



UNITED STRUCTURES OF AMERICA
I N C O R P O R A T E D

TECHNICAL BULLETIN

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INSULATION SYSTEMS

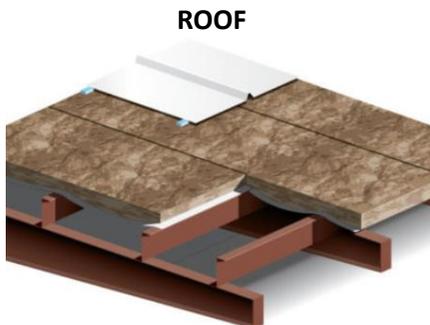
Energy codes changes over the past decade have brought about various metal building insulation systems to allow for high R-value insulation systems. Below is information concerning various insulation systems available for metal building systems:

Single Layer Blanket Insulation System

- Over the purlin/girt application only.
- Most commonly used in R-10 to R-19 applications.
- Thickness will determine screw length.
- Available in up to R-25 if used in conjunction with a high thermal insulation clip on standing seam roof systems.
- Various facings are available depending on use of facility and project requirements, including the option for white or black in many cases.

R-Value	Appx Thickness	Available Widths*
R-8	2.625"	36", 48", 60", 72"
R-10	3.0"	36", 48", 60", 72"
R-11	3.5"	36", 48", 60", 72"
R-13	4.0"	36", 48", 60", 72"
R-19	6.0"	36", 48", 60", 72"
R-25	8.0"	48", 60", 72"
R-30	9.5"	48", 60", 72"

*Custom widths also available



Double Layer Banded Insulation System

- Consists of faced insulation between the purlins/girts and unfaced insulation over the purlins/girts.
- R-values range from R-25 to R-51.
- Tabs on faced insulation is long in order to be draped over the top flange of the purlins, often called the “long tab banded insulation system”.
- **Bottom flange of purlins remain exposed.**
- Banding is attached at 30” O.C. to bottom flange of purlin and/or inside flange of girts.
- Thermal tape will be required on outside flange of girt in double layer wall insulation systems.
- Thickness will determine screw length.
- **Purlin and girt depth will often control minimum R-value since entire cavity must be filled.**
- **Purlin spacing must remain in 6” increments to allow for insulation manufacturer to fabricate rolls which fit between the purlins properly.**

Purlin Depth	Minimum R-Value	Maximum R-Value*
8"	R-30 (6"+3 1/2")	R-38 (8"+4")
10"	R-38 (9 1/2"+2 5/8")	R-43 (9 1/2"+4")
12"	R-46 (6"+6"+2 5/8")	R-51 (6"+6"+4")

ROOF



WALL

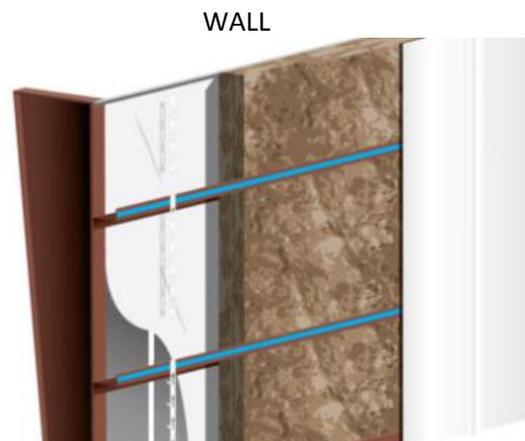
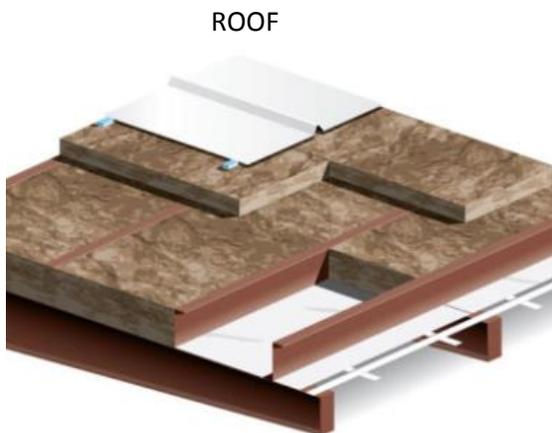


Double Layer Banded Liner Insulation System

- Consists of fabric vapor barrier the size of a full bay, unfaced insulation between the purlins/girts, and unfaced insulation over the purlins/girts.
- R-values range from R-30 to R-51.
- **Bottom flange of purlins are NOT EXPOSED.**
- **Common trade names are Simple Saver, Energy Saver, and OptiLiner.**
- Available as OSHA approved fall safety system with proper installer certification.
- Banding is attached at 30" O.C. to bottom flange of purlin and/or inside flange of girts.
- Thermal tape will be required on outside flange of girt in double layer wall insulation systems.
- Thickness will determine screw length.
- **Purlin and girt depth will often control minimum R-value since entire cavity must be filled.**
- **Purlin spacing must remain in 6" increments to allow for insulation manufacturer to fabricate rolls which fit between the purlins properly.**

Purlin Depth	Minimum R-Value	Maximum R-Value*
8"	R-30 (6"+3 1/2")	R-38 (8"+4")
10"	R-38 (9 1/2"+2 5/8")	R-43 (9 1/2"+4")
12"	R-46 (6"+6"+2 5/8")	R-51 (6"+6"+4")

*Standing seam roof required, consult USA for proper roof clip.



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