

CLEBURNE SHEET METAL

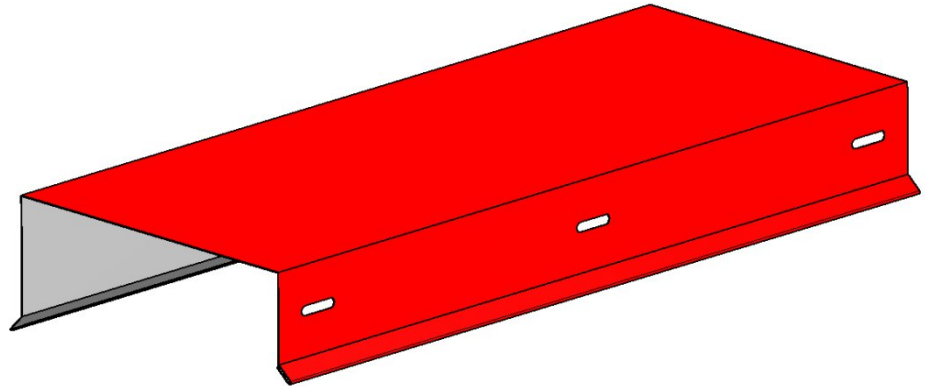
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6432 Nine Mile Bridge Rd.
Ft. Worth, TX 76135
(817) 237-5060 • Fax (817) 237-5191
www.cleburnesheetmetal.com

Parapet Cap Slotted Holes

Position Statement

Re: Slotted Holes in Parapet Cap



Introduction

Slotted holes in the parapet cap are generally 1"-1 1/2" in length, and the diameter is typically determined by the size of the fastener that is being installed. (see illustration #1)

Slotted holes, when used, are most likely placed on the inside vertical leg of the parapet cap.

Background

Historically, some specifiers tend to be of the opinion that the parapet cap, when installed in 10' - 20' sections, must have slotted areas located around the penetrating fasteners to allow for movement that would include thermal expansion and contraction in the parapet cap. (see illustration #2)

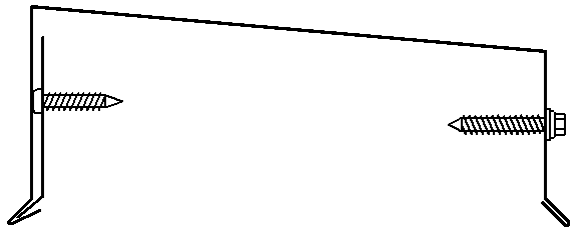


Illustration #1

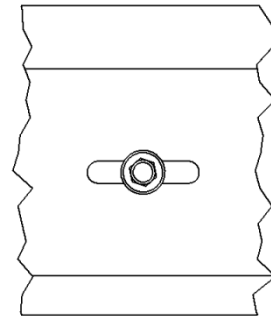


Illustration #2

The truth about this myth is in fact in the math. The coefficient of thermal expansion for steel is 0.00000645 IN/IN/°F.

Example for a 10' long section of 24ga galvanized steel parapet cap with an increase in temperature of 180 °F, would result in the following:

$$12 \times 10 \times 0.00000645 \times 180 = 0.13932$$

0.13932 is just over 1/8 (0.125) of an inch and just under 9/64 (0.140625) of an inch per 10'.

A typical fastener pattern for backside parapet cap, for example, may be 16" on center. The math for the thermal expansion at 180 °F temperature increase would be:

$$12 \times 1.25 \times 0.00000645 \times 180 = 0.017415$$

0.017415 inches of expansion between fasteners on 16 inch centers.

Notable detrimental effects of slots in a parapet cap:

- Slots allow water into the parapet cap and can enter the roof system thru the penetrations made by fasteners.
- Slots tend to shred and tear the neoprene washers designed to shed water away from the exposed fasteners.
- Slots drastically reduce the strength of the back side of the parapet leg (parapet cap with slots will not meet the resistance strength required in ANSI-SPRI ES1).

Conclusion

Effective immediately, in order to remain compliant with the standards set forth in ANSI-SPRI ES1 and keeping in good weatherproofing practices, Cleburne Sheet Metal can no longer manufacture nor install parapet cap with slots on the back side leg.

This position statement is furnished by Fred A. Couch, President, Founder, and CEO of Cleburne Metal Work DBA Cleburne Sheet Metal. Reproduction in part of this document is prohibited.

Sincerely,

Fred A. Couch
Cleburne Sheet Metal
6432 Nine Mile Bridge Rd
Fort Worth, TX 76135