SealXpert®

PRODUCT CATALOGUE

COMPOSITE REPAIR

SealXpert® Products
Engineered Industrial MRO Solutions

SealXpert® Products is an ISO certified company. We offer a range of proven maintenance and repair products that are unique in pipeline service. Our products received accreditation from American Bureau of Shipping (ABS) and currently sold in more than 55 countries worldwide including Asia, Australia, Europe, Middle East, Africa, and North and South America.

Our range of maintenance and repair products are used for leak repair, corrosion protection, corrosion repair and reinforcement, parts repair and rebuilding, corrosion and wear coating, asset maintenance, fire protection, pipeline rehabilitation, etc. Each of the products is engineered to be applied on many applications. These products eliminate or minimize the cost of plants and equipment downtime.

Our products are applied across wide industries including oil and gas, offshore, petrochemical, chemical, marine, power generation, pulp and paper, mining and metals, pharmaceutical, semiconductor and electronics, manufacturing and processing, water and waste water, buildings and facilities maintenance.
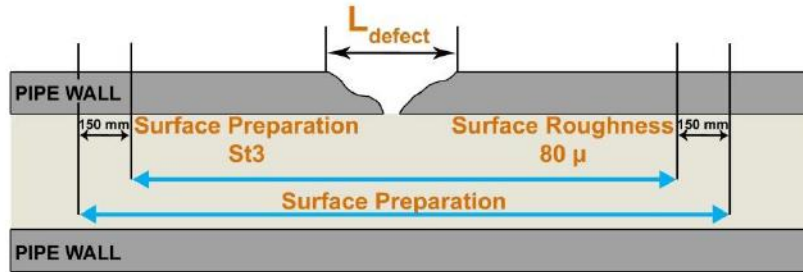
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Composite Leak Repair

First Stage: Surface preparation

- Carry out site survey to identify the pipe to be repaired and mark the actual leak location(s).
- Shut off or reduce the pipeline pressure and temperature as much as possible.
- Use grit blasting to clean affected pipe surface to St3 standard. At locations which cannot be performed to the above requirements, these locations shall be cleaned with appropriate non-spark tools (e.g. needle scalers, scabblers, descalers, etc.). The surface of the pipe must remain dry throughout the repair application.
- All circumferential surfaces within the length of 3 times pipe diameter shall be cleaned.
- Prepare surface roughness to approximately 40 to 80 microns (depending on the pipe material). Use a surface roughness tester to confirm the prepared surface roughness has been achieved.
- Use a solvent based degreaser (eg: SealXpert® SP20 Cleaner and Degreaser) to remove oil and grease from pipe surface.
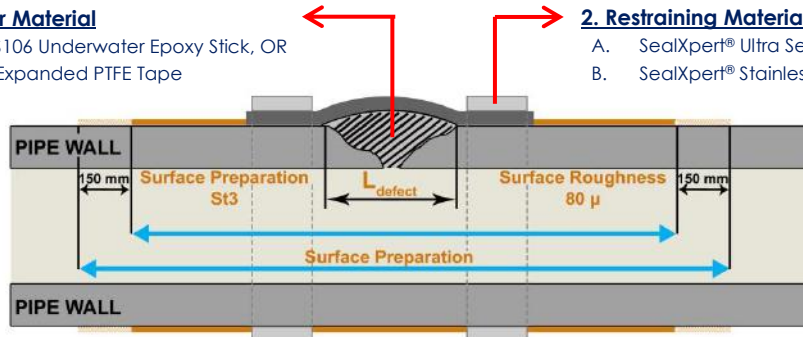- Ensure that salt content on pipe surface is less than 2.6 μg/cm² ideally.

Second Stage: Select suitable interface filler material and restraining material

1. Interface Filler Material
- A. Seal Stic® SS106 Underwater Epoxy Stick, OR
- B. SealXpert® Expanded PTFE Tape

2. Restraining Material
- A. SealXpert® Ultra Sealing Tape, OR
- B. SealXpert® Stainless Steel Pipe Clip

1. Interface Filler Material

A. Put on the latex gloves and knead appropriate amount of Seal Stic® SS106 Underwater Epoxy Stick - the amount of epoxy stick used should cover at least 3 times the area of the leak and thickness of 25mm to 30mm. Knead the epoxy stick until uniform colour is obtained. Apply the mixed epoxy stick onto thin stainless steel sheet metal (of length and width at 3 times the leak area and thickness of 0.4mm) and press against leak location.

Seal Stic® SS106 Underwater Epoxy Stick
- Pre-mixed ceramic-based formulation
- Suitable for moist and wet conditions
- Bonds to metallic and non-metallic surfaces
- Patching holes and gouges in pipes
- Applicable for temperature up to 70°C

B. Put on the latex gloves and cut sufficient length of SealXpert® Expanded PTFE Tape. Remove the backing of the PTFE tape and adhere the PTFE tape onto a thin stainless steel sheet metal (0.4mm thick). Press the PTFE Tape against the leak location.

SealXpert® Expanded PTFE Tape
- Excellent resistance to oil and chemicals
- Suitable for drinking water pipes
- Applicable for temperature up to 260°C

APPLICATION VIDEO

APPLICATION VIDEO

Composite Leak Repair

2. Restraining Material

A. Wrapping the SealXpert Ultra Sealing Tape a few distances away from the leak location, using the entire roll.

SealXpert® Ultra Sealing Tape

- Seals active pipe leaks up to 150 psi (11 kg/cm²)
- Permanent air-tight and water-tight seal in emergency situations
- Designed for quick plumbing repairs, sealing hoses, emergency O-ring, seals or to insulate electrical wiring
- Use for active pipe leak repairs, leaking joints and hazardous material spill control

B. Prepare the SealXpert® Stainless Steel Pipe Clip by cutting an appropriate length. Connect the cut-off length of stainless steel pipe clip with adjustable fasteners. Wrap the connection with adjustable fastener with a PVC tape. Place the stainless steel backing against the stainless steel pipe clip while the epoxy stick / PTFE tape faces the pipe surface, away from the leak location. Tighten the adjustable fastener of stainless steel pipe clip slightly and slide the clip to the leak location. Continue to tighten the adjustable fastener while ensuring that the epoxy stick / PTFE tape is covering the leak hole.

SealXpert® Stainless Steel Pipe Clip

- For securing, mounting, strapping, clamping and positioning
- Can be used for all conventional clamping jobs
- Make any sizes from 2" (50 mm) diameter to 382" (9,703 mm) diameter

Third Stage: Select suitable repair and rebuild compound

3. Repair and Rebuild Compound

A. SealXpert® PS102 Steel Repair Putty, OR
B. SealXpert® PS107 5 Min (SF) Repair Putty, OR
C. SealXpert® PS106 Underwater Repair Putty, OR
D. SealXpert® PS108 Hi-Temp Repair Putty, OR
E. SealXpert® WR211 Corrosion Resistant Coating
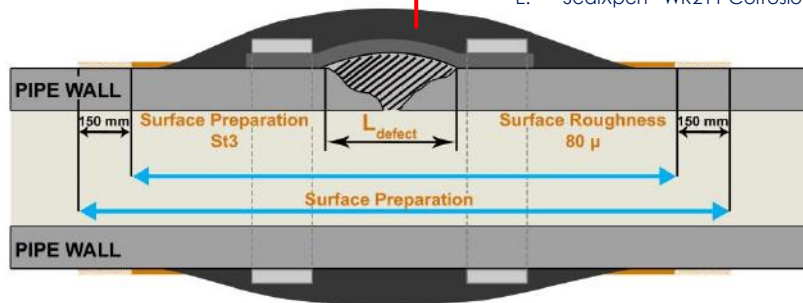
3. Repair and Rebuild Compound

Mix the hardener portion of repair putty / resistant coating into the resin container evenly for about five minutes. Apply the mixed repair putty / resistant coating over the prepared pipe section (around pipe length and circumference). The applied coating thickness should be at least 10mm over the leak area. Allow the coated repair putty / resistant coating to cure for 24 hours and observe leak condition. Use a barcol hardness tester to confirm the cured putty has a hardness greater than 90 (Shore A) or 60 (Shore D). Actual coating thickness for each repair should be determined by ASME PCC2 or ISO/TS24817 Engineering calculation

General Application

A. SealXpert® PS102 Steel Repair Putty

- Metal-filled two-component epoxy putty
- Bonds to metals, concrete and plastics
- Cures at room temperature
- Excellent resistance to oil, gasoline, water and chemicals

Fast Curing Application

B. SealXpert® PS107 5 Min (SF) Repair Putty

- Fast-curing
- Stainless steel-filled two-component epoxy putty
- Suitable for quick and emergency repairs
- Cures in less than one hour

Composite Leak Repair

Wet or Underwater Application

C. SealXpert® PS106 Underwater Repair Putty

- Suitable for wet or underwater parts repairing
- Used in splash zone repair

High Temperature Application

D. SealXpert® PS108 Hi-Temp Repair Putty

- Withstands high temperature up to 230 °C (446 °F) (continuous) and 280 °C (536 °F) (intermittent)

Chemical Resistance Application

E. SealXpert® WR211 Corrosion Resistant Coating

- Composed of modified epoxy, wear resistant ceramic and crystal mineral powder
- Excellent resistance to strong alkalis and acids

Fourth Stage: Select suitable reinforcement wrapping material
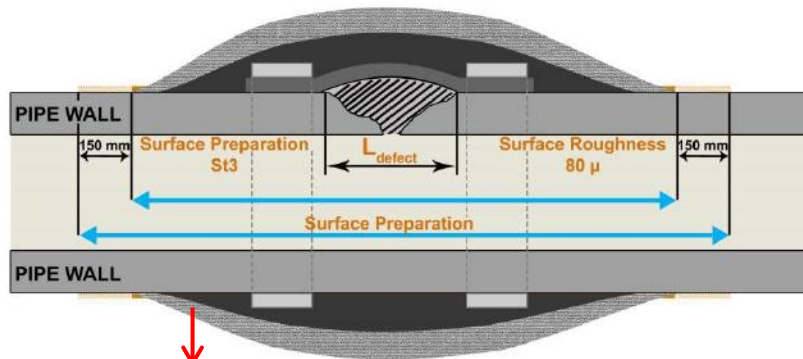
4. Reinforcement Wrapping Material
- A. Wrap Seal PLUS® Fiberglass Repair Tape, OR
- B. Wrap Seal PLUS® Standard Resin and Activator + Wrap Seal PLUS® Uncoated Fiberglass Tape

4. Reinforcement Wrapping Material

A. Tear open the Wrap Seal PLUS® Fiberglass Repair Tape and immerse it in water for 10 seconds; squeeze the roll while immersing it in water. Remove the fiberglass repair tape from the water and start wrapping the pipe. The wrapping of fiberglass repair tape should start at least 100mm to 200mm before the leak area. Total wrapping length is ideally 3 times pipe diameter. Actual number of layers of wrapping for each repair should be determined by ASME PCC2 or ISO/TS 24817 Engineering Calculations.

Wrap Seal PLUS® Fiberglass Repair Tape

- Restore pipes to original strength
- Applied onto thinning pipe walls for pipeline reinforcement
- Improve hoop strength of pipeline after repair
- Suitable for pipe diameter up to 60" (1,524 mm)
- Applicable for pipeline temperature up to 280 °C (536 °F)

APPLICATION VIDEO

B. Mix and stir Wrap Seal PLUS® Standard Resin and Activator for at least 1 minute until well mixed. Apply the activated resin onto the Wrap Seal PLUS® Uncoated Fiberglass Tape. After coated with activated resin, roll-up the fiberglass tape. Start wrapping the pipe. The wrapping of fiberglass tape should start at least 100mm to 200mm before the leak area. Total length of wrapping should be at least 3 times the pipe diameter. Use a shrink wrap to wrap over the coated fiberglass tape, prick holes in the shrink wrap to allow trapped air bubbles and excessive activated resins to be removed from the composite repair. Actual number of layers of wrapping for each repair should be determined by ASME PCC2 or ISO/TS 24817 Engineering Calculations.

Wrap Seal PLUS® Standard Resin and Activator

- Corrosion barrier and isolator
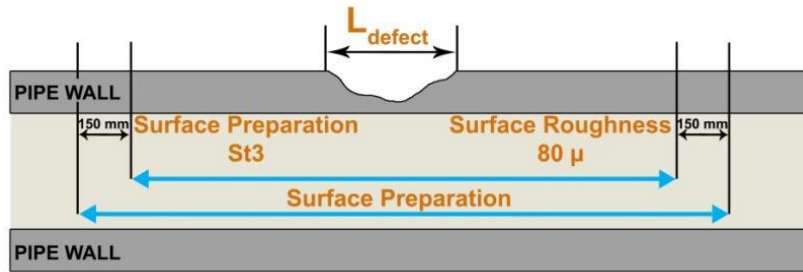- High adhesion strength
- Excellent alkali and acid resistance

Wrap Seal PLUS® Uncoated Fiberglass Tape

- Specially designed for use in filament winding applications with epoxy resin systems

Composite Corrosion Repair

First Stage: Surface preparation

- Carry out site survey to identify and mark the area to be repaired.
- Shut off or reduce the pipeline pressure and temperature as much as possible.
- Use grit blasting to clean affected pipe surface to St3 standard. At locations which cannot be performed to the above requirements, these locations shall be cleaned with appropriate non-spark tools (e.g. needle scalers, scabblers, descalers, etc.). The surface of the pipe must remain dry throughout the repair application.
- All circumferential surfaces within corroded area shall be cleaned.
- Prepare surface roughness to approximately 40 to 80 microns (depending on the pipe material). Use a surface roughness tester to confirm the prepared surface roughness has been achieved.
- Use a solvent based degreaser (eg: SealXpert® SP20 Cleaner and Degreaser) to remove oil and grease from pipe surface.
- Ensure that salt content on pipe surface is less than 2.6 µg/cm² ideally.

Second Stage: Select suitable coating / repair and rebuilding compound

1. Coating / Repair and Rebuilding Compound
    A.   SealXpert® PS102 Steel Repair Putty, OR
    B.   Wrap Seal PLUS® Standard Resin and Activator
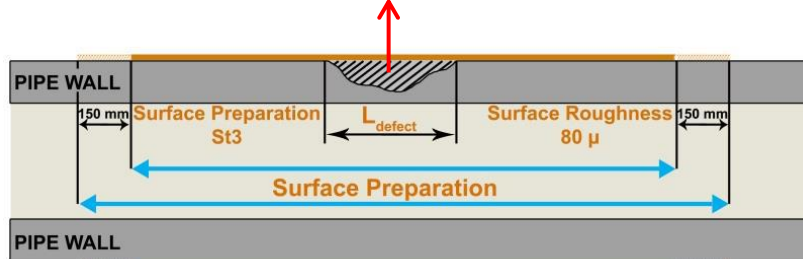
1. Coating / Repair and Rebuilding Compound

A. Put on the latex gloves and mix the hardener portion of PS102 Steel Repair Putty into the resin container evenly for about five minutes. Apply the mixed repair putty over the prepared surfaces. The applied coating should be at least 5mm thick and cover over and excess of the cavities. Allow the coated SealXpert® PS102 Steel Repair Putty to cure for 24 hours. Use a barcol hardness tester to confirm the cured putty has a hardness greater than 90 (Shore A) or 60 (Shore D). Actual coating thickness for each repair should be based on ASME PCC2 or ISO/TS 24817 Engineering Calculations.

SealXpert® PS102 Steel Repair Putty
- Metal-filled two-component epoxy putty
- Bonds to metals, concrete and plastics
- Cures at room temperature
- Excellent resistance to oil, gasoline, water and chemicals

B. Pour the entire bottle of Wrap Seal PLUS® hardener into resin tin can. Mix and stir the activated resin mixture for at least 1 minute until they are well-mixed. Using a roller or paint brush, apply the activated resin promptly and evenly over the area to be repaired quickly and immediately (as the working time of the activated resin is 10 minutes). The coating of Wrap Seal PLUS® activated resin should be approximately 0.75mm thick and cover the entire prepared area. There should be a minimum of 2 layers of coating of Wrap Seal PLUS® Resin and Activator onto the pipe surface. Actual coating thickness for each repair should be based on ASME PCC2 or ISO/TS 24817 Engineering Calculations.
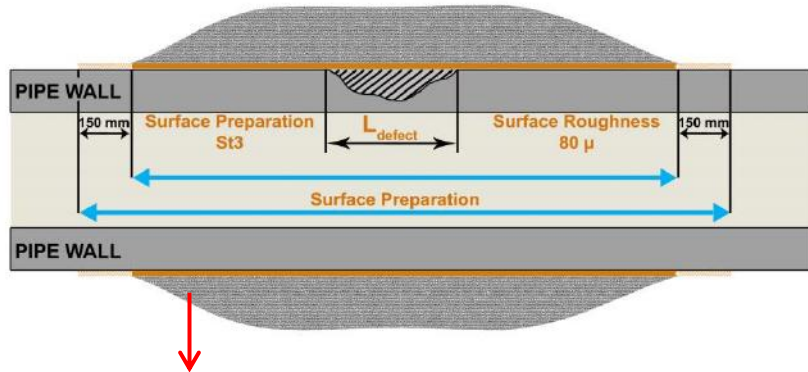
Wrap Seal PLUS® Standard Resin and Activator
- Corrosion barrier and isolator
- High adhesion strength
- Excellent alkali and acid resistance

Composite Corrosion Repair

Third Stage: Select suitable reinforcement wrapping material

2. Reinforcement Wrapping Material

A. Wrap Seal PLUS® Fiberglass Repair Tape, OR

B. Wrap Seal PLUS® Standard Resin and Activator + Wrap Seal PLUS® Uncoated Fiberglass Tape

2a. Reinforcement Wrapping Material (Pipeline)

B. Tear open the Wrap Seal PLUS® Fiberglass Repair Tape and immerse it in water for 10 seconds; squeeze the roll while immersing it in water. Remove the fiberglass repair tape from the water and start wrapping the pipe. The wrapping of fiberglass repair tape should start at least 100mm to 200mm before the defect area. Actual number of layer of wrapping should be based on ASME PCC2 or ISO/TS 24817 Engineering Calculations.

A. Mix and stir Wrap Seal PLUS® Standard Resin and Activator for at least 1 minute until well mixed. Apply the activated resin onto the Wrap Seal PLUS® Uncoated Fiberglass Tape. After coated with activated resin, roll-up the fiberglass tape. Start wrapping the pipe. The wrapping of fiberglass tape should start at least 100mm to 200mm before the defect area. Use a shrink wrap to wrap over the coated fiberglass tape, prick holes in the shrink wrap to allow trapped air bubbles and excessive activated resins to be removed from the composite repair. Actual number of layer of wrapping should be based on ASME PCC2 or ISO/TS 24817 Engineering Calculations.

Wrap Seal PLUS® Fiberglass Repair Tape

- Restore pipes to original strength
- Improve hoop strength of pipeline after repair
- Suitable for pipe diameter up to 60" (1,524 mm)
- Applicable for pipeline temperature up to 280 °C (536 °F)
- Pre-impregnated resin for quick on-site application

Wrap Seal PLUS® Standard Resin and Activator

- Corrosion barrier and isolator

Wrap Seal PLUS® Uncoated Fiberglass Tape

- Good bonding and adhesive strength between wrapping layers
- Excellent UV resistance for outdoor applications
- Onsite mixing allows for longer curing time

APPLICATION VIDEO

2b. Reinforcement Wrapping Material (Large Vessels / Tank / Large Surfaces)

Divide the large vessel into 3 equal circumferential sections. Apply Wrap Seal PLUS® Resin and Activator, cut and lay one piece of Wrap Seal PLUS® Chopped Strand Mat over each of the 3 sections of the coated area with at least 50mm overlap over the end of each section. Use a roller to roll over the layer of Chopped Strand Mat and ensure it is laid onto the surface evenly while removing any trapped air bubbles. Without waiting for curing continue to apply another coating of Resin and Activator and 1 more layers of Chopped Strand Mat. Finally overlay the top with one layer of Wrap Seal PLUS® surface tissue.

Wrap Seal PLUS® Chopped Strand Mat

- Applied with Wrap Seal PLUS® Resin and Activator to provide high tensile strength, impact, abrasion and corrosion resistance for large surfaces with low curvatures (storage tanks, vassals, etc.)
- Designed as surface rebuilding over large surfaces

Wrap Seal PLUS® Surface Tissue

- Applied with Wrap Seal PLUS® Resin and Activator to provide high tensile strength, impact, abrasion, and corrosion resistance for large surfaces (storage tanks, vassals, etc.)
- Designed to be used as a surfacing tissue to provide a gel-coat/resin reinforcement and a smooth resin-rich surface to the composite

APPLICATION VIDEO

ENGINEERED INDUSTRIAL MRO SOLUTIONS

LEAK REPAIR | CORROSION REPAIR AND REINFORCEMENT | CORROSION PROTECTION |
EPOXY PUTTIES AND COATINGS | SEALANTS AND ADHESIVES | SPECIAL LUBRICANTS |
AEROSOLS | CLEANING CHEMICALS | FIRE PROTECTION

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SOCOTEC
ISO 9001

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MANAGEMENT
SYSTEMS
0063

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