

TECH NOTE 3 – SASH SAG OF CASEMENT WINDOWS

Sash sag is defined as downward movement of the lower corner of the sash at the lock side relative to the window frame. Sash sag has been referred to as “The single most asked question concerning operating casement windows today”. The intent of this tech note is to provide some helpful insights to manufacturers as a troubleshooting guide so that sash sag can be designed out up-front or resolved in the field.

There are four main components to sash sag which are discussed further in the following sections.

1. The entire sash has moved downward toward the sill (sash settling).
2. The frame is “out of square” (the corners are not all at 90 degrees).
3. The sash is out of square.
4. The sash is not held square in the frame (the stile on the hinge side is not parallel to the jamb).

Other considerations related to sash sag are: window proportions, mounting screws, adjustable hinges and shipping & handling.

Sash Settling

Sash settling is usually a negligible part of a sash sag problem.

Hinge tolerances contribute to this component of sash sag, but the effect is relatively small. Due to manufacturing tolerances the stack height of a hinge can vary slightly. Refer to the AmesburyTruth catalog for the stack height tolerance of specific hinges. The sash can also settle if the sill is flexible enough to sink downward beneath the lower hinge shoe. This is typically not a problem but should be considered as windows get heavier or when a casement window is mulled over another window.