

# DE NEEF<sup>®</sup> INJECTO<sup>®</sup> SIS Tube

Groutable hose waterstop system

## Product Description

The Small Injection System (SIS) INJECTO<sup>®</sup> is an injectable waterstop system that provides a conduit for the placement of DE NEEF<sup>®</sup> chemical grouts. Like its big brother the Injecto hose, the SIS hose is a permeable tube designed to ensure even distribution of grout throughout the injection zone. The SIS tube's small diameter (3/8") allows it to be placed in a sawed concrete slot or wrapped around a pipe penetration; while its heat shrink fittings allow for maximum flexibility in hose placement and injection.

## Product Application

- Sealing cold and construction joints
- Sealing pipe penetrations
- Retrofit sealing of joints

SIS INJECTO Tube may be used with the following chemical grouts:

- Flex SLV PRe with 1% Flex Cat PRe
- Flex LV PRe with 1% Flex Cat PRe
- Superflex AR Acrylate

## Product Advantages

- Small hose diameter
- Fast, simple installation
- No special tools required
- Low pressure injection
- Permanent seal after injection
- Injectable anytime after concrete cure

## Properties

TYPICAL PROPERTIES	
Outside Diameter	3/8 inch
Inside Diameter	3/16 inch
Length	Maximum 15 ft.
Weight	1.25 lbs per 25 ft.
Operating temperature	Up to 158 °F

Tensile strength steel wire	Approx. 261,000 psi
Diameter filter pores	35 microns

**Note:** The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

## Installation Guidelines

### Cold Joint Procedure:

The green SIS INJECTO Tube is installed onto the hardened concrete during formwork installation. In case of rough surfaces, any gap between SIS INJECTO Tube and the surface should be filled with SWELLSEAL®WA.

The green SIS INJECTO Tube is cut to the required length on the job site. (Recommended length 15 ft. or less). The cut ends are inserted into the black heat shrink sleeves. Apply sufficient heat with a hair dryer or hot air gun to allow sleeves to shrink onto the tube. Use caution not to melt the sleeve. Torches or other open flames are not recommended. Pull gently on the clear plastic tubing to insure the sleeve is snug.

The green SIS INJECTO Tube is attached to the concrete with the anchoring clips between the inner and outer reinforcing bars. Attach the anchoring clips to the concrete every 12 inches with concrete anchors or nails applied with a powder actuated system.

When beginning the next 15 ft run of SIS INJECTO Tube, line up the ends of the two black sleeves so that the green SIS INJECTO Tubes are parallel to each other, but do not touch. Provide a space between the two hoses of 2-3 inches. This will help avoid cross contamination of the two green SIS INJECTO Tubes during the grouting operation.

Always terminate the green SIS INJECTO Tube into heat shrink sleeve and allow for a minimum of 2-1/2" of concrete cover. **Do not run the green SIS INJECTO Tube outside the form work.**

Cut packer tubing to length as required to reach a formholder packer or to extend outside the formwork. The clear packer tubing should be secured with tie wire to the rebar to prevent movement during the pour.

The formholder packers can be either nailed to wooden formwork or attached to the rebar with steel tie wire if metal forms are used.

If formholder packers are used, attach the clear packer tubing directly to them. If the clear packer tubing is being run outside the form work, protect the open ends with a plastic cap or tape and take measures to protect them from damage during formwork installation and stripping.

### Saw Cut Procedure:

1. With a concrete cutting blade, create a slot in the cold joint to a depth of at least 2". (Always use proper PPE; goggles, respirator, gloves, etc. when cutting concrete.)
2. Clean all concrete dust out of the slot with water or compressed air.
3. Install SIS INJECTO Tube into bottom of joint (maximum 15 ft. lengths). Make sure injection fittings are properly attached to the tube.

1. Extend the clear packer tubes to the surface of the wall or floor and allow enough excess tubing to protrude for easy access during pumping. DO NOT ALLOW GREEN SIS INJECTO TUBE TO EXTEND OUT OF THE SAW CUT!
2. Place an open cell backer rod or dry (uncoiled) oakum into the saw cut to a depth equal to twice the width of the saw cut. Example: in a 3/8" saw cut, push the backer rod to a depth of 3/4".
3. Fill the gap over the backer rod cover material such as Deneplug hydraulic cement, Denepox Gel 125, or Denepox Rapid Gel epoxy gels.
4. Allow sufficient time for the epoxy or hydraulic cement to fully cure.
5. Inject with desired injection resin per injection instructions.

### Injection Procedure:

1. Test the system for conductivity by attaching a water pump to the end of the first clear packer hose (inlet). Pump water until flow is detected at the next clear packer hose (exit).
2. If a hydro active resin is to be used, crimp off the exit hose and pressure the system to 200 psi. This will "wet out" the injection area and any adjacent cracks. If a two component acrylate is to be injected, this step is unnecessary.
3. Mix resin per instructions on the Data Sheet for the specific product used.
4. Conduct a cup test to insure proper reactivity of the resin.
5. Connect the resin pump to the clear packer hose (inlet) of the first tubing run.
6. Pump resin until it is observed at the exit hose.
7. Crimp off the exit hose and slowly raise pump pressure as required to get grout flow. Depending on the resin selected, injection pressures will vary; however, it is not recommended that pump pressures exceed 600 PSI.
8. Consult project specifications for injection termination criteria. This may be a specific pump pressure, a volume of grout pumped, or pump to refusal.
9. After reaching grout termination criteria, crimp off the injection tube and repeat the procedure at the next tube run.
10. Repeat with all tubes until all tube runs are injected.
11. After injection resin has cured, cut off clear packer tube ends flush with concrete surface and patch with Deneplug hydraulic cement, Denepox Gel 125, or Denepox Rapid Gel epoxy gels.

## Packaging & Handling

### SIS INJECTO Kit Contains:

- Green SIS INJECTO Tube: 100 ft.
- Clear PVC Packer Tubing : 18 ft.
- Heat Shrink fittings: 12 pieces
- Anchoring clips: 100 pieces

Unlimited shelf life when stored in a dry place.

## Injecto Tube Construction

A high strength spiral wire coil (1) prevents collapse during concrete placement, while the non-woven filter membrane (2) prevents the tube from being clogged with concrete particles. A bright green reinforced mesh sleeve (3) protects the tube and allows for easy inspection before the pour. Wherever challenging applications for injection hose , the SIS INJECTO Tube system can provide maximum flexibility for your injection needs.

## Health and Safety

Always use protective clothing, gloves and goggles consistent with OSHA regulations during use. Avoid eye and skin contact. Do not ingest. Refer to SDS (Safety Data Sheet) for detailed safety precautions. SDS's can be obtained from GCP Applied Technologies or from our web site at [gcpat.com](http://gcpat.com).

## Limitations

The SIS INJECTO Tube system is designed to provide a delivery system for waterproofing resins, which are injected into the structure in accordance with the instructions found in the selected injection resins technical data sheets. Consult with the DE NEEF® Technical Department for assistance in selecting the appropriate sealing resin for each condition.

## CAUTIONS:

1. The green SIS INJECTO Tube must be installed in direct contact with the joint over its full length, to allow proper and complete distribution of the injection resin. If the concrete is not smooth enough to allow full contact, use SWELLSEAL WA to create a smooth surface. Press SIS INJECTO into the SWELLSEAL WA.
2. Do not cross the green SIS INJECTO Tubes. Green should never touch green or cross contamination could occur during the grouting operation.

[ca.gcpat.com](http://ca.gcpat.com) | North America customer service: 1-877-4AD-MIX (1-877-423-6491)

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

DE NEEF, INJECTO, and SWELLSEAL are trademarks, which may be registered in the United States and/or other countries, of GCP Applied Technologies Inc. This trademark list has been compiled using available published information as of the publication date and may not accurately reflect current trademark ownership or status.

© Copyright 2018 GCP Applied Technologies Inc. All rights reserved

GCP Applied Technologies Inc., 2325 Lakeview Parkway, Suite 450, Alpharetta, GA 30009, USA

GCP Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

This document is only current as of the last updated date stated below and is valid only for use in the Canada. It is important that you always refer to the currently available information at the URL below to provide the most current product information at the time of use. Additional literature such as Contractor Manuals, Technical Bulletins, Detail Drawings and detailing recommendations and other relevant documents are also available on [www.gcpat.com](http://www.gcpat.com). Information found on other websites must not be relied upon, as they may not be up-to-date or applicable to the conditions in your location and we do not accept any responsibility for their content. If there are any conflicts or if you need more information, please contact GCP Customer Service.

Last Updated: 2022-04-27

[ca.gcpat.com/solutions/products/waterstops/de-neeef-injecto-sis-tube](http://ca.gcpat.com/solutions/products/waterstops/de-neeef-injecto-sis-tube)