



# Joint Labor Management Committee

Working Together to Build the Best Roofs



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## ASHRAE Insulation Standards

### Possible Impacts

### Higher Cost Retro-fits

In many climate zones there will be the additional cost of insulation plus the cost of curb height and edge detail changes.

### Maintenance

It seems logical that customers investing in a new roof will want to protect their investment so that the roof can go through a restoration phase where membrane only is either replaced or coated

### Return On Investment Calculations

Contractors may be asked to provide a ROI calculation comparing the cost of insulation to energy savings. Contractors can use on-line calculators such as NRCA's EnergyWise calculator or the DOE's calculator.

### New Concerns

No one is exactly sure what the lateral movement of 7" of insulation will have on membrane. Additionally expect to see more "hail guard" type cover boards and walkway being specified to protect insulation. Correct fastening patterns will be critical to system integrity.

New ASHRAE R-Value Code (*The American Society of Heating, Refrigerating and Air-Conditioning Engineers*) are being adopted throughout the country. Accordingly we thought it might be helpful to recap the code. Currently there are **three ASHRAE 90.1 Standards** in play. ASHRAE 90.1 is the nation's model standard for establishing energy performance requirements of the building envelope and system requirements for commercial buildings, residential buildings higher than three stories, and semi-conditioned buildings.

#### ASHRAE 90.1 - 2004

Many states still recognize and use ASHRAE Standard 90.1-2004 which has been the energy code referenced in the International Building Code (IBC) and the International Energy Conservation Code (IECC).

#### ASHRAE 90.1 - 2007

In 2007, for the first time in over 19 years, ASHRAE increased the minimum required prescriptive R-value for roof and wall insulation levels in Standard 90.1.

The above-deck roof insulation requirements - previously at R-15 - went to R-20, an increase of 33%, in every climate zone in the U.S. except 1. Similar increases were approved for walls. The increased roof and wall insulation values apply to all commercial and high-rise residential buildings covered by Standard 90.1. These changes now become a part of the newest edition of the Standard - 90.1-2007. The International Energy Conservation Code incorporates the ASHRAE 90.1-2007 into their standard. The IECC is being adopted rapidly by state and local code jurisdictions across the United States.

#### ASHRAE 189.1 - 2009

The newly approved ASHRAE Standard 189.1 - 2009 became the first Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, providing minimum requirements for the design of sustainable buildings to balance environmental responsibility, resource efficiency, occupant comfort and well-being, and community sensitivity. ASHRAE Standard 189 uses the U.S. Green Building Council's LEED Green Building Rating System as a key resource offering a baseline that will drive green building into mainstream building practices.

#### ASHRAE 90.1 - 2010

The next standard of code compliance will be ASHRAE 90.1 - 2010. The requirements for commercial roofs with polyiso insulation are expected to range from R-20 in the southeast to R-35 in the far north. ASHRAE has set aggressive goals for improved energy conservation in the nation's energy performance standard for commercial buildings - targeting a 30% improvement in efficiency for the 2010 version of the standard.

