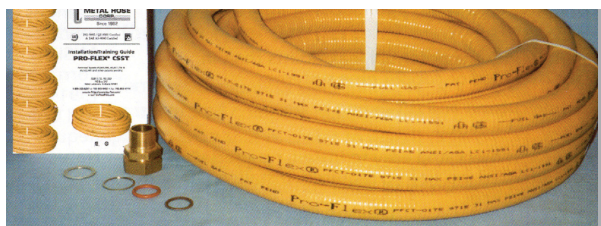


WHAT IS CSST ?

- Corrugated Stainless Steel Tubing (CSST) consists of a flexible inner stainless steel tubing covered with a polyethylene or vinyl jacket.
- It is used to plumb structures for gas or propane in lieu of conventional black pipe.
- It was developed in Japan in the late 1970s, and has been available in the U.S. since 1990.

WHAT IS THE DANGER ?

Since the introduction of CSST, there has been an increase in fire damage caused by lightning strikes. Direct and indirect lightning strikes can energize CSST, inducing current that attempts to use the metal conduit to reach ground. The corrugated design and the thin walls cannot withstand the energy produced, causing a hole to be melted in the CSST. That hole results in the release of pressurized natural gas or propane into the structure, which immediately ignites and rapidly fuels a fire ("the blowtorch effect").



DANGEROUS DIFFERENCES FROM TRADITIONAL GAS PIPING SYSTEMS

- Wall thickness: CSST = 0.008 inches thick Black pipe = 0.12 inches thick
- Unlike conventional black pipe systems which typically step down gas pressure outside the structure at the meter's regulator, CSST brings natural gas into homes and businesses at 2 PSI. Gas doesn't get stepped down to 7" WC for natural gas or 11-13" WC for propane until the gas passes through the manifold inside the structure. As a result, high pressure gas is released within the structure, where a breach places huge threat to life and property (especially if the hole is on the 2 PSI side).

COZEN O'CONNOR'S NATIONAL CSST TASK FORCE

Member Contact Information By Region

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* CSST Co-Chairs

Don't Get Struck Unprepared!

FIELD ADJUSTER'S HANDBOOK

Lightning-Induced CSST Fires:
Protecting Your Subrogation Rights



Prepared by the National CSST Task Force
Subrogation and Recovery Department



FIELD ADJUSTER'S CHECKLIST:

Not all lightning strike fires are caused by Acts of God; those involving CSST may be attributable to product defects and acts of negligence.

- Does the structure have CSST?
- Did the fire ignite during a thunderstorm?
- Is the fire's area of origin near a CSST run?

If yes to all:

Notify a Cozen CSST Task Force member for your state (see back cover) to handle the tasks below for you, or take the following steps.

- ☐ **Instruct Fire Investigator to obtain a lightning strike report** (eg. Vaisala);
- ☐ **Identify and place on notice potentially responsible parties:**
 - CSST manufacturer (usually stamped on polyethylene or vinyl jacket);
 - CSST installer (typically plumber - check permits); • electrician; and/or
 - builder;
- ☐ **Determine whether there is evidence of a direct strike** (check chimney cap and all roof penetrations for electrical activity or melting);
- ☐ **Identify any eye witnesses to the strike or the fire's ignition.** Did the insured, an occupant, or any neighbor see lightning actually hit any portion of the structure? At what time? How fast did the fire ignite and spread?
- ☐ **Locate holes in CSST through visual examination.** If holes are found, nondestructively protect the hole(s) by wrapping in plastic or Visquine and securing the ends of plastic (away from hole) with duct tape. This may help prevent claims that the holes were caused by post-fire corrosion or exposure to moisture.

- ☐ **Mitigate damages and secure the scene to prevent further degradation or alteration of CSST.** Place tarp over any openings in the roof and board up and secure any openings in windows, doors, or walls.
- ☐ **Instruct insureds not to alter or disturb fire scene** until a joint inspection with all potential parties can take place and relevant evidence can be removed.
- ☐ **Retain an electrical engineer and possibly a mechanical engineer to attend joint inspection.**

DURING JOINT INSPECTION WITH ALL POTENTIAL PARTIES:

- ☐ **Locate all holes by pressurizing system with nitrogen or air.** Once a hole is found, photograph and note location, then plug hole (nondestructively – pipe dope or tape) to determine if pressure holds or other holes exist. Repeat until system holds pressure.
- ☐ **Have an engineer document photographically:**
 - All CSST runs, manifold location, and all gas/propane appliance connections or stub outs;
 - How the CSST system is grounded/bonded (through appliance or through clamp and wire? If clamp/wire, note location and size of bonding wire);
 - Whether there is arcing on any wires that would have been in close proximity to location(s) of hole(s) in CSST (need to eliminate possibility of hole caused by contact with arcing wire);



Stereomicroscope photo taken by Goodson Engineering of CSST perforation caused by lightning.

- ☐ **Determine proper or improper grounding of other home systems** (telephone, television cable, electrical system);
- ☐ **Determine NFPA and NEC versions that were adopted by the city/municipality at the time subject home was built**, and obtain copies of the bonding/grounding sections of code;
- ☐ **Preserve all damaged runs of CSST, including manifold and regulator; and**
- ☐ **Give all potential parties the opportunity to identify any relevant evidence to be preserved for later use or examination.** Remember, it is within your rights to ask for contribution for storage costs if any party's request is excessive/ unreasonable.