

THERMAL BOW PHENOMENON

Problem

Thermal bow is a temporary condition which may occur in metal doors due to an inside/ outside temperature differential. This can occur when the direct sunlight is on the door. The condition and the degree of bowing will depend on the door's color, construction, length of exposure, temperature, etc. The bowing of the door pushes it against the frame stop and consequently exerts pressure on the door latching hardware, binding it against the strike.

Solution

One solution is to take into consideration of the sun, and the prolonged exposure in relationship to the door exterior. This condition can often be alleviated by painting the exposed surface a light color. With the exception of acoustic doors, another solution would be to modify the strike to allow more clearance between it and the latching hardware. A loose fit between the latch and strike on acoustic doors is not recommended due to the compression sound seals.

Note

This condition is not unique to Krieger doors and occurs with all metal doors. Please refer to ANSI/SDI A250.8-2003 for more information about this phenomenon.