

Dark tinted glazing behind the B-pillar contributes CO₂ emission

Saint-Gobain Sekurit measured the influence of dark-tinted glazing from the B-pillar on CO₂ emission of air conditioning system (A/C). The result: The application of dark tinted glazing behind the B-pillar reduces the CO₂ emission by about 1.6 to 1.9 g/km, depending on the tint level.

EU legislation on CO₂ emission dedicates that OEM's (Original equipment manufacturers) are responsible for developing car related technologies in order to reach 130 g CO₂/km on EU average. Mandatory, complementary measures shall bring additional ≥ 10 g CO₂/km, one example: efficient mobile air conditioning systems. In the frame of the EU legislation dark tinted glazing contributes to the CO₂ emission reduction of vehicle in an important manner; the product perfectly suits the concept of efficient A/C. This means for car drivers fuel savings of approximately 20 to 24 litres for every 30.000 km travelled.

Thermal comfort inside the vehicle is very important, not only for comfort, but also for safety aspects. Hence air conditioning systems are one of the most popular options on vehicles: about 80 percent of all new vehicles in Europe are equipped with an air conditioning system - trend increasing. One disadvantage: the cooling process of the air conditioning system increases fuel consumption and so CO₂ emission of the vehicle. The reduction of this additional consumption can be mainly reached by reducing the heat loading of the vehicle. About 80% of the heat inside the vehicle is transmitted through the glazing. Thus, the better the glazing protects the vehicle from heating up, the less the heat load has to be cooled by the air conditioning system. Consequently CO₂ emission is reduced.

The simulation of Saint-Gobain Sekurit points that dark tinted glazing behind the B-pillar reduces CO₂ emission by about 1.6 to 1.9 g/km (depending on the tint level and size of the glass surface). The application of dark tinted glazing behind the B-pillar decreases the additional fuel consumption caused by the air conditioning system by approximately 11 to 13 percent. This is equal to approximately 20 to 24 litres less fuel per 30.000 km. These results were confirmed by measurements.

Conclusion: Dark tinted glazing is an effective and easy way to implement technique to reduce CO₂-emission of vehicles with A/C. Hence the product is suited as immediate measure in the running series and for low emission vehicles.