

# CGT-50

## INJECTION HOSE FOR CEMENTITIOUS GROUTING

### DESCRIPTION

CGT-50 is a large diameter plastic injection hose with injection-port slits spaced down the entire length of the hose. Following the placement of structural concrete the CGT-50 functions as a channel for injecting and transporting the grouting material along predetermined areas within the concrete; such as the crown and arched walls of tunnels. The innovative design of the hose does not allow the injection-port slits to be blocked when encapsulated by the concrete pour.

### APPLICATION

By injecting grout through CGT-50 after the poured concrete has cured, any void areas adjacent to the hose can be filled with grout. CGT-50 is primarily used for the injection of cementitious grouts in the roof crowns and arched walls of tunnel projects.

### INJECTION MATERIAL

The following grout materials can be used with CGT-50: Cementitious grouts, cementitious suspensions, PUR foam resin, PUR resin, Acrylate gel, and EP resin

### INSTALLATION

**General:** Cut CGT-50 hose coil into lengths applicable for project conditions. Maximum injectable length of CGT-50 is typically 40-feet (12.5 m). CGT-50 is typically injected 28 days following the concrete placement to allow for the concrete to cure; consult Project Engineer for specific project requirements. Visible flaws along the concrete construction joint or end cast are to be plugged with quick-dry, non-shrinking grout material approved by the Project Engineer before injecting.

For tunnel roof or tunnel wall arches where attaching to waterproofing membrane, secure the CGT-50 in place by installing the 2" (50mm) wide, two-sided tape (CETCO: CGT-TAPE) to adhere the hose tight against the waterproofing membrane along the entire hose length. Install cross straps of the CGT-Tape (minimum 6" long strips, spaced maximum 36" (900mm) on center) over the hose and in direct contact with the waterproofing membrane along the entire hose installation. CGT-50 is in its ideal position at the apex of the tunnel roof. After installing the initial CGT-50 hose length at the tunnel apex, install two additional lengths of CGT-50 hose running parallel with the first hose (one on each side). Typical placement of the two additional hoses is six feet (1.8 m) to the side of the apex hose but they can be spaced further apart based on tunnel cross section and project specifications.

Terminate each end of the CGT-50 hose a minimum 4" (100mm) distance within the concrete pour. Then using barbed hose couplers secured with stainless steel hose clamps, connect a reinforced braided PVC hose to each end of the CGT-50 hose. Connection between CGT-50 and reinforced braided PVC hose should be encapsulated a minimum 4" (100mm) within the subsequent concrete pour. Leave applicable length of reinforced braided PVC-feeding hose exposed outside of the concrete practical for project site conditions to facilitate injection process after concrete cures. At the end of the braided PVC feeding hose add a ball valve. Note: Additional length of reinforced PVC-reinforced hose can be connected later, by means of a hose coupler and clamps, to exposed end of a short piece of PVC-reinforced hose.

### INJECTION STEPS

Perform grout injection following these steps:

1. Check the continuity of each installed CGT-50 hose by flushing with water or air.
2. Before injecting a cementitious grout, each CGT-50 tube must be flushed with water.
3. Inject the grout via the reinforced braided PVC-feeding hose until traces of the injected grout is discharged from the opposite, open end of the hose. Then close off the opposite, open end (by means of a ball valve) as soon as the injected grout starts to flow freely from the open end.
4. The flow and extent of the injection grout can be monitored during the injection process by means of the injection pump's pressure gauge. Do not exceed grout injection pressure established by the Project Engineer. Consult with Project Engineer for specific project requirements.
5. Continue injection process until grout flow has stopped and/or constant pressure has been reached. Stopped grout flow or constant pressure indicates that the concrete void can take no more grouting material, thus signaling the end of the injection process.
6. Stop injection of grout and close ball valve to allow grout to set.
7. After grout is set, cut off and remove exposed reinforced braided PVC-feeding hose and grout plug concrete surface smooth, as applicable, per project requirements.

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### PACKAGING

328 linear foot coil per box (100 meter coil)

### STORAGE

Store CGT-50 in a dry place and protected against mechanical damage.

NOMINAL TECHNICAL FEATURES	
PROPERTY	TYPICAL VALUE
Profile:	round
External diameter:	7/8" (22mm)
Internal diameter:	1/2" (16mm)
Injection-port Length:	approx. 1" (25mm)
Injection-port Spacing:	approx.1.5" (40mm)

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