

ClimaCoat: The highest visibility in any weather conditions

Nowadays, the automotive glazing market is highly determined by the OEMs' expectations and drivers' needs in terms of safety and comfort. That is why market operators have been increasingly trying to conceive innovative products by investing massively in R&D: 5% to 10% of these companies' revenue is dedicated to innovation. To make a competitive difference and succeed on this market, innovation is crucial. To do so, some leading companies in this sector have created specific research and development centers and are gradually adding more. Thanks to this involvement in innovation, the glazing sector appears to be dynamic enough; thus, OEMs are increasingly understanding they should do more to exploit glazing's potential.

Saint-Gobain fully understands that its strategy must rely upon innovation. As proof of this, the French group ranks among the 100 most innovative companies in the world,

according to a 2016 ranking released by Thomson Reuters. The Innovative Materials Sector is the best illustration of its involvement in innovation, since this one has been given a main role: this sector accounts for 2/3 of the Group's R&D expenditure. The automotive glazing manufacturer, Saint-Gobain Sekurit, has always done its utmost to discover breakthroughs in accordance with market trends. With its 80 years of know-how and experience, this company aims at providing a great deal of glazing solutions with real added value for all the car's glazing.

One of these solutions is the SGS ClimaCoat windshield that debuted four years ago on the VW Passat. This windshield for all seasons has seen the light of day after four years of development, including market studies and experiments in real situations. Unlike other glazing products,



ClimaCoat has been conceived with a twofold functionality, in response to OEMs' and drivers' concerns for comfort and environment. Indeed, this heated windshield can also reflect infrared rays to cool down the passenger compartment. It is a truly progress since the very first heated windshield, created for Ford thirty years ago.

The first heated windshield system relied on the heat diffusion through a network of electric wires that were directly integrated into the windshield between two layers of glass. In the wake of this innovation, two technologies currently exist in terms of heated glazing. The first one stems from the Ford's windshield: microscopic heating wires are incorporated between the two glass panels of the laminated windshield. While the second system uses a conductive layer that is applied on the whole glass' surface. ClimaCoat is based on this second technology, that is to say there is no element in the field of vision and the coating cannot be seen to the naked eye.

Thus, with the ClimaCoat windshield, Saint-Gobain Sekurit has conceived a practical and easy to use product for both better visibility and safety. In winter, this heated windshield is a useful tool to demist and de-ice pretty quickly while preventing the windshield from re-icing. In summer, ClimaCoat limits the entry of the sun's rays inside the car by reflecting most infrared rays. In this way, the heat level in the passenger compartment is regulated naturally, which improves the driver's and passengers' comfort while protecting the car's trim. Meanwhile, fuel consumption and carbon dioxide emissions can be reduced with a lower use of air conditioning.

In order to reduce greenhouse gas and improve fuel saving, it has been decided to define standards in the United States (EPA) and Europe, through a decrease of the air conditioning use. The same logic applies to electric vehicles, on which gla-

zing has been designed to reduce energy consumption and improve driving range. In this prospect, the ClimaCoat two-in-one windshield is a real asset for electric vehicles. Particular incentives have even been implemented to promote electric vehicles that are considered as advanced and clean vehicles. That is why some OEMs have already decided to equip electric vehicles with the ClimaCoat windshield.



Thanks to the heating/cooling function, this anti-solar glazing reduces A/C consumption up to 30% and thus, electric vehicles' battery life increases. In addition, the new European driving cycle test proved that in summer, the ClimaCoat windshield can improve driving range by 3%; while inside the cabin the air temperature is 10 °C less than a car with a standard windshield. In winter, the defogging time is reduced threefold compared with a non-heated windshield.

Such a technology enabled Saint-Gobain Sekurit to win the Innovation Arches, a Group reward that was granted by Saint-Gobain. Since ClimaCoat's launch, demand for this product has been growing: car manufacturers such as Volkswagen, Audi, Porsche, Mercedes and Skoda have asked to have some of their cars equipped with ClimaCoat windshields. This trend will continue because additional new car models due to launch this year will be equipped with Saint-Gobain Sekurit's ClimaCoat. This product's future is more than promising for the automotive market.



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