

Vinyl Siding Distortion & Glass Reflections

There have been reported instances where solar reflection off of glass products or other materials adjacent to homes has caused distortion in vinyl siding panels. There are many variables that can affect the temperatures received from glass reflections and the potential damage caused by this heat build-up to vinyl siding panels. These variables include but are not limited to:

- Angle of the sun in relation to the window installation
- Orientation of the window in relation to the sun and the vinyl siding panel
- Outdoor temperature and wind speed
- Distance of glass to vinyl siding panels
- Color of vinyl siding panels
- Heat distortion temperature of the vinyl siding panel
- Deflection of the glass
- Solar reflectivity of the glass

The Vinyl Siding Institute, in February 2002, issued a statement indicating that the typical heat distortion temperature of vinyl siding is between 160°F to 165°F. Once

this temperature is reached the siding may distort. The February 2002 Vinyl Siding Institute memo also indicates that roofing and pavement reflections can also cause the potential for vinyl distortion. In the Vinyl Siding Institute statement, they recommend that damaged vinyl siding panels be replaced and homeowners take preventative measures to eliminate a reoccurrence. Some examples of preventative measures listed include:

- Install outdoor screens in windows which appear to cause a heat build-up higher than the heat distortion temperature of the vinyl siding
- Install an awning over the window to break the line of solar reflection
- Use shrubbery to protect area of vinyl siding from solar reflections or radiation

A copy of Vinyl Siding Institute's Thermal Distortion Statement is attached.

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VSI Thermal Distortion Statement February 2002

The Vinyl Siding Institute (VSI) is aware of rare incidents of thermal distortion of vinyl siding due to reflected light or radiated heat. In such incidents, reflected or radiated heat from various sources combines with ambient temperature and sunlight, to cause visible distortion of vinyl siding panels. The typical heat distortion temperature of rigid vinyl (PVC) siding is 160-165°F. Once this temperature is reached, the siding may distort.

While excessive heat buildup leading to thermal distortion cannot always be predicted, being aware of the factors that contribute to it may help to avoid it. Reflected or radiated heat sources have been reported to include windows, glass doors, roofing, and pavement. These sources combined with architectural characteristics such as alcoves that block breezes, overhangs that trap convected heat and inside corners that capture window reflections can result in thermal distortion.

Thermal distortion will usually reoccur in the same location unless preventive measures are taken. The VSI recommends that damaged siding panels be replaced and that homeowners be advised to take preventive measures to eliminate reoccurrence. Some examples of preventative measures are the following:

- Install screen in window causing the problem
- Install an awning over the window to break line of light reflection
- Use shrubbery to protect area of siding from reflections or radiation