

## PRODUCT TIPS

1. Placement of a 4-Bar Hinge relative to the outside edge of the frame depends on the amount of overlap of the sash on the frame. As a general rule the hinge should be mounted flush to .250" (6.3 mm) of the outside edge of the frame. This dimension depends on the number of overlaps. A .250" (6.3 mm) dimension will allow proper clearance for a window system having approximately .312" (7.9 mm) of sash overlap. If interference occurs between the sash and frame then the hinge must be moved further outboard on the frame or the overlap must be reduced. (See the application drawing of the particular image.)
2. Particular attention must be given to 4-Bar Hinge mounting. It is important that the ventilator bar be offset to a point where it is flush with the outside edge of the track. This results in an offset between the screw centerlines of the ventilator bar and hinge track.
3. Ultimate sash weight and width for hinges as shown in the charts of this document are based on AAMA 904.1 "Specifications for Multi-Bar Hinges in Window Applications." The load carrying capacity is based on the vent height being at least twice the vent width. These numbers do not apply to windows being tested to ANSI/AAMA/WDMA/101/I.S.2/NAFS-02 "Casement Hardware Load Test."
4. To increase the overall hinge height of 4-Bar Hinges, aluminum shims applicable to the ventilator bar are available in various thicknesses. Truth provides some popular sizes of shims; however, other sizes must be provided by the window manufacturer.
5. Sash sag is a problem which affects many casement windows. 4-Bar Hinges tend to be more susceptible to sash sag than standard 2-bar hinges because they cantilever the sash outside of the frame, supporting the entire sash weight on the support arms. While 2-Bar hinges are supported inside of the window frames, so they transfer the sash weight back into the window. To minimize sash sag, AmesburyTruth recommends utilizing the measures outlined in Tech Note #3.
6. For proper balancing, we recommend a hinge with no greater than 60 degrees of opening in projected and awning applications.
7. Special considerations should be given when designing an awning window. Please consult Tech Note #2 for further information.

8. For accurate hardware placement in vinyl or metal applications, predrilling of the window profile is recommended.
9. Mounting screws must pass through two PVC walls or one PVC wall and one insert wall.
10. For metal window profiles we recommend machine screws however, in most applications sheet metal screws will provide adequate holding power.
11. Hinge life can be prolonged by periodically adding a drop of light weight oil at each riveted point.
12. For easy corrections of out of square, or racked window installations, the use of AmesburyTruth Jamb Jack III frame adjusters is recommended. Frame adjustment can improve both weather seal tightness and sash operation over the life of the window.

## **ARCHITECT SPECS**

4-bar type window hinge for casement or awning windows, which projects the vent while opening to avoid interference between frame and sash. Window hinges to be of 4-bar type design, utilizing a screw adjusted brass slide shoe to fine tune hinge to window application. Hinges shall be non-handed and constructed of high quality stamped and roll formed 300 series stainless steel materials. Hinges used must be certified to AAMA 904.1 specifications. Window hinges shall be 201/301 series 4-bar, as manufactured by AmesburyTruth Hardware.