Press release

Evonik: Greater energy efficiency with thermally insulating VP ITO IR5

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- Thermal insulation without affecting optical transparency of glazing
- Contribution to make energy efficient buildings and vehicles

Integrating VP ITO IR5 (indium tin oxide) from Evonik Industries into transparent coatings allows manufacturers to produce glazings that have improved thermal insulation properties but that do not diminish natural daylight when installed in buildings and vehicles.

Tests have shown that coating the windows of a room with VP ITO IR5 can result in temperatures that are up to 13 °C lower than those in a room with untreated windows. The temperature rises more slowly as well. The result is a reduction in the amount of energy required for cooling. This, in turn, indirectly lowers CO_2 emissions and actively contributes to environmental protection.

Because it combines optical transparency and IR absorption, VP ITO IR5 can be used for producing highly transparent, nearly colorless coatings or films that offer excellent protection from the sun's thermal radiation. VP ITO IR5 can be integrated into a wide variety of transparent plastics and clear coatings for selective absorption of IR laser light and thermal radiation.

There are a large number of commercially available films and coatings that offer protection from the heat generated by the sun's IR radiation. Generally speaking, these products either have a dark tint, are highly reflective, or have metal coatings. Home applications, however, require an effective heat barrier with a very weak tint that does not compromise optical transparency. Limited

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nighttime visibility also makes tinted products unsuitable for use in automotive window films. A disadvantage of films with metal coatings is that they disrupt radio waves, thereby compromising cell phone reception. Plus, they are sensitive to corrosion—especially when the humidity is high. Using VP ITO IR5 avoids all of these disadvantages.

The Silica Business Line of the Evonik Industries Inorganic Materials Business Unit sells products for the coatings market, primarily from two product lines: AEROSIL® and ACEMATT®. The AEROSIL® fumed oxides family contains a variety of different additives for paint formulations, while the ACEMATT® product portfolio comprises a broad range of silica-based matting agents.

Company information

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2012 more than 33,000 employees generated sales of around €13.6 billion and an operating profit (adjusted EBITDA) of about €2.6 billion.