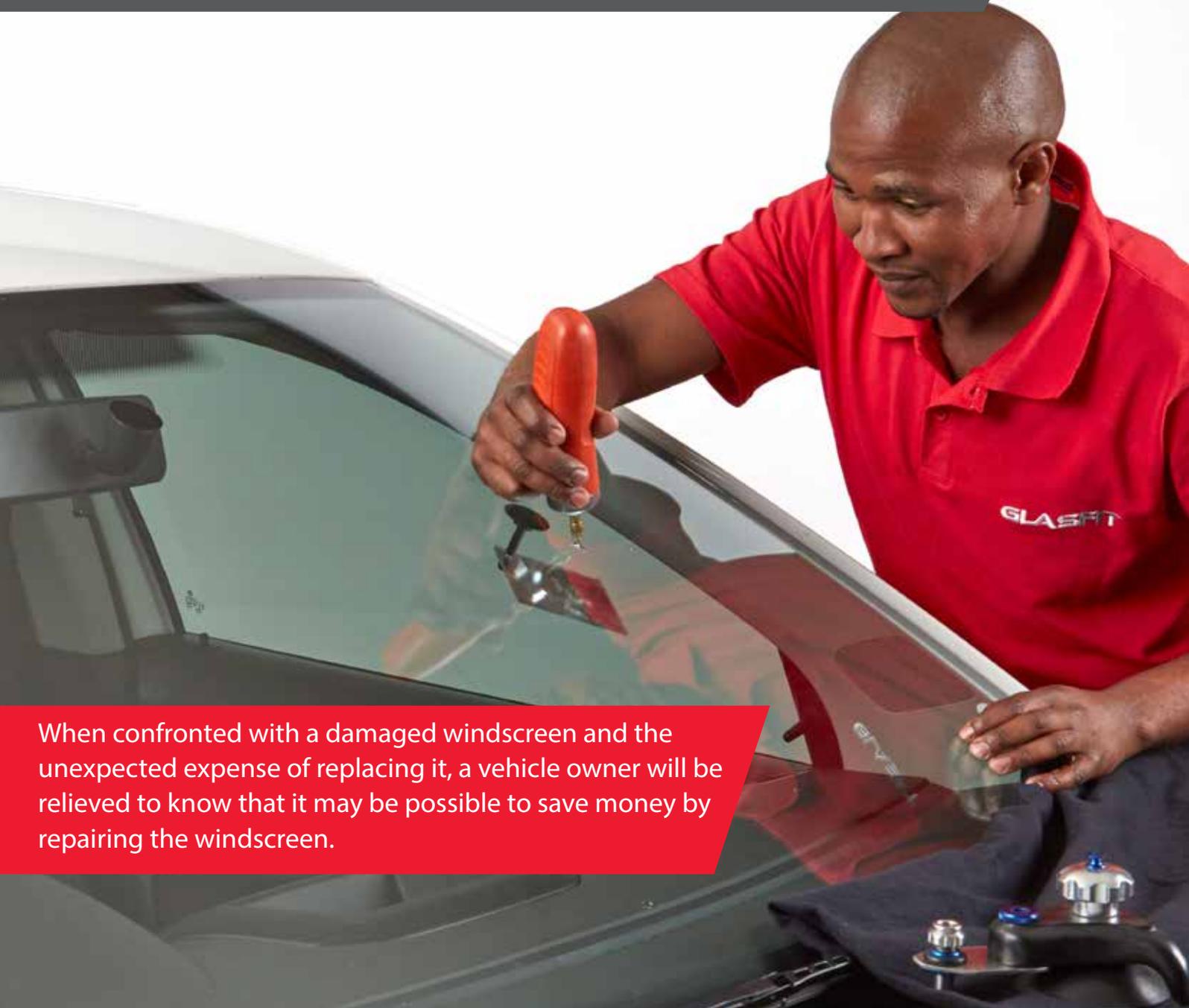


# WINDSCREEN REPAIR

## ALL YOU NEED TO KNOW



When confronted with a damaged windscreen and the unexpected expense of replacing it, a vehicle owner will be relieved to know that it may be possible to save money by repairing the windscreen.

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# WINDSCREEN REPAIR

## YOUR WINDSCREEN

### WHAT IS THE PURPOSE OF A WINDSCREEN?

A windscreen allows for visibility, is a weather barrier, and protects occupants in a car from outside debris. As a safety component, it provides up to 30% of a vehicle's overall structural strength. This is especially important in a roll-over accident or front end collision as airbags rely on the windscreen for support if deployed.

### WHAT IS A LAMINATE WINDSCREEN?

A laminate windscreen consists of two pieces of glass with a clear, soft plastic vinyl layer, referred to as a laminate or polyvinyl butyral, sandwiched in-between. The laminate is the safety feature that holds the glass together when it is broken, preventing small glass splinters from injuring the vehicle's occupants.



### WHAT HAPPENS WHEN A WINDSCREEN IS DAMAGED?

Generally, when a windscreen is chipped or cracked the air space created by the break in the glass can cause random refraction of light. Not only can this be distracting to the driver, but the strength of the windscreen is weakened by the fracture, which compromises the overall structural integrity of the vehicle.

### WHAT ARE THE TWO CAUSES OF WINDSCREEN DAMAGE?

The two basic causes of damage to laminated motor glass are:

- impact, and
- stress.

Impact is the most common type of damage. It occurs when an object strikes the glass and causes a break in one of the glass layers. Also referred to as sudden impact damage, it may be possible to stop the damage from spreading with a repair.

A stress fracture or crack can be a result of extreme temperature changes, a structural weakness in the vehicle's body, or a defect in the glass or in the fitment thereof. There is usually no point of impact on the windscreen glass and a repair is not recommended.

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# What are the types of impact windscreen damage?

## CHIPS AND CRACKS

Sudden impact damage from small stones, hail, or other flying debris usually cause chips and/or cracks on the windscreen. These may be repairable, depending on certain repair criteria. A chip left unrepaired may develop into a crack due to temperature fluctuations, the impact of potholes, or pressure on the windscreen.

The most common types of windscreen damage are:

- bull's-eye
- partial bull's-eye or half moon
- crater
- star break, and
- combination.

## BULL'S-EYE

This is a small cone or circular-shaped break inside the first layer of glass. It is normally caused by a circular shaped object hitting the glass. A true bull's-eye does not have any radial cracks and is usually between 9 mm and 25 mm in diameter. There is a small hole or pit at the point of impact.

## PARTIAL BULL'S-EYE OR HALF MOON

This is also usually caused by a small round object striking the glass. Unlike a bull's-eye, the damage is not completely circular. Typically, these breaks are no larger than about 12 mm and have a very small pit at the impact point.

## CRATER

This is a circular break that resembles a bottle cap. The inside edge of the circle is usually cracked to the surface.



## STAR BREAK

This has an impact point with one or more radial cracks extending from the break. These breaks vary in size and number of radial cracks. Some are only 7 mm long with one crack. A true star break never has a large cone beneath the impact point.

## COMBINATION

This damage presents as more than one type of break. As an example, it could be the combination of a star or bull's-eye with cracks extending from the impact point.

# IF THIS IS THE DAMAGE WE CAN SAFELY REPAIR IT!



**CRACK**



**BULL'S-EYE**



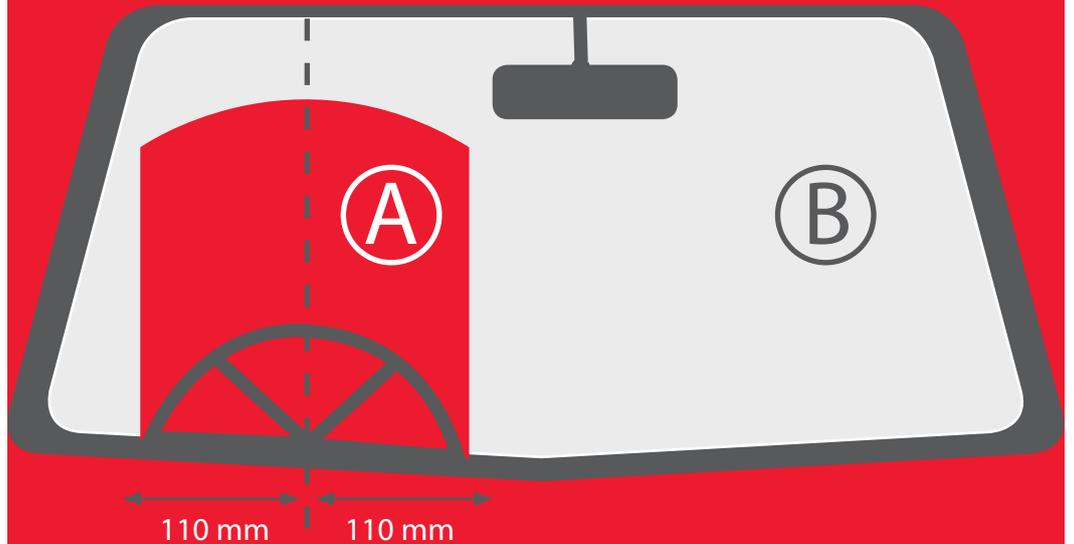
**CRATER**



**STAR BREAK**



**COMBINATION**



## Zone A

As the critical zone for the driver's line of vision, no matter how small the damage, for your safety, repairs are not permitted in this area.

## Zone B

Damage within this zone can be repaired if:

- cracks in your windscreen do not exceed 150 mm in length, extend through more than the outer layer of glass, or run from the edge of the windscreen
- chip damage does not exceed 25 mm in diameter
- crater damage is under 5 mm in diameter.

## WINDSCREEN REPAIR

The goal of a windscreen repair is to stop the damage from spreading and making a windscreen replacement unavoidable. Once repaired, the windscreen's optical clarity and structural integrity is improved.

### WHY REPAIR?

A windscreen repair is a more cost-effective option than a replacement and takes less time to complete.

### IS ALL WINDSCREEN DAMAGE REPAIRABLE?

Not all damage to the windscreen is repairable. Whether a chip or crack can be repaired will depend on the size, depth, type and location of the damage.

Before commencing a repair, the Glasfit repair technician will assess the glass to determine if a windscreen repair can be attempted or if the windscreen must be replaced. If the technician determines that the windscreen can be repaired, he/she will discuss with the customer factors that may affect the success of the repair and the visual result. Every customer must be made fully aware of the repair criteria, risks, liability, and terms and conditions associated with the process before giving their consent.

### WHAT TO EXPECT FROM A WINDSCREEN REPAIR

The object of a windscreen repair is to use a resin to fill voids and cracks down to the vinyl lamination in order to prevent the damage from spreading further. Once repaired, a cosmetic blemish may still be visible.

The success of a repair and its visual appearance is affected by:

- age
- amount of contamination
- location, and
- severity of damage.

## THE WINDSCREEN REPAIR PROCESS

During a windscreen repair, broken glass, debris and water is removed from the break. A vacuum is then created in the area where the glass is missing. A liquid resin is injected into this void in order to seal the laminate. Once cured, any excess resin is polished away.

Placing a windscreen plaster over the damage immediately after it has occurred and ensuring that the crack is repaired shortly thereafter will assist in an effective repair. If left unrepaired, a chip or crack can spread quickly, resulting in the windscreen needing to be replaced.

### REPAIR CRITERIA

A Glasfit repair technician is required to operate within standard prescribed guidelines and these must be strictly adhered to.

Repairs are not recommended where:

- the damage is situated in the driver's critical viewing area - "A Zone"
- the size, depth and severity of damage exceed the recommended technical repair specifications
- more than three repairs per windscreen are carried out at a time
- the damage has previously been repaired
- the area is contaminated with visible impurities such as dirt, insects or moisture that cannot be removed through cleaning
- the repairs are in high stress areas of the windscreen, i.e., within 6 cm from the edges of the windscreen
- the lamination has been damaged or has discolouration
- the damage extends to the inside glass layer
- value-added features such as a rain sensor or an internal radio antenna may be affected by a repair.

## RISKS

There are risks associated with a windscreen repair. These are:

- the possibility of the windscreen breaking or the damage spreading further during the repair process
- the age, size and type of damage to the windscreen which can affect the repair and result in a blemish remaining on the glass.



## TERMS AND CONDITIONS

When we perform a repair job, the objective is to prevent the damage spreading further. There is a risk that the glass may break during or after the repair.

If the windscreen breaks during the repair, or if the customer is unhappy with the repair result, the cost of the repair will be deducted from the price of the replacement windscreen. The fitment centre does not undertake to make any monetary payment directly to the customer.

## LIABILITY OF THE FITMENT CENTRE AND TECHNICIAN

Glasfit will not accept liability to replace the windscreen if a repair is unsuccessful.



For further information visit [www.glasfit.com](http://www.glasfit.com), email [info@glasfit.com](mailto:info@glasfit.com) or call Glasfit Head Office on 011 607 3000.

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