



Double Wall Thermal Insulation

Double wall construction is often seen as the best low-cost option, having the lowest first cost. This construction includes one dead-air space between the two architectural fabric layers, the structural exterior fabric and the inside thermal liner.

Insulation Calculation	Double Wall
Exterior Surface, 15 MPH Wind	0.17
Exterior Fabric	0.79
Dead-Air Space	1.86
Fiberglass Insulation	---
Thermal Liner	---
Dead-Air Space	---
Thermal Liner	0.62
Inside Surface, still air	0.62
TOTAL R-Value	4.06

About Double Wall Construction

The thermal insulation provided by the dead-air space of our double wall construction is so beneficial it quickly became the industry standard and made air structures a successful mainstream building design type. A detail of the double wall construction style is shown below. The dead-air space is approximately 2" at the seams, and about 6" in the center of a panel. The depth of the dead-air space is carefully designed to prohibit air convection within the panel. If an air space is too deep, the air will rotate within the panel, greatly increasing the rate of heat transfer through natural convection – all but eliminating the insulation value of the air blanket. The table to the left shows the insulation "R-value" for double wall. From Table 1, the R-value of our double wall construction is calculated at R-3.56.

Double Wall Construction Detail

