

CSST (Corrugated Stainless Steel Tubing)

What is CSST anyway?

CSST is a flexible, corrugated stainless steel tubing used to supply natural gas and propane in residential and commercial buildings. CSST is a high-strength piping system that is easier to install than traditional steel piping. Because it is flexible it can be easily routed through walls,



attic and basement spaces. The number of fittings and

joints is less than traditional piping resulting in fewer connections with lower potential for leaks.

What does CSST look like?

CSST often has a yellow or sometimes black covering.

What is the difference between the yellow and black types of CSST?

The yellow covered CSST is the older first generation material. CSST that has a black covering is an improved version that includes



built in safety provisions for electrical grounding/bonding that reduces the risk of arcing.

I see a yellow or gray flexible line at some of my gas appliances is this CSST?

It is most likely an appliance connector.

Appliance connectors are a short flexible pipe that joins the appliance to the gas supply. These



are always located right at the appliance and do

not present a concern. However they should be replaced whenever the appliance is removed and a different one installed. Appliance connectors are not CSST.

When was it first used and how many homes have CSST?

CSST was developed in Japan in the 1980's in response to earthquakes. It was first introduced to the US in about 1990.

Approximately, one billion feet of CSST has been installed in over seven million homes with approximately a half a million homes each year.

Is CSST safe?

Like all approved gas piping systems CSST must be installed by a qualified professional in accordance with the Manufacturer's design and installation guidelines and local building codes. Not following the manufacturer's instructions can result in failures and safety concerns.

What are the most common installation defects?

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Overly tightened connections can damage the piping and result in leakages.



Trimming the protective outer jacket back too far exposed tubing should not be visible



Bend that are too tight

Exterior applications that are not properly protected



Insufficient support

Lack of proper sleeves or bulkhead connections at wall penetrations

Not properly bonded

The Home Inspector Called out CSST piping and recommended further evaluation what should I do?

Based on their visual inspection and their knowledge, background and training the inspector has observed conditions that may suggest improper installation practices that present a safety concern and is alerting you to the presence of these conditions.

As always, we recommend following the inspectors advice and have a qualified contractor conduct a full review of the gas supply system to identify all conditions that exist, obtain their recommendations and then implement all corrective actions as they determine necessary.

What is Bonding and why is it important?

Bonding connects a metallic system to establish electrical continuity and conductivity and prevents a possible electric shock hazard if you come in contact with the piping.

Bonding ensures that the electrical potential rises and falls at the same level as other components in the system when lightning strikes are possible. Because of this voltage equalization the possibility of arcing and the associated damage to the piping is reduced.

Why is lightning such a concern?

Lightning can result in an increase in the electrical potential of the system. Even nearby and indirect lightning can produce an electrical

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surge that can potentially puncture a hole in the CSST as a result of arcing. This creates a fire



hazard.

The agent and homeowner say bonding was not required when the home was built what should I do?

Also most all manufactures have required bonding as an installation requirement since 2007. It may have even been required before then based on the specific manufactures requirements.

Regardless of requirements or when the home was built your inspector has your safety in mind and has placed this in their report to ensure it receives proper attention and corrective actions as necessary.

Always request that a third party put their opinions, findings and recommendations in writing along with their license number, the same as your home inspector has done

My Electrical panel is not located near the gas meter and a bonding wire cannot be easily installed is there another option?

Yes, if direct bonding to the electrical grounding system is not practical then the option of installing one or more



grounding electrodes and connecting the bonding wire to them may be allowed depending on which code is referenced. In all cases a 6-AWG bonding wire is required unless the CSST has a conductive jacket.

Who should I contact to inspect and make repairs?

For bonding a licensed electrical contractor should be contacted to inspect and perform any electrical bonding work.

For other installation conditions you should contact a gas certified contractor (usually a plumbing contractor) to inspect the installation and make repairs.



Some contractor may be able to perform both the electrical and the installation inspections and repairs depending on their certifications and their employee's experience.

You can also contact the local gas company that services your area and request a review.