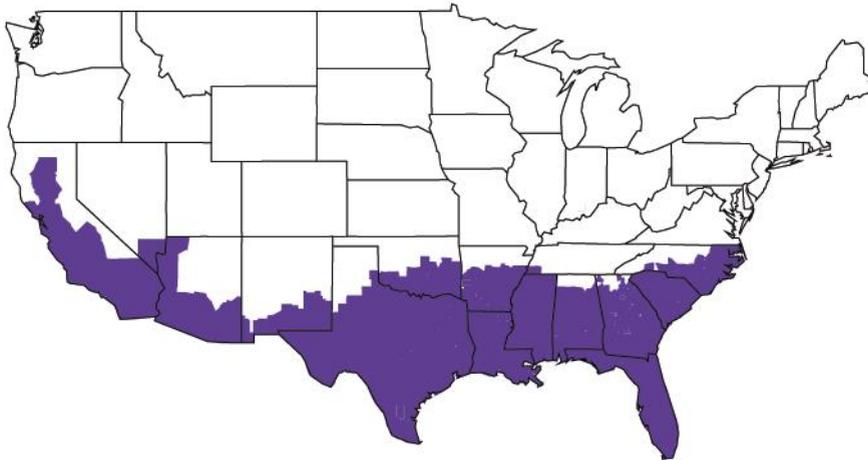




How Do I Demonstrate Compliance with the SHGC Requirements in the IECC?

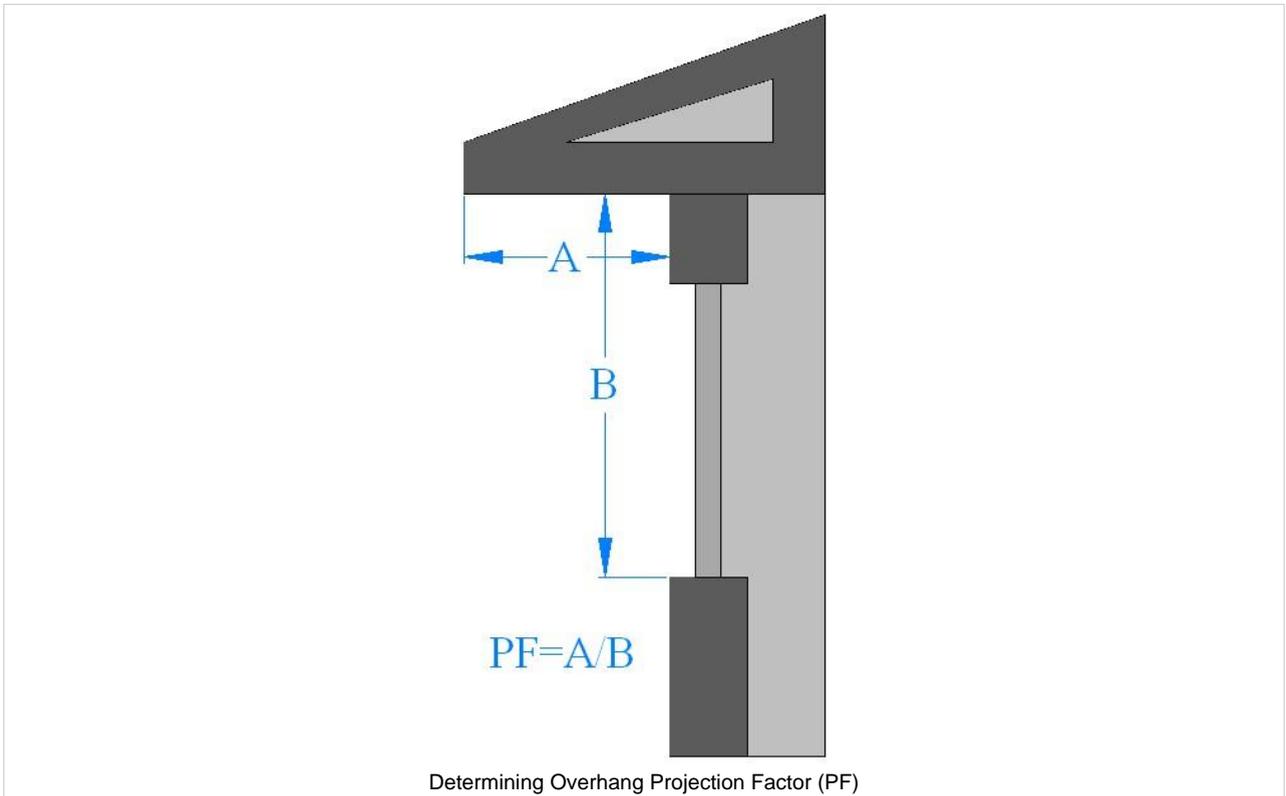
Solar Heat Gain Coefficient (SHGC) measures how well a window blocks heat caused by sunlight. The SHGC is the fraction of the heat from the sun that enters through a window. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.



Locations with HDD less than 3500 are shaded.

If all your windows have an SHGC less than or equal to 0.4, then simply stating this fact on your compliance documentation should be adequate. If your windows do not meet this requirement, the REScheck (formerly MECcheck) software program now has an option for inputting SHGC, orientation, and overhang projection factors. This option is available for locations with Heating Degree Days (HDD) of less than 3500 and the trade-off credit is only given when orientation is specified. No other building components can be traded against SHGC. REScheck retains the original intent of the SHGC requirement in the IECC, which was to not only reduce overall energy consumption, but to reduce the peak cooling load imposed by residences on electric utilities. In southern climates, cooling loads at peak times are becoming a very significant problem.

You may also use the area-weighted average SHGC if most of your windows meet the 0.4 requirement, but some do not. Just note the calculated average on the compliance documentation, or use the orientation and SHGC options in the software.



If you find that the SHGC trade-offs are insufficient, you can show compliance with the energy code using a Chapter 4 approach. Chapter 4 of the IECC allows trade-offs between all building systems. Under the systems analysis approach, a building designed in accordance with Chapter 4 will comply with the code if the calculated annual energy consumption of the "proposed design" is not greater than a similar building (the "standard design") designed in accordance with Chapter 5. This type of approach requires an energy simulation with a tool such as DOE-2. REScheck currently does not offer compliance through this systems analysis approach.