

LIGHTNING SAFETY WARNING

1. Properly bonding and grounding the Corrugated Stainless Steel Tubing (CSST) system may reduce the risk of damage and fire from a lightning strike. Lightning is a highly destructive force. Even a nearby lightning strike that does not strike a structure directly can cause systems in the structure to become electrically energized. Differences in potential between systems may cause the charge to arc between systems. Such arcing can cause damage to CSST, including holes. Bonding and grounding should reduce the risk of arcing and related damage. The building owner should confirm that a qualified contractor has properly bonded the CSST gas system to the grounding electrode system of the premises. Refer to Section 4.10 Electrical Bonding/Grounding in the Gastite Design & Installation Guide for details on bonding & grounding CSST.
2. All owners should consult a lightning safety consultant to determine whether installation of a lightning protection system would be required to achieve sufficient protection for all building components from lightning. Factors to consider include whether the area is prone to lightning. Areas with high lightning risk include but are not limited to: Arkansas, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, New Mexico, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas and West Virginia. One currently available source of information regarding areas more prone to lightning than others is the flash density map provided by the National Weather Service which can be found at http://www.lightningsafety.noaa.gov/lightning_map.htm. Lightning protection systems are beyond the scope of this manual and installation guidelines, but are covered by National Fire Protection Association, NFPA 780, the Standard for the Installation of Lightning Protection Systems, and other standards.
3. The owner should confirm with the local gas supply utility company that a suitable dielectric union is installed at the service entry of the structure between underground metallic piping and the gas pipes going into the building as required by code.
4. Section 250.104b of the National Electric Code (NEC) states that “bonding all piping and metal air ducts within the premises will provide additional safety”. Gastite recommends that all continuous metallic systems be bonded and grounded. The owner should confirm with an electrical or construction specialist that each continuous metallic system in a structure has been bonded and grounded by an electrical professional in accordance with local building codes. This should include, but is not limited to metallic chimney liners, metallic appliance vents, metallic ducting and piping, electrical cables, and structural steel.
5. Care should be taken when installing any type of fuel gas piping (including CSST, iron, or copper) to maintain as much separation as reasonably possible from other electrically conductive systems in the building. Refer to sec. 4.3 Routing, in the Gastite D&I Guide for installation techniques. Consult local building codes as to required separations for CSST from such conductive systems including metallic chimney liners, metallic appliance vents, metallic ducting and piping, and electrical cables. See for instance the Indiana Residential Code, section 675 IAC 14-4.3-155.5 Section G2411.1; gas pipe bonding.
6. Local building codes are controlling, however, as a general practice, fuel gas piping, including CSST, should not be installed within a chase or enclosure that houses a metallic chimney liner or appliance vent that protrudes through the roof. In the event such an installation is necessary and conforms to local building codes, the metallic chimney liner or vent must be bonded and grounded by a qualified electrical professional, and a separation distance, as specifically permitted by the applicable local building code between the CSST and the metallic chimney liner or vent, is required. Physical contact between CSST and the metallic chimney liner and/or vent is prohibited. If this physical separation cannot be specifically identified in the local building code and achieved or any local building code requirements cannot be met along the entire length, then rerouting of the CSST is required unless such installation is specifically permitted by the local building inspector.