

SynthoGlass® UP

Pressurized Pipe & Joint Repair Kit

SynthoGlass®UP Repair System was specifically designed for under pressure leak repair applications on copper, steel, SS, PVC, FRP, clay, concrete, rubber, and more. By combining the original SynthoGlass® product, with the extremely chemically resistant ESN-202 and unique Pressure Sealing Tape, this offers the geometric flexibility to repair joints, tees, couplings, and pinholes. This complete system simplifies the application process and is prepackaged to accommodate pipes up to 10 inches in diameter. Larger repair applications can be engineered to meet your requirements.



Kit Contents

- Step-by-Step Instructions
- Sanding Cloth
- Solvent Cleaning Wipe
- Protective Gloves
- ESN-202 Putty
- Butyl Strip(s)
- Pressure Sealing Tape (black rubber tape)
- SynthoGlass Outer Wrap
- Compression Film

Typical Applications

Line, active leak repair on:

- Joints, tees, and couplings
- Pinholes
- Cracks

Benefits

- Repair pressurized pipes up to 60 psi (4.1 bar)
- No shutdown necessary
- Simple application
- Effective, time-saving
- No mixing and no mess
- Sets rock hard in minutes
- NSF61 and BS6920 approved for potable water when ESN-202 is used as the primary sealant



NSF61 and BS6920 approved for potable water

Properties

- **VOCs:** None
- **Service Temp:**
ESN-202, Pressure Sealing Tape, SynthoGlass:
-50 to 250°F (-45 to 121°C)
Butyl Tape:
-50 to 158°F (-46 to 70°C)
- **Application Temp:**
32 to 150°F (0 to 65°C)
- **Pressure Once Cured:**
Max 300 psi (20.6 bar)
- **Set Time:**
30 min at 75°F (24°C)

Procedures to be taken in handling and storage

For ideal shelf life, store in a cool, shaded area at 72°F (23°C). Do not expose to temperatures above 110°F (44°C) or below 40°F (5°C). Care must be taken when handling SynthoGlass' hermetically sealed foil pouch to prevent puncturing or scuffing. If the protective foil pouch is punctured, the SynthoGlass will be exposed to atmospheric moisture which will cause it to cure within the foil pouch.

PRECAUTIONS

The resin used in SynthoGlass will adhere to skin and clothing and may cause skin irritation. Protective gloves should be worn while handling. Care should be exercised to avoid contact with unprotected areas of skin and eyes. Swabbing lightly with alcohol or acetone will help remove resin from skin (prior to set). If eyes are exposed to the resin, flush eyes with water 15 minutes and then contact physician.

Included	Item#	Description
<input type="checkbox"/>	UP205	1/2" - 1" (12.7mm - 25.4mm)
<input type="checkbox"/>	UP309	1 1/4" - 2" (31.75mm - 50.8mm)
<input type="checkbox"/>	UP415	2 1/2" - 4" (63.5mm - 101.6mm)
<input type="checkbox"/>	UP430	4 1/2" - 6" (114.3mm - 152.4mm)
<input type="checkbox"/>	UP650	6 1/2" - 10" (165.1mm - 254mm)

READ ALL INSTRUCTIONS BEFORE OPENING PACKAGE

1. You will need water and wire brush or pocket knife to perform repair. Locate leak following standard leak detection procedures, then reduce line pressure to 60 psi (4 bar). Roughen pipe surface using wire brush and supplied sanding cloth to remove excess rust, dirt or loose scale.

Remove any oils, greases, soaps or foreign materials from pipe surface using the included solvent cleaning wipe. Unroll first 6" (15cm) from roll of black rubber Pressure Sealing Tape and remove backings; set aside. Remove ESN-202 putty from packaging and knead until uniform in color. Maximum mixing time: 3 minutes. Minimum mixing temp: 50°F (10°C).

FOLLOW JOINT OR PINHOLE/CRACK INSTRUCTIONS, DEPENDING ON YOUR APPLICATION, THEN PROCEED TO #4



2. JOINT: Mold mixed ESN-202 into 1/8-1/4" (3-6mm) rope and place around entire circumference of the joint, pressing firmly into place. The rope should not exceed the shoulder of female fitting.

PINHOLE / CRACK: Place small ball of mixed ESN-202 just large enough to fill the void above pinhole.

OPTIONAL: For difficult liquid repairs, apply Butyl Strip(s) in addition to ESN-202. Remove adhesive backing from Butyl Strip(s) and apply in an overlapping manor around the entire circumference of the joint atop the putty.

3. Press adhesive side of black rubber Pressure Sealing Tape onto pipe beside ESN-202 putty, or Butyl Strip, and overwrap 2 layers of Pressure Sealing Tape onto itself in a clockwise direction, thus anchoring the Pressure Sealing Tape to the pipe.

Continue wrapping Pressure Sealing Tape, stretching it to its maximum tension, working toward putty, thus pushing the putty into the defect. Wrap remainder of Pressure Sealing Tape DIRECTLY over the putty, forcing the putty into the defect.

STOP! Test repair by following your leak detection procedure to ensure the leak is sealed and contained. If leak persists, remove Pressure Sealing Tape and putty then repeat steps 2 and 3.

4. Put on supplied gloves, open foil pouch and submerge roll of SynthoGlass in water for approximately 10 seconds to activate the resin.

8 layers of SynthoGlass are required and must extend 2" (5cm) beyond both sides of the primary sealant, covering the entire repair site. To achieve 8 layers, apply 4 clockwise passes using a 50% overlap.

TIP: When applying to odd geometries, occasionally twist the SynthoGlass as it is applied helps it conform tightly to the pipe.



5. Apply 4 layers of clear plastic compression film over the entire composite repair. Using a perforating tool or wire brush, perforate all layers of compression film to allow the gas generated by the curing process to escape.

Remove compression film after approximately 3 hours. Once the SynthoGlass has reached its initial cure (30 min @ 75°F /24°C), protect with UV coating such as SynthoCoat™ or SynthoGlass® SPF before returning to service.



IN_0821

©2021 CSC Operating Company, Inc. All Rights Reserved. SynthoGlass®, SynthoGlass® UP, SynthoGlass® SPF and SynthoCoat™ are trademarks of CSC Operating Company, Inc. For full disclaimer information, please visit cs-nri.com/CSNRIDisclaimer.