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**Building Codes Division**

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**Statewide Code Interpretation****March 6, 2007****No: 2004 OSSC 1312.2.1  
2004 Oregon Structural Specialty Code**

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**Code Section:** 1312.2.1**Code Edition:** 1998 Oregon Structural Specialty Code (OSSC)**Date:** Original: 11/ 21/2003 Updated: 3/06/2007**Subject:** Averaging of insulation R-value for sloped roof insulation**Question:** When calculating the component U-factor value for roofs, can the average R-value of the sloped insulation be used?**Answer:** No.**Analysis:** OSSC section 1312.2.1 states that “..averaging of component U-factors is not allowed.” The language in section 1312.2.1 is clear in its intent and application that averaging of U-factors of different building components (such as walls, roofs, floors, windows, doors etc.) is not allowed. Sloped insulation is considered part of the roof “component” for U-value determinations. Since no other building components are involved in this situation, the language of section 1312.2.1 is not applicable in this situation.

The minimum R-values are provided in the code to create an exterior building envelope that will provide those minimum R-values at any location within the component in the exterior envelope. Allowing the use of averaging R-values would mean that the building exterior envelope meet the minimum code requirements only at one point i.e. the average R-value location. This would be in conflict with the codes intended application. Therefore, the code prescribed R-value is the minimum that needs to be provided at all locations in the component. If the code prescribed minimum values cannot be provided, then the alternate means of design and or analysis such as STA need to be used.

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