



# R-Values: Applications & Air Space Requirements



## HVAC Applications

For any applications claiming R-Values, reflective insulations **MUST** face at least one open airspace cavity, or be installed within an enclosed air space (without free air flow).  
The charts below outlines various Air Space Requirements by application, the location of the airspace(s) needed to achieve the R-Values shown. and specific rFOIL™ products recommended for each application,

| Application                       | R-Value / Benefit | rFOIL™ Products  | Required Air Space(s)   | Installation Specifics                                      |
|-----------------------------------|-------------------|--|---|---|
| Crawl Space (R-17)                | R-17              | <b>2220 or 2290 Series</b><br>(Double-Sided Reflective Insulation)   | 9.5" Floor (Min.) Joist Cavity  | Installed to Underside of Joist                             |
| Crawl Space (R-21)                | R-21              | <b>2220 or 2290 Series</b><br>(Double-Sided Reflective Insulation)   | Two Air Spaces at 4.75" each<br>- Split within 9.5" (Min.) Joist Cavity | Insulation Centered Within 9.5" Cavity (Splitting Airspace) |
| Duct Insulation (R-4.2)           | R-4.2             | <b>2290 Series Duct Insulation</b><br>(Double-Sided Reflective Insulation)   | Exterior of Product   | Duct (Direct-Wrap)  |
| Duct Insulation<br>(R-6 Option 1) | R-6               | <b>2290 Series Duct Insulation<br/>Duct Offset Spacers ... Sold Separately</b><br>(Double-Sided Reflective Insulation) | Airspace Created by Installing Spacers Between Duct and Insulation      | .075" Spacer Between Duct and Insulation                    |
| Duct Insulation<br>(R-6 Option 1) | R-6               | <b>rFOIL Big 6® Duct Insulation<br/>Duct Offset Spacers ... BUILT-IN</b>   | Airspace Built-In to Product<br><b>(Multi-Layer Structure)</b>          | Duct (Direct-Wrap)  |
| Duct Insulation (R-8)             | R-8               | <b>rFOIL Big 8® Duct Insulation<br/>Duct Offset Spacers ... INCLUDED</b>   | Airspace Created by Installing Spacers Between Duct and Insulation      | 1/2" Spacer Between Duct and Insulation                     |
| Behind Hot Water Radiator         | R-3               | <b>2220 or 2290 Series</b><br>(Double-Sided Reflective Insulation)   | Between Radiator and Wall   | Attach Directly to Interior Wall Behind Radiator            |
| Pipe Wrap                         | R-4               | <b>2290 Series Duct/Pipe Insulation</b><br>(Double-Sided Reflective Insulation)  | Exterior of Product   | Pipe (Direct-Wrap)  |
| Radiant Floor<br>(Concrete Slab)  | R-1.1             | <b>Concrete UnderPad® (4320/4620 Series)</b><br>(Double-Sided Reflective Insulation)                                   | Airspace Within Product<br>(Bubble Structure)                           | Directly Beneath Concrete Slab                              |
| Radiant Floor<br>(Concrete Slab)  | R-3.8             | <b>Ultra CBF® - Concrete Barrier Foil</b><br>(Double-Sided Reflective Insulation)                                      | Airspace Within Product<br>(Bubble Structure)                           | Directly Beneath Concrete Slab                              |
| Radiant Floor<br>(Between Joists) | R-17              | <b>2220 or 2290 Series</b><br>(Double-Sided Reflective Insulation)   | 9.5" Floor (Min.) Joist Cavity  | Underside/Base of Floor Joist                               |
| Snow Melt<br>(Concrete Slab)      | R-1.1             | <b>Concrete UnderPad® (4320/4620 Series)</b><br>(Double-Sided Reflective Insulation)                                   | Airspace Within Product<br>(Bubble Structure)                           | Directly Beneath Concrete Slab                              |
| Snow Melt<br>(Concrete Slab)      | R-3.8             | <b>Ultra CBF® - Concrete Barrier Foil</b><br>(Double-Sided Reflective Insulation)                                      | Airspace Within Product<br>(Bubble Structure)                           | Directly Beneath Concrete Slab                              |
| Water Heater                      | R-4.5             | <b>Hot Water Insulation Kit</b><br>(Double-Sided Reflective Insulation)  | Airspace Created by Spacers Between Duct and Insulation                 | 3/8" Spacer Between Hot Water Heater and Insulation         |