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3M Window Films: A 21st century conservation correction for a 20th century architectural trend

June 05, 2008 - Owners Developers & Managers

Pre-20th century architects appreciated passive design elements and simple mechanical systems to heat, cool and light their buildings. Air conditioning, structural steel and reflective glass gave rise to a new 20th century urban landscape. Massive glass and steel structures with robust HVAC systems became the product of the era's new building technologies and inexpensive fossil fuels. New generation architects recognize the need to conserve natural resources and reduce our carbon footprint. By studying pre-20th century climatic design basics, architects are introducing and/or recycling products, practices and designs that correct the waste of energy resources created by 20th century building trends. As Dylan sang, "The times, they are a'changing..."

Quality insulating window films offer energy conservation benefits clearly recognized by green building advocates. Advances in window films to reduce heat gain through windows in warmer months and heat loss in winter months have been significant.

American Window Film, Inc., an Energy Star partner, carries 3M Window Films that have met Energy Star and LEED comprehensive and stringent energy efficiency guidelines. 3M Co. recently received the "2008 Energy Star Partner of the Year Award for Sustained Excellence." Presented by the U.S. EPA and the U.S. Department of Energy, the award is given to organizations for their outstanding accomplishments in reducing greenhouse gas emissions through energy efficiency.

3M Co. produced a series of low-E window films designed to conserve energy. Inexpensive compared to window replacement, some feature unique wavelength-selective metals which block more of the solar spectrum than conventional metals enabling better performance and light transmission. In cooler climates, 3M Window Films save energy by reflecting indoor heat back into the room. This can reduce heat loss by up to 30% and can reduce air conditioning costs by blocking up to 73% of the sun's heat. 3M Window Films are also protected with an effective abrasion resistant coating for long-term durability and maintained appearance.

Commercial customers easily justify their investment in 3M Window Film by the utilities cost savings they provide. Through the use of monitoring equipment and 3M's sophisticated energy analysis software, we can provide a comprehensive energy analysis that includes Return-On-Investment projections for large commercial customers. Many installations pay for themselves within three years conservatively. As energy prices rise, payback will come even sooner.

3M Co. is the only window film manufacturer that produces their own raw materials such as polyesters, metals, scratch-resistant coatings and adhesives. Window film is only as good as its adhesive. A bad adhesive will produce bubbling and blistering -- distortions created by thermal cycling that can result in seal failure. Unlike others, 3M's ultraviolet inhibitors are included directly in their adhesive. This ensures lifelong clarity and reduces UV degradation, thus providing long-lasting protection from fading of fabrics and furnishings.

3M Co. began the history of window film with their patent application for a metalized solar control window film in 1961. Responding to demand, 3M introduced ultraviolet light control films, low reflectivity, high optical clarity and shatter-resistant films over ensuing decades. Their current product line not only saves energy expense, they also reduce fading of fabrics and furnishings, increase occupant comfort, reduce glare, and improve a building's safety and security as well as its overall aesthetics. Applied to various types of glass, they produce customized glazing systems capable of increasing or decreasing solar gains according to climate, aesthetics, security enhancements, and U.V. protection desired.

An ISO9002 certified facility, 3M responded to the demand for a high clarity, low reflectivity, non-metallic window film. Their prestige series films reject up to 97% of infrared without using metals, a critical advantage over 3M's window film competitors. Metals can corrode over time in moist conditions and can interfere with cell phone signals and Wi/Fi transmissions. 3M Prestige Window Films unconditionally guaranty against corrosion. They reflect and absorb 99.9% of the UV light that fades fine furnishings, and they do this by aligning more than 200 layers of polymers in a total thickness that is less than 1/2 the thickness of one 3M Post-It Note.

21st century architects are rapidly recognizing the conservation and financial benefits that a quality window film installation delivers to their clients. By including insulating window films in their plans, they help educate those who may have overlooked the issue of addressing their windows -- the greatest source of energy loss in any building. 21st century green products and building practices continue to develop and their conservation benefits will be appreciated by generations to come.

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