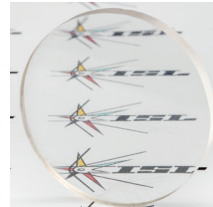


Lighter materials for ballistic protection



www.isl.eu

ISL is studying and developing a new solution based on a ceramic/glass composite to reinforce ballistic protection systems while reducing their density by more than 50%.



Thin layer of transparent ceramic

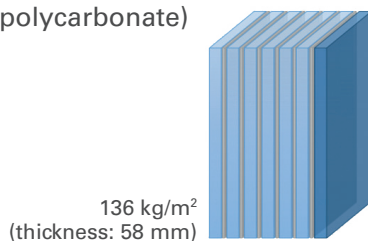
Compared with standard ballistic protection systems, made of glass and polycarbonate, this high-tech solution proposed by ISL consists of adding a thin layer of transparent ceramic to the standard glass/polycarbonate compound.

In addition, the ceramic layer protects against high-intensity laser sources and offers enhanced eye protection for the armed forces.

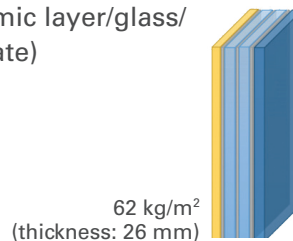
More light-weight ballistic protection

Using the new ISL ballistic protection system, a reduction of more than 50% can be obtained in thickness and areal density.

Standard solution
(glass/polycarbonate)

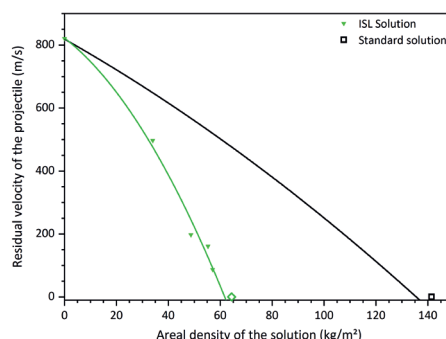


ISL Solution
(4 mm ceramic layer/glass/
polycarbonate)



Improved ballistic performance

ISL's new protection material has been successfully tested in its laboratories. Ballistic experiments were carried out using 7.62 x 51 mm AP P80 ammunition at an initial velocity of 820 m/s. The experimental set-up used made it possible to measure the residual velocity of the projectile in the case of perforation if this occurred. The results obtained



show that whereas a standard ballistic protection system needs an areal density of 136 kg/m² and a thickness of 58 mm in order to prevent perforation, the new ISL ballistic protection material resists perforation at an areal density of 62 kg/m² and a thickness of 26 mm.

Possible applications

This new ballistic protection material is reinforced with a thin transparent ceramic layer. It is perfectly suitable for integration into the windows of light armoured vehicles such as those used by the Special Forces. It can also be integrated into shields for SWAT forces offering optimal mobility and protection in hostile environments.



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