



Metal Building Insulation

Installation and Design Possibilities

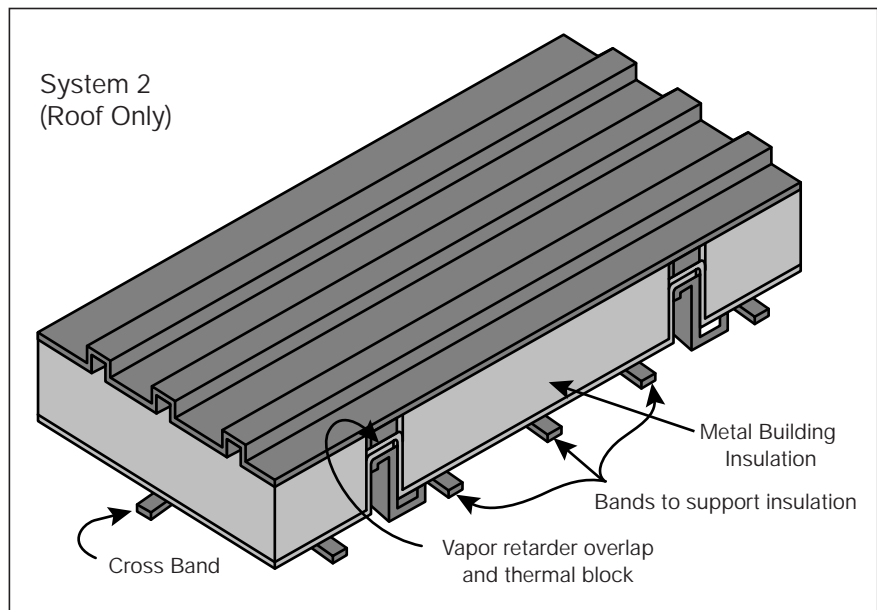
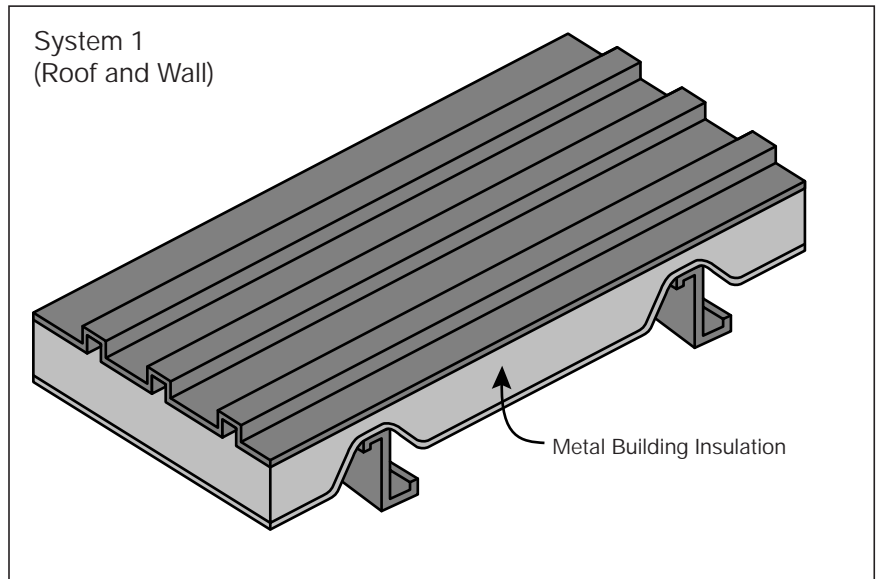
There are various methods and systems for installing fiber glass blanket insulation in metal buildings. Each offers its own advantages. Some methods can be used on both new and retrofit construction while others are for new construction only.

System 1 Insulation Installed Over Purlins

In this system, fiber glass metal building insulation is rolled out over, and perpendicular to the cut side of the structural frame and the metal covering sheets are fastened to the frame holding the insulation in place.

System 2 Insulation Installed Between Purlins

This method accommodates thicker insulation without compression at the structural members. The result is better thermal efficiency. There is, however, the problem of thermal bridging through the structural members in direct contact with the metal covering sheets. Thermal blocks of rigid extruded polystyrene foam insulation between the sheets and structural members will provide a thermal break. Note, the vapor retarder facing tabs on the insulation are carried up over the purlin overlapping the adjoining facing of the next course of insulation, assuring continuity of the vapor retarder.



Acoustical Performance, Laminated Products

Sound Absorption Coefficients (Hz)

| Insulation Thickness | Generic Facing Type | Mounting (1) | Octave Band Center Frequencies, Hz | | | | | | |
|----------------------|---------------------|--------------|------------------------------------|------|------|------|------|------|------|
| | | | 125 | 250 | 500 | 1000 | 2000 | 4000 | NRC |
| 50mm | FSK | A | 0.23 | 0.80 | 1.25 | 0.86 | 0.42 | 0.26 | 0.85 |
| 75mm | FSK | A | 0.50 | 1.18 | 1.20 | 0.72 | 0.42 | 0.25 | 0.90 |
| 100mm | FSK | A | 0.64 | 1.30 | 1.21 | 0.75 | 0.48 | 0.28 | 0.95 |