



**COMMON INSULATION THERMAL RESISTANCE VALUES USED IN METAL-OVER-METAL APPLICATIONS**

**Laminated Fiberglass** – Typical for older Insulation beneath existing roof

Type	Thickness	R-Value
Standard with Vinyl Laminate	1½"	5.0
	2"	7.0
	3"	10.0
	4"	13.0
	6"	19.0

**Unfaced Fiberglass** – Typical for insulation being added during a retrofit (Laminated Fiberglass is not recommended to be used in a metal-over-metal retrofit application)

Type	Thickness	R-Value
Low Density-Utility	2"	7.0
	3.4"	10.0
	3.7"	12.0
	4.3"	13.5
	5.3"	16.5
	6.3"	20.0

**Rigid Board Insulation** – Typical polyisocyanurate insulation being added during a retrofit application (between Huggers and/or top of Huggers)

Type	Thickness	R-Value
Dow Thermax®	1"	6.5
	2"	13.0
	3"	19.0
	4"	25.2

*Note: It has been recommended that the air-space void between the existing roof panel’s ribs to be filled with unfaced low-density fiberglass to prevent moisture from infiltration of warmer air from the building*

**Other Notes:**

1. Polystyrene is not an acceptable rigid insulation board for metal-over-metal assemblies due to fire class ratings and it requiring a minimum 22 gauge deck/existing roof.
2. The Radiant barrier that is referenced in our Design Guide’s composite roof assembly is listed by its manufacturer of having an R-Value of 10.6
3. When adding insulation to comply with locally adopted ASHRAE 90.1-Model Energy Codes (R-26 minimum in Pre-engineered buildings), the existing insulation should be included in the overall R-Value.
4. If “Continuous Insulation” (CI) is required by the governing building code, at least one-layer of minimum thickness rigid insulation must be installed over the Huggers with joints taped, therefore requiring the new metal roof system to have a stand-off clip with a bearing plate. CI cannot be accomplished with screw-down/thru-fastened metal roofs or using fiberglass insulation
5. The Cor-A-Vent high density vent block referenced in our Design Guide provides 10 square inches of Net Vent Free Area (NVFA) per lineal foot.
6. The Above Sheathing Ventilation (ASV) system referenced in our Design Guide requires a minimum of 1” depth, which is equivalent to an R-0.85.