

SECTION 4.10B — BONDING CONVENTIONAL YELLOW-JACKETED TRACPIPE

1. For bonding of the conventional yellow-jacketed **TracPipe**® system, a bonding clamp must be attached to the brass AutoFlare® fitting adapter (adjacent to the pipe thread area – see Figure 4-21) or to a black pipe component (pipe or fitting) located in the same electrically continuous gas piping system as the AutoFlare® fitting. The corrugated stainless steel portion of the gas piping system SHALL NOT be used as the bonding attachment point under any circumstances. The bonding conductor shall be bonded per the *National Electrical Code NFPA 70*. Bonding electrode conductor sizing shall be in accordance with NFPA 70 Article 250, Section and Table 250.66

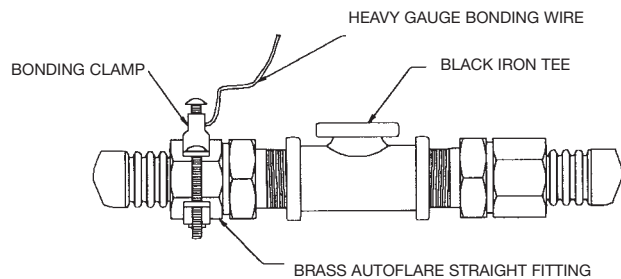


Figure 4-21

BRASS BONDING CLAMPS

Part No.	Fits TracPipe ® AutoFlare® Fitting	Fits Iron Pipe Size
FGP-GC-1	3/8", 1/2"	1/2", 3/4", 1"
FGP-GC-2	3/4", 1", 1-1/4"	1-1/4", 1-1/2", 2"
FGP-GC-3	1-1/2", 2"	2-1/2", 3", 4"

NOTE: **TracPipe®** Bonding clamps have been tested and approved by CSA in accordance with UL 467 / CSA C22.2 No. 41-07 when installed on Black Iron / Galvanized steel pipe and **TracPipe**® AutoFlare brass hex fittings (report #3000657, 5/2/08)

IMPORTANT SAFETY PRECAUTION

- Failure to properly bond the conventional yellow-jacketed **TracPipe**® flexible gas piping may lead to damage to the CSST system in the event of a lightning strike.
- The lightning may arc to or from another metal system, creating a hole in the wall of the **TracPipe**® CSST.
- This presents a risk of fire in the building, and could lead to serious personal injury or significant property damage.

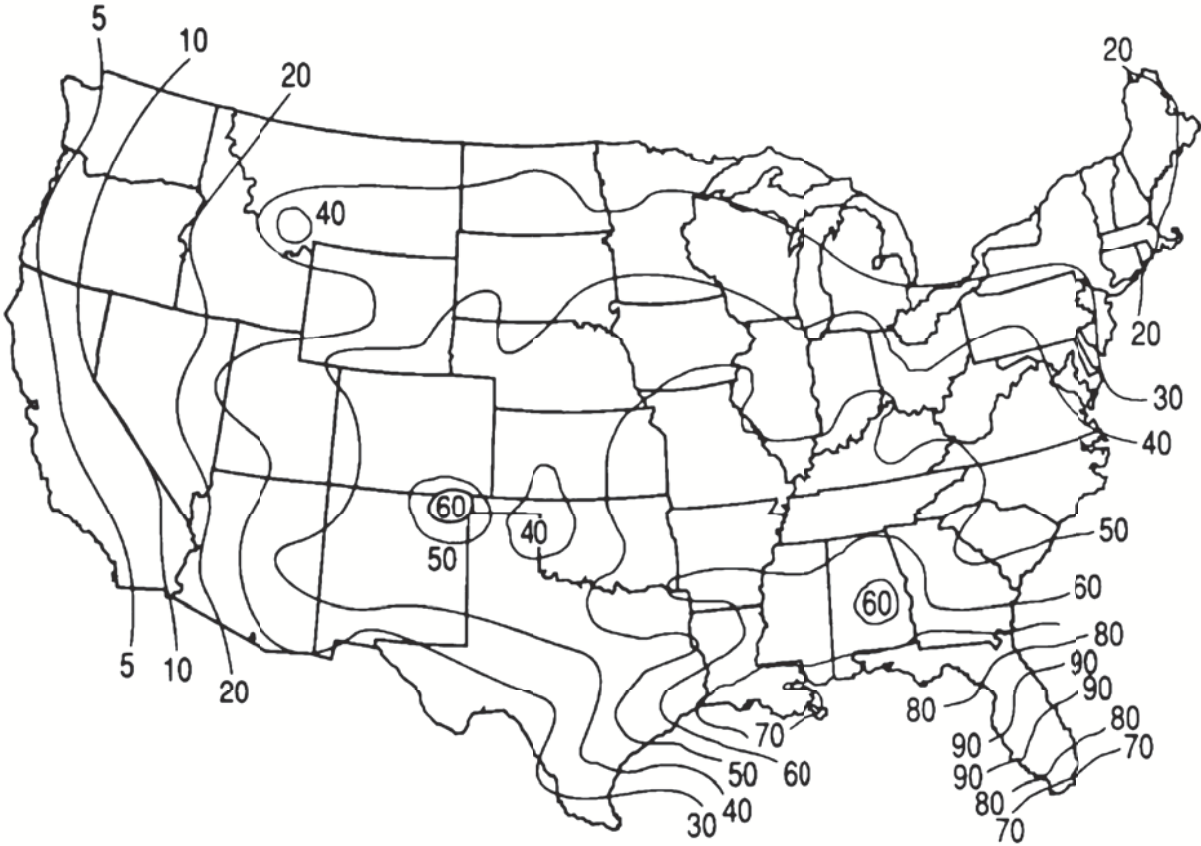
2. Lightning is a powerful and unpredictable natural force, and it has the capacity of damaging gas piping systems due to arcing between the gas piping system and other metallic systems in the building.
3. If the building to be piped is in a high lightning flash density area or a region with a high number of thunderstorm days per year, (Figure 4-22) consideration should be given to utilizing the Lightning Risk Assessment method given in Annex L of NFPA 780 for a determination of the need for a lightning protection system.

Notes:

- a. If possible, avoid running the bonding jumper a long distance through the building. The connection should be as short as possible. Gas meter should be near the electrical service if possible. If not, the bond can be connected at any point near the electrical service per Figure 4-21.
- b. Lightning induced voltages seeking ground are subject to impedance; consider utilizing a braided or stranded bonding jumper for greater surface area, rather than solid wire.

References to model building codes are to the version of those codes adopted by the local authority having jurisdiction. If there are no such local codes, refer to the current edition of the National Fuel Gas Code NFPA 54 and National Electrical Code NFPA 70.

- c. Upon completion of the conventional yellow-jacketed **TracPipe**® Gas Piping System installation and prior to gas service initiation, check to see if the bonding has been completed.
- d. Routing of gas piping should be as low in the structure as reasonably possible for best performance.
- e. **TracPipe**® CSST runs, including **CounterStrike**®, should be installed with a bend radius of 8 inches or more whenever possible; this will reduce the possibility that energy will jump from the piping to other conductive surfaces.



Average Number of Thunderstorm Days per Year
 Figure 4-22