

3M Launches 3M™ Solar Mirror Film 1100

Technology reduces costs, enables new designs for Concentrating Solar Power systems

ST. PAUL, Minn.--([BUSINESS WIRE](#))--3M today announced the commercial launch of its 3M™ Solar Mirror Film 1100, a flexible reflective film designed to provide a high-performance, durable alternative for Concentrating Solar Power (CSP), Concentrating Photovoltaic (CPV) and solar thermal installations. This advancement is the result of extensive materials research, in-field studies and cooperative work with the National Renewable Energy Laboratory (NREL) dating back to the early 1990's

3M Solar Mirror Film 1100 demonstrates numerous benefits for solar concentrating applications, including design flexibility and excellent optical performance. With total hemispherical reflectance in excess of 94%, and specular reflectance above 95% (at 25 milliradian acceptance angle), the film is suitable for a broad range of solar concentrating applications. On-site testing with NREL has demonstrated the film's ability to maintain reflectance of more than 93 percent over 14 years. 3M Solar Mirror Film 1100 also enables greater design flexibility than glass alternatives, allowing for larger geometry reflectors than previously possible. Lightweight large aperture mirror assemblies have the potential to reduce the total installed cost of CSP systems by over 15%. Also, reflective film based reflectors can be up to 75 percent lighter than glass mirrors, significantly reducing transport costs and easing installation.

"In the solar market, we are bringing our best technologies forward, combining premium performance with the cost-effectiveness that our customers demand," said Dan Chen, Business Development Manager for the 3M Renewable Energy Division. "Over the years, our manufacturing and laboratory teams have developed a broad and deep technology portfolio in reflective films. The 3M Solar Mirror Film 1100 represents the first in a series of reflective films that we believe will open the door to a whole new generation of CSP and CPV design possibilities. The combination of innovation by our customers with the 3M materials expertise will help drive the cost effectiveness of solar concentrating systems to new levels."

The film combines a tough and durable polymer front-side with silver as the highly reflective layer. It is coated with a pressure-sensitive adhesive on the backside complete with liner. An opaque pre-mask on the front surface protects the film during assembly and eases installation. 3M Solar Mirror Film 1100 is also lead-free*, providing a hedge against the environmental challenges associated with the disposal of more traditional technologies.

3M's Renewable Energy Division offers a robust portfolio of new and existing products, bringing more than 100 years of expertise in coatings, film, tape, adhesive and optical technologies to the rapidly expanding renewable energy and energy efficiency markets worldwide. In addition to the company's world-class R&D facilities, 3M works closely with leading national labs to develop and refine its energy generation and energy conservation technologies. 3M has expanded its global manufacturing capabilities for Renewable Energy Division products several fold in recent years to bring key products to commercial-scale production to meet the rigorous demand of the global marketplace.

**Per JEDEC Standard JESD97 Marking, Symbols, and labels for Identification of Lead (Pb) Free Assemblies, Components, and Devices, "Electrical and electronic assemblies and components in which the Lead (Pb) level in any of the raw materials and the end product is less than or equal to 0.1% by weight and also meets any Pb-free requirements/definitions adopted by the ROHS Directive 2002/95/EC."*

Attend our Webinar: 3M will be sponsoring a webinar titled "Materials Technology Innovations for Concentrating Solar Power Applications" on Tuesday, October 5, 2010, 2:00pm EST.

Visit <http://www.greentechmedia.com/events/webinars/> to register.

Visit 3M at Solar Power International: 3M will be displaying the 3M Solar Mirror Film 1100 and additional solar component technologies at booth #407.

About 3M

A recognized leader in research and development, 3M produces thousands of innovative products for dozens of diverse markets. 3M's core strength is applying its more than 40 distinct technology platforms – often in combination – to a wide array of customer needs. With \$23 billion in sales, 3M employs 75,000 people worldwide and has operations in more than 65 countries. For more information, visit <http://www.3m.com> or follow @3MNews on Twitter.

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