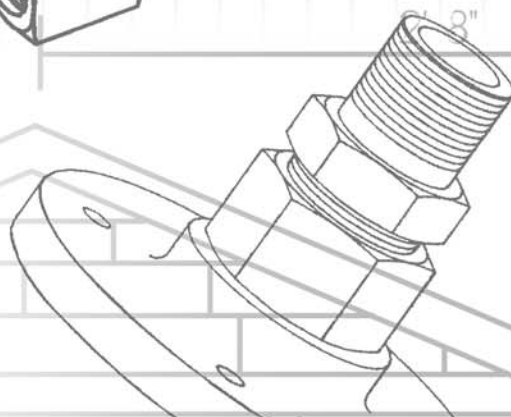
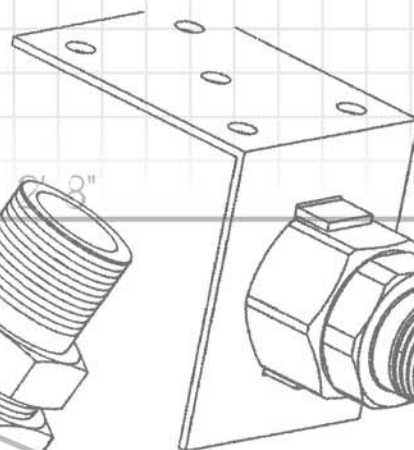
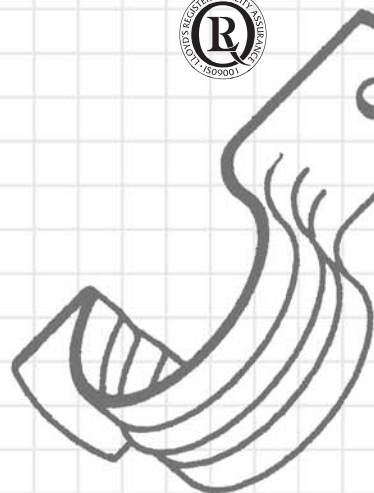
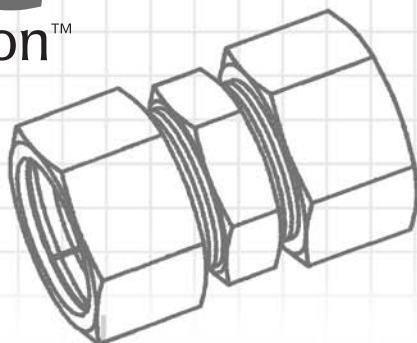


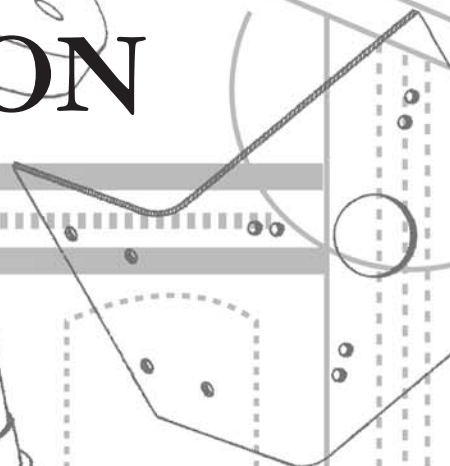
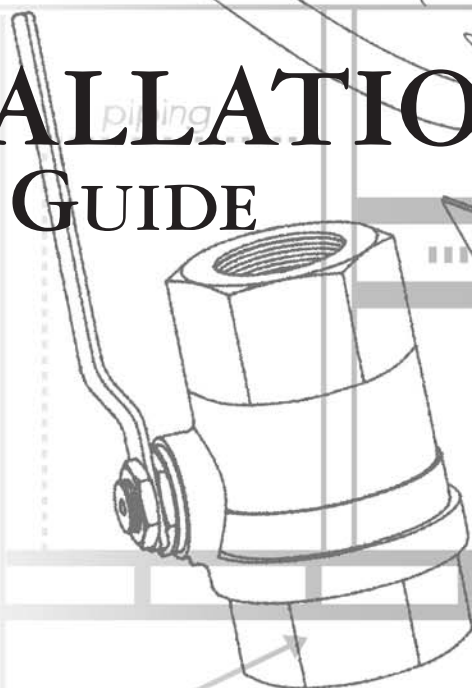


Gastite®

The System is the Solution™



DESIGN & INSTALLATION GUIDE



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1.1 General User Warnings (continued)

A Gastite® Flexible Gas Piping system offers advantages over other gas delivery systems because of its wall dimensions and corrugated design. In contrast to rigid steel pipe, Gastite® does not require intermediate joints in most installations because the tubing is capable of being installed in one continuous run, reducing not only the total number of joints, but also the potential for leaks at joints. Gastite®'s flexibility also affords more installation options because an installer can avoid existing obstacles, and it eliminates the repetitive measuring, cutting, threading and joint assembly that are common with installation of rigid steel piping systems. Gastite®'s flexibility offers even further safety advantages in geographic areas that are prone to seismic activity because the tubing is able to move as the ground or the structure shifts.

While Gastite® provides significant advantages over more rigid gas delivery systems, its flexible design may make it more likely than steel pipe to be punctured by a nail or other sharp objects, or damaged by other extraordinary forces such as lightning strike, depending on the circumstances.

Proper bonding and grounding is an important component in reducing the risk of injury, damage and fire due to electrical fault and/or lightning strike. Lightning is a well-known destructive natural force that can act upon any structure or its contents. Lightning strikes acting on or near a structure can cause significant damage to the structure, contents or inhabitants including structural fire and electrocution. Refer to Section 4.10 Electrical Bonding/Grounding for further details on how grounding and bonding must be employed with gas-piping and Gastite® CSST. In order to maximize protection of the entire structure from lightning damage, and depending on factors that vary based on the type and location of the structure, consideration must also be given to installation of a lightning protection system pursuant to NFPA 780 and/or other standards that go beyond the scope of this manual.

NOTE: Leak test solutions may cause corrosion in some types of material in the gas piping system. Be sure to water rinse after the test and thoroughly dry all contacted material.

November 2006



4.10 Electrical Bonding/Grounding

Direct bonding of Gastite® CSST is required for all gas-piping systems incorporating Gastite® CSST whether or not the connected gas equipment is electrically powered. This requirement is provided as part of the manufacturer's instruction for single-family and multi-family buildings. Bonding for commercial applications should be designed by engineers knowledgeable in electrical system design and the local electrical code.

Gastite® CSST installed inside or attached to a building or structure shall be electrically continuous and direct bonded to an effective ground-fault current path. The gas piping system shall be considered to be direct bonded when installed in accordance with the following:

The piping is permanently and directly connected to the electrical service equipment enclosure, the grounded conductor at the electrical service, the grounding electrode conductor (where of sufficient size) or to one or more of the grounding electrodes used. A single bond shall be made at or near the service entrance of the structure or the gas meter of each individual housing unit within a multi-family structure. The bonding conductor shall be 6 AWG copper wire. Bonding jumpers shall be attached in an approved manner in accordance with NEC-2005 Article 250.70 and the point of attachment for the bonding jumper shall be accessible. Bonding/grounding clamps listed to UL 467 comply with this requirement. This bond is in addition to any other bonding requirements as specified by local codes.

For attachment to the CSST gas piping system, a single bonding clamp must be attached to either a Gastite® brass fitting, a steel manifold or to any rigid pipe component. The corrugated stainless steel tubing portion of the gas piping system shall not be used as the point of attachment of the bonding conductor at any location along its length under any circumstances. See Figures 1, 2 and 3.

Proper bonding and grounding 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 energized. If the systems are not properly bonded, the differences in potential between the systems may cause the charge to arc to another system. Arcing can cause damage to CSST. Bonding and grounding as set forth above should reduce the risk of arcing and related damage.

Depending upon conditions specific to the location of the structure in which the Gastite system is being installed, including but not limited to whether the area is prone to lightning, the owner of the structure should consider whether a lightning protection system is necessary or appropriate. Lightning protection systems are beyond the scope of this manual, but are covered by NFPA 780, the Standard for the Installation of Lightning Protection Systems, and other standards.

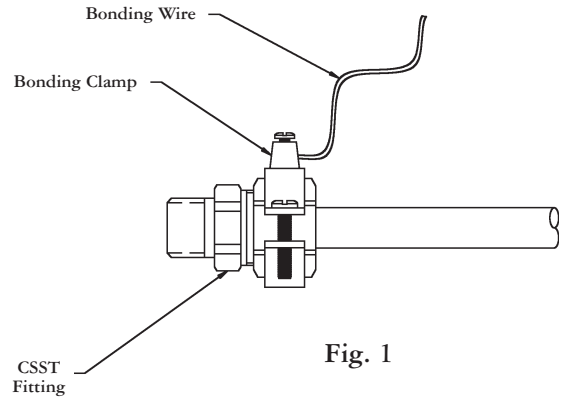


Fig. 1

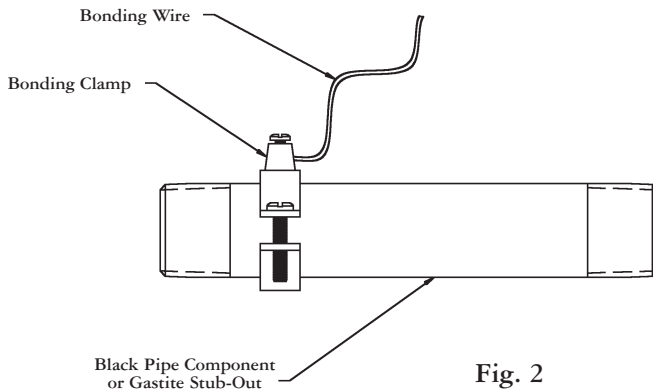


Fig. 2

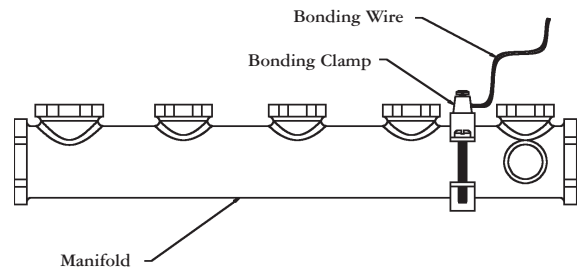


Fig. 3