Federal Steel Systems

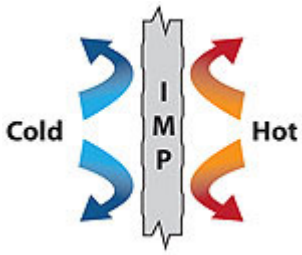
925 S. Niagara Street, Suite 250
Denver, Colorado 80224
Toll-Free: ***1-855-885-9570***
info@federalsteelsystems.com
http://federalsteelsystems.com

Insulation Terms

Understanding R-values, U-values and K-factors

R-value is used to describe one of the properties of insulation; it measures resistance to heat flow. A higher R-value provides increased insulation. K-factor, or thermal conductivity, is the measure of a material's ability to transfer heat. A lower K-factor is preferred. U-value is the measure of how much heat is conducted through a given area of material. Again, a lower U-value is more beneficial. U is equal to 1/R. For example, a material with a U-value of 0.25 has an R-factor of 1 divided by 0.25, which is equal to 4.

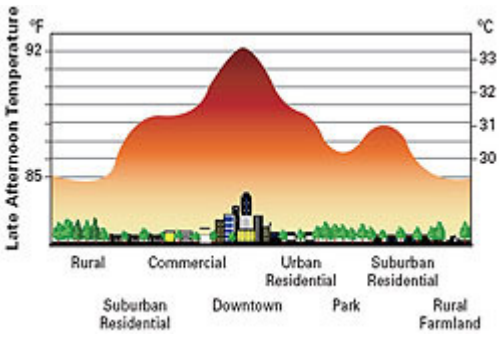
Continuous Air Barriers



Continuous Air Barriers, also known as CABs, are special materials and/or assemblies that meet certain criteria for air infiltration as well as having all joints and penetrations sealed. By keeping the internal and external environments separate, CABs enhance energy efficiency and are required by newer energy efficiency building codes and standards.

What is an Urban Heat Island?

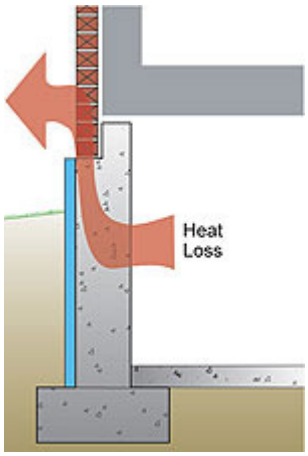
According to the U.S. Environmental Protection Agency (EPA), urban heat islands consist of urban and suburban temperatures that are 2℉ to 10℉ warmer than nearb y rural areas due to the inability to cool because of the modification of the land surface by urban development and waste heat generated by energy usage.



Thermal Drift

Thermal drift occurs when the R-value decreases as insulation material ages and wind wash occurs with or without thermal variance. Most thermal drift occurs within the first 30 days of the life of foam plastic insulations. However, IMPs do not experience thermal drift due to the metal exterior and interior skins of the panels.

Thermal Bridging



A thermal bridge is an assembly or component in the building envelope that transfers heat at a significantly higher rate than the surrounding insulated area. Fasteners, joints and gaps can create thermal bridging. It can cause significant heat loss or gain and underperformance of insulation assemblies in commercial buildings. Because IMPs use concealed fasteners and qualify as continuous insulation, thermal bridging is not a factor.