

5.6.4.3 Simplifications to a Product Line – Frame Components

This section presents additional product line simplification rules specific to frame components.

A. Frame Grouping

All grouping rules contained in Chapter 4 shall be permitted to be utilized with the calculation procedures of Section 5.6. In addition, this section presents additional frame grouping rules that shall be permitted to reduce the number of simulations by grouping individual frame components. If this approach is used, the frame U-factors (U_i) calculated in accordance with section 5.6.5 for the frame group leader shall be used to represent the frame U-factors (U_i) for all individual frame components within that group.

Individual frame components may be grouped based upon the variations listed below. When more than one of these variations is being used for grouping, the priority for determining the frame group leader shall be in the order listed below:

1. Change in frame length in the direction perpendicular to the fenestration plane.
2. Emissivity of external and internal frame surfaces.
3. Glazing inset relative to the exterior.
4. Projected frame depth (PFD).
5. Material wall thickness.
6. Addition of internal frame web(s) to create additional frame cavities.

The frame group leader shall be determined in accordance with Tables 5.6.2 to 5.6.4 based upon the dominant frame material.

**Table 5.6.2
 Frame Group Leader for Aluminum, Thermally Improved Aluminum, and
 Thermally Broken Aluminum Frames**

Variation	Group Leader
Change in frame length in the direction perpendicular to the fenestration plane	Maximum length
Change in PFD	Highest PFD
Surface Emissivity	Highest emissivity
Glazing inset relative to the exterior	Glazing location closest to the outside
Material wall thickness	Highest wall thickness
Addition of internal frame web(s) to create additional frame cavities	Maximum number of webs

Table 5.6.3
Frame Group Leader for Vinyl, Fiberglass, and Composite Frames

Variation	Group Leader
Change in frame length in the direction perpendicular to the fenestration plane	Maximum length
Change in PFD	Highest PFD
Glazing inset relative to the exterior	Glazing location closest to the outside
Material wall thickness	Highest/thickest wall
Addition of internal frame web(s) to create additional frame cavities	Minimum number of webs

Table 5.6.4
Frame Group Leader for Wood Frames (either with or without Cladding)

Variation	Group Leader
Change in frame length in the direction perpendicular to the fenestration plane	Minimum length
Change in PFD	Highest PFD
Glazing inset relative to the exterior	Glazing location closest to the outside