, ksi]	ASTM D3165	5.15	0.747



PACKAGING INFORMATION

FABRIC - FIBRE GLASS	
PRODUCT CODE	**DESCRIPTION**
QUADS00-100-9	500 Gsm quad glass tape: T-0.62mm x W-100mm x L-50 Meter
QUADS00-250-9	500 Gsm quad glass tape: T-0.62mm x W-250mm x L-50 Meter
QUADS00-330-9	500 Gsm quad glass tape: T-0.62mm x W-330mm x L-50 Meter

FABRIC - CARBON FIBRE	
PRODUCT CODE	**DESCRIPTION**
RCT-50-10	Carbon Cloth: T-0.44mm-W-50mm x L-100 Meter
RCT-80-10	Carbon Cloth: T-0.44mm-W-80mm x L-100 Meter
RCT-100-10	Carbon Cloth: T-0.44mm-W-100mm x L-100 Meter
RCT-150-10	Carbon Cloth: T-0.44mm-W-150mm x L-100 Meter
RCT-250-9	Carbon Cloth: T-0.44mm-W-250mm x L-50 Meter

PRIMER	
PRODUCT CODE	**DESCRIPTION**
R80-P-A-1	Revowrap80 Primer, Part A, 250g
R80-P-B-1	Revowrap80 Primer, Part B, 68g
R80-P-A-2	Revowrap80 Primer, Part A, 500g
R80-P-B-2	Revowrap80 Primer, Part B, 131g

SATURATOR	
PRODUCT CODE	**DESCRIPTION**
R80-S-A-1	Revowrap80 Saturator, Part A, 260g
R80-S-B-1	Revowrap80 Saturator, Part B, 68g
R80-S-A-2	Revowrap80 Saturator, Part A, 510g
R80-S-B-2	Revowrap80 Saturator, Part B, 131g

REVOWRAP 80

ADVANTAGES

- Fast, non-invasive repair - does not require hot work
- Repairs done live - no unplanned downtime
- Can handle complex geometries
- Resistant to harsh chemicals

USES

- Internal corrosion
- External corrosion
- Mechanical damages
- Weld anomalies

INDUSTRIES

- Oil and gas facilities
- Petrochemical plants
- Chemical plants
- Transmission pipelines
- Potable water

CONCLUSION

Revowrap is available in a range of widths and lengths and is designed for variants of pipe diameters and defect ranges. Revowrap may be applied in continuous spiral wraps (used for continuous lengths of pipe), circumferential wraps for localised defects and weld defects. Revowrap 80 is the ideal solution for pipes where corrosion, mechanical damage or support abrasion has reduced the remaining wall thickness to below the MAOP. Once applied Revowrap 80 restores the pipe integrity back to the original design specification and also provides excellent corrosion and abrasion protection.

THE CARBONTECH INNOVATIVE PRODUCT RANGE

Revowrap 80	High performance quad-axial glass and carbon fibre pipe wrap system used with ambient temperature 2-part epoxy system.
Revowrap 110	High performance carbon fibre pipe wrap system used with an high temperature 2-part epoxy system.
Revowrap 185	High performance carbon fibre pipe wrap system used with ultra high temperature 2-part epoxy system.
Revoshield 124	High performance fibre glass coating system used with super strength 2-part epoxy system.
Revowrap 175 Putty	Medium viscosity high compression strength putty used for the profiling of Revowrap® systems.
Revostrap	A 20 second leak repair system for low to medium pressure.
Revomat	An intelligent post cure system for high temperature wrap systems.
SPITZE Clamp	Temporary repair of live high-pressure leaks without having to shut down or isolate the system.

CARBONTECH

The place chemistry, engineering and global expertise are brought together to drive progressive innovation in advanced composite technologies for the emergency repair of critical assets **“There is nothing generic about us”** we don’t just sell pipe wraps; we provide accurate engineering backing to deliver tailored solutions.

Sound and responsible engineering is the basis on which we build our company, products and services. It is the core to our success and it is the foundation on which we have engineered and manufactured our innovative and bespoke products.

We strive by a zero-failure philosophy and warrant our engineered composite solutions are tested, proven and validated. We vow to provide dependable, responsible and accurate information regarding the capabilities of our systems.

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