

About modern windscreens

All Australia motor vehicle windscreens used to be made from toughened glass. These had the advantage that when they shattered, they would break into small pieces with no sharp edges, thus reducing the damage to the occupants in an accident.

However, in the process of shattering, it often left the driver with a severe reduction in visibility, leading to a dangerous and traumatic situation for the driver and the other occupants. In addition, studies over many years showed that the safest place for an occupant during an accident was inside the vehicle. Those thrown out of the car - through a door or through a broken windscreen - generally suffered considerably more injuries than those restrained inside the vehicle, even in a very severe accident involving a rollover. To overcome these problems, the laminated windscreen is now used in all new vehicles. Vehicles with an original toughened screen must fit a laminated screen when replaced.

Laminated screens are generally made from two pieces of glass approximately 3mm thick, sandwiched together with an 0.28mm PVC layer. Even when a car accident results in cracks in one or both layers of glass, because of the sandwich structure and the toughness of the PVC laminate, the windscreen will withstand very heavy forces. (If you're skeptical, try breaking an old windscreen into a couple of pieces, or even breaking a hole in it with a hammer - it's extraordinarily difficult).

Although laminated screens are a big advance in safety, they are more prone to damage from stones than old toughened screens. Stone damage which would have destroyed old toughened screens, will simply damage the outer layer of laminated glass. If left, however, the damage will often deteriorate, and can severely weaken the windscreen. Fortunately, most damage can be repaired, bringing the windscreen back to it's full original strength and integrity, if done within a reasonable time.