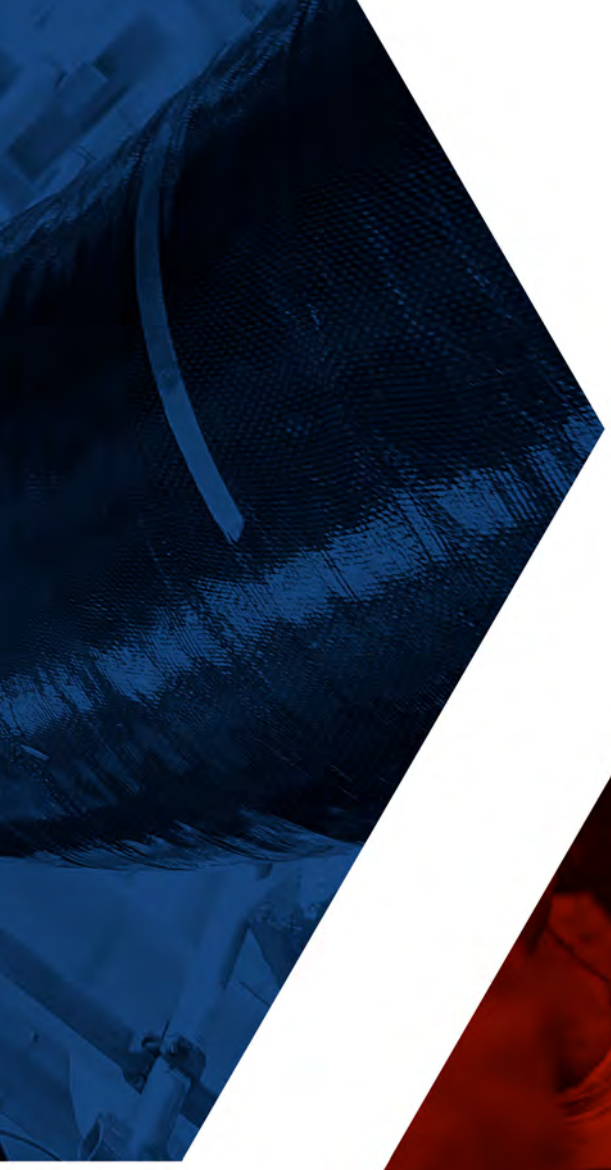
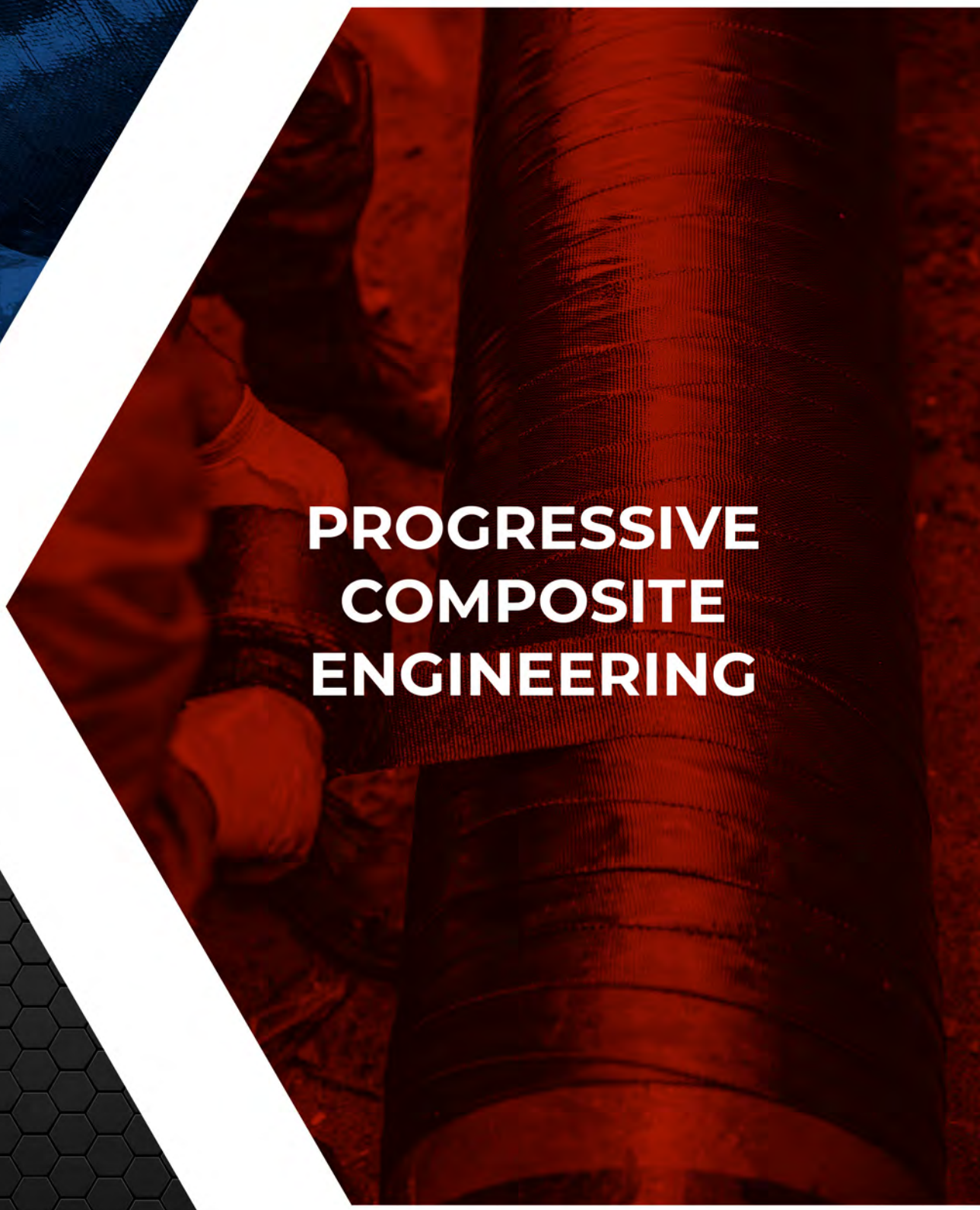


CARBONTECH
COMPOSITE SYSTEMS



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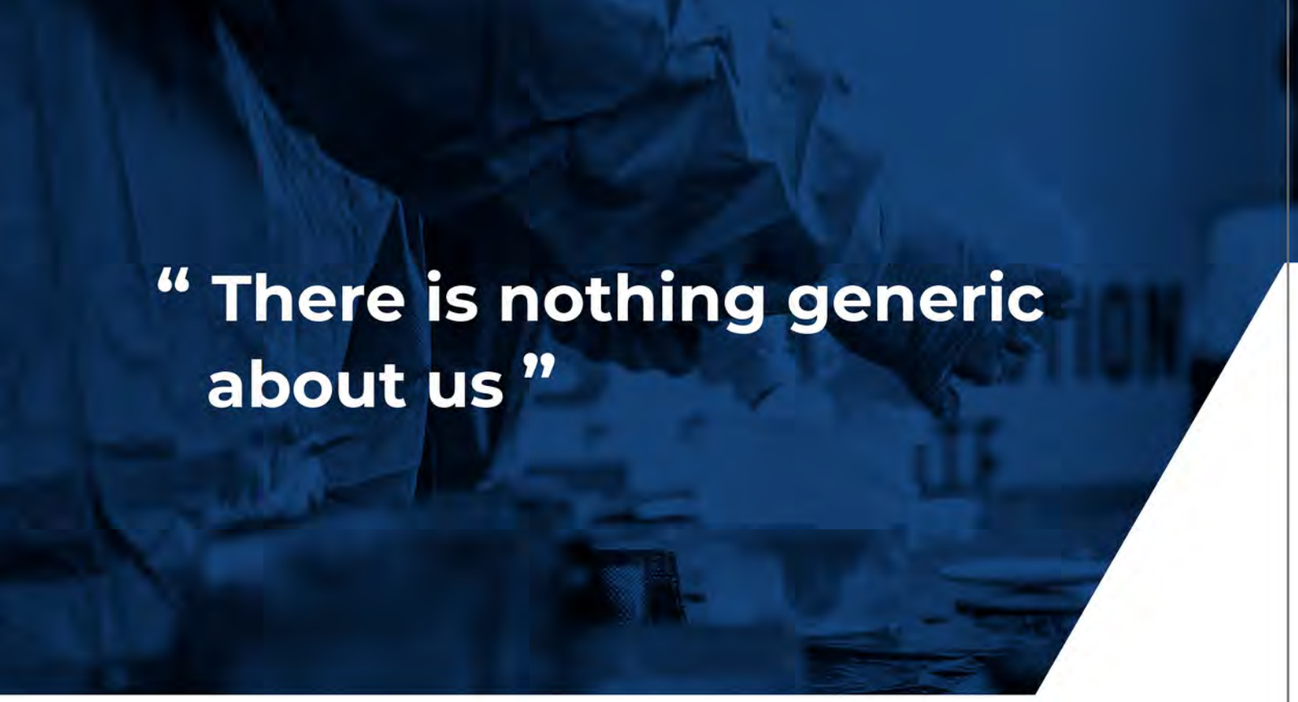


# “ There is nothing generic about us ”

## WHO WE ARE

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 manufacture our innovative and bespoke systems

## OUR PHILOSOPHY

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



## CARBONTECH GROWTH INDICATOR

**2018 AUGUST**

**SOUTH AFRICA**
*Johannesburg*

CARBONTECH COMPOSITE SYSTEMS
Role: OEM
Distribution Area: Africa

**2019 AUGUST**

**AUSTRALIA**
*Perth*

CARBONTECH AUSTRALIA
Role: Bulk Distributor
Distribution Area: Australia

**2019 JUNE**

**SINGAPORE**
*Marine Parade*

CARBONTECH ASIA
Role: Bulk Distributor
Distribution Area: Asia Pacific

**2019 DECEMBER**

**USA**
*Tulsa O.K*

CARBONTECH AMERICAS
Role: Bulk Distributor
Distribution Area: Americas

**2019 OCTOBER**

**MIDDLE EAST**
*Muscat*

CARBONTECH ME
Role: Bulk Distributor
Distribution Area: Middle East

**2020 JANUARY**

**NETHERLANDS**
*Amsterdam*

CARBON TECH EUROPE BV
Role: Bulk Distributor
Distribution Area: Europe

**2020 APRIL**

**POLAND**
*Bydgoszsz*

CARBONTECH COMPOSITE SYSTEMS
Role: Distributor
Distribution Area: Eastern Europe and Central Asia

# HOW IT WORKS

## STEP 1

The client will provide Carbontech engineering with the anomaly description in the form of an engineering assessment form.

## STEP 2

Carbontech engineers provide repair recommendations and design-calculations in accordance with ASME PCC2 and/or ISO-TS-24817 signed off by a Professional engineer.

## STEP 3

Materials may be supplied in Kit form for specific projects or repairs.

## STEP 4

Installation and quality control are performed by trained distributors, contractors or end-users.

## STEP 5

Quality control documentation is returned to Carbontech engineering for quality assurance and guarantee motivation.



Our systems are compliant with engineering codes:

***ISO TS-24817 and ASME PCC2***

**Carbontech composite systems are the developers and manufacturers of engineered composite materials formulated to restore critical assets back to the original design specifications.**

# WET LAY SYSTEMS

## REVOWRAP

***-50°C to 233°C with no pressure limitations!***

The "Revowrap ®" composite systems are engineered to operate in working temperatures from -50°C to 233°C and bares no pressure limitations. 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 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

| REVOWRAP 110 | |
|---|---|
| Minimum Application Temperatures | 8°C |
| Maximum Application Temperatures | 100°C |
| Minimum Allowable Operating Temperatures | -50°C |
| Maximum Allowable Operating Temperatures | 109°C |
| Maximum Allowable Operating Pressure | No Limitations |
| Shelf Life | 2 Years |
| Set Time @ 29°C | 4 Hours |
| Minimum Pipe Diameter | No Limitations |
| Maximum Pipe Diameter | No Limitations |
| Repair Lifespan | Up to 20 Years |
| Through Wall Defects | Yes |

| REVOWRAP 185 | |
|---|---|
| Minimum Application Temperatures | 18°C |
| Maximum Application Temperatures | 120°C |
| Minimum Allowable Operating Temperatures | -50°C |
| Maximum Allowable Operating Temperatures | 211.8°C |
| Maximum Allowable Operating Pressure | No Limitations |
| Shelf Life | 1 Year |
| Set Time @ 29°C | 12 Hours |
| Minimum Pipe Diameter | No Limitations |
| Maximum Pipe Diameter | No Limitations |
| Repair Lifespan | Up to 20 Years |
| Through Wall Defects | Yes |

| REVOWRAP 225 | |
|---|---|
| Minimum Application Temperatures | 23°C |
| Maximum Application Temperatures | 120°C |
| Minimum Allowable Operating Temperatures | -50°C |
| Maximum Allowable Operating Temperatures | 233°C |
| Maximum Allowable Operating Pressure | No Limitations |
| Shelf Life | 1 Year |
| Set Time @ 29°C | 20 Hours |
| Minimum Pipe Diameter | No Limitations |
| Maximum Pipe Diameter | No Limitations |
| Repair Lifespan | Up to 20 Years |
| Through Wall Defects | Yes |

## FEATURES & ADVANTAGES

- Quick non-invasive installation
- Can handle complex piping geometries
- No Pressure limitations
- Repairs done live, no unplanned down time
- Extend design life of compromised assets up to 20 years

## INDUSTRIES

- Oil and Gas
- Petrochemical
- Chemical
- Transmission pipelines
- Potable water supply & Many more

## USES

- Internal corrosion
- External corrosion
- Weld anomalies
- Mechanical damage
- And aging assets

# RIGID COIL SYSTEMS

## PERMAWRAP

***is the only composite pipe repair system designed to be detected by MFL tools!***

The “PermaWrap®” ASME PCC2 ; ISO TS 24817 CSA and DOT compliant composite sleeves uses a superior laminate construction with proven materials to form a The “PermaWrap®” ASME PCC2 ; ISO TS 24817 CSA and DOT compliant composite sleeves uses a superior laminate construction with proven materials to form a high tensile strength, rigid magnetically detectable fibreglass wrap for the permanent structural reinforcement of external defects up to 80% wall loss.

## WELDWRAP

***The only Rigid composite repair sleeve designed for girth weld zone reinforcement***

The patented “WELDWRAP®” is ASME Pcc2 ; ISO TS 24817 CSA and DOT compliant and uses a superior laminate construction with proven materials to form a high tensile strength, rigid magnetically detectable fibreglass wrap for the permanent structural reinforcement of external defects up to 80% wall loss.

| PERMAWRAP | |
|---|---|
| Minimum Application Temperatures | -1.1°C |
| Maximum Application Temperatures | 72.2°C |
| Minimum Allowable Operating Temperatures | -50°C |
| Maximum Allowable Operating Temperatures | 72°C |
| Maximum Allowable Operating Pressure | No Limitations (<80% Wall Loss) |
| Shelf Life | 1 Year |
| Set Time @ 29°C | 2 Hours @ 23°C |
| Minimum Pipe Diameter | 4" |
| Maximum Pipe Diameter | 60" |
| Repair Lifespan | Up to 20 Years |
| Through Wall Defects | No - (<80% Wall Loss) |

| WELDWRAP | |
|---|---|
| Minimum Application Temperatures | -1.1°C |
| Maximum Application Temperatures | 72.2°C |
| Minimum Allowable Operating Temperatures | -50°C |
| Maximum Allowable Operating Temperatures | 72°C |
| Maximum Allowable Operating Pressure | No Limitations (<80% Wall Loss) |
| Shelf Life | 1 Year |
| Set Time @ 29°C | 2 Hours @ 23°C |
| Minimum Pipe Diameter | 4" |
| Maximum Pipe Diameter | 60" |
| Repair Lifespan | Up to 20 Years |
| Through Wall Defects | No - (<80% Wall Loss) |

## FEATURES & ADVANTAGES

- 2-hour cure time
- 30-minute installation time
- Magnetically smart pig detectable
- Repairs done live, no unplanned down time
- Extend design life of compromised assets up to 20 years

## INDUSTRIES

- Oil and Gas
- Petrochemical
- Chemical
- Transmission pipelines
- Potable water supply & Many more

## USES

- Internal corrosion
- External corrosion
- Weld anomalies
- Mechanical damage
- And aging assets

# POST CURE SOLUTIONS

## REVOMAT

***Intelligent post cure system for composite repairs!***

The Revomat® - is a revolutionary intelligent post cure system developed by our Carbontech engineers to safely and efficiently provide the prescribed cure cycles for high temperature on-site composite repairs. The controller system monitors its own power output relative to pipe temperatures it will remain stable even if pipe temperatures fluctuates.

### No more wrap failures!

Most wrap failures occur by either poor surface preparation, installation or inadequate curing of the repairs. **ALL** high temperature resin systems require very specific cure regimes in order to complete the cross-link phase of the specific epoxy system. This unlocks the best mechanical properties & chemical resistance performance of the laminate

## HOW IT WORKS

1. After the composite wrap has been applied, the Revomat® silicone blanket is laid over the repair.
2. A soft Insulation layer is used to cover the matt to prevent heat loss
3. The correct cure regime is selected and relevant input data is entered into the controller for quality control measures
4. The cure regime runs automatically and will shut down on completion.



## FEATURES & ADVANTAGES

- The controller system is intelligent and monitors its own power input relative to pipe surface temperatures, it will ensure stable temperature even if the pipe temperature fluctuates
- The Systems Records the entire cure cycle and can provide a graph of the temperatures during the cure cycle.
- The User interface is designed in such a manner that a few clicks on the touch screen will start the correct cure cycle for the selected wrap system
- Lightweight and portable
- Low power output

## INDUSTRIES

- Oil and Gas
- Petrochemical
- Chemical
- Transmission pipelines
- Potable water supply & Many more

## USES

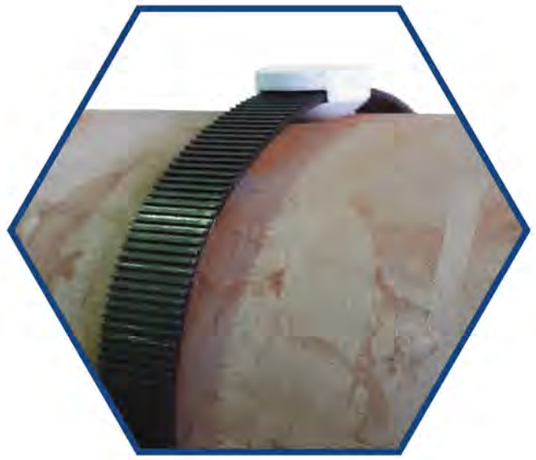
- Post curing of high temperature systems
- Repairs in cold ambient conditions
- Repairs on cold process lines
- Pre-heating for wrap

# LEAK ARRESTING TOOLS

## REVOSTRAP

***The 20 second leak repair system!***

Carbontech introduces the Revostrap smart system to our arsenal to combat enduring site complications of leaking defects. It is not an industry secret that no composite repairs can be wrapped over active leaks. Revostrap smart systems is the answer! The Revostrap smart system is lightweight, cost effective and very simple to use, it is the strongest temporary leak sealing strapping device on the market.



## HOW IT WORKS

1. The Revostrap is designed to arrest live process leaks FAST!
2. The low-profile systems allow for easy overwraps for permanent repairs.
3. The entire system is designed from lightweight, durable composite materials
4. This is a 20 second process!
5. The system comes with various bung sizes and hardness's for various defect types and sizes

## FEATURES & ADVANTAGES

- 20 second installation time
- Leaking defects up to 35 BAR
- Operating temperatures up to 110°C/230°F
- Non corrosive and non-conductive
- Low profile for composite overwraps

## INDUSTRIES

- Oil and Gas
- Petrochemical
- Chemical
- Transmission pipelines
- Potable water supply & Many more

## USES

- Diver friendly for underwater applications
- Temporary leak repairs for composite overwraps
- Large piping diameters
- All piping Substrate
- Seal holes up to 19mm Dia

# TRAINING

***ASME PCC2 and ISO TS 24817 Compliant training courses on all our systems!***

Carbontech provides training and certification compliant to ASME PCC2 and ISO TS 24817. Training may be provided at any of our facilities, accredited distributors and on-site custom training packages may also be provided. Carbontech products are engineered solutions thus have stringent procedures to ensure successful quality repairs. Training is required for compliance with relevant engineering codes and regulations

## HOW IT WORKS

1. 2 Day course (One day Theory, one day Practical)
2. Written Exam
3. Practical wraps and live pressure tests

## FEATURES & ADVANTAGES

- ISO TS-24817 and ASME PCC2 compliant certification
- Global training facilities
- Custom training packages provided
- Includes all Carbontech products



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