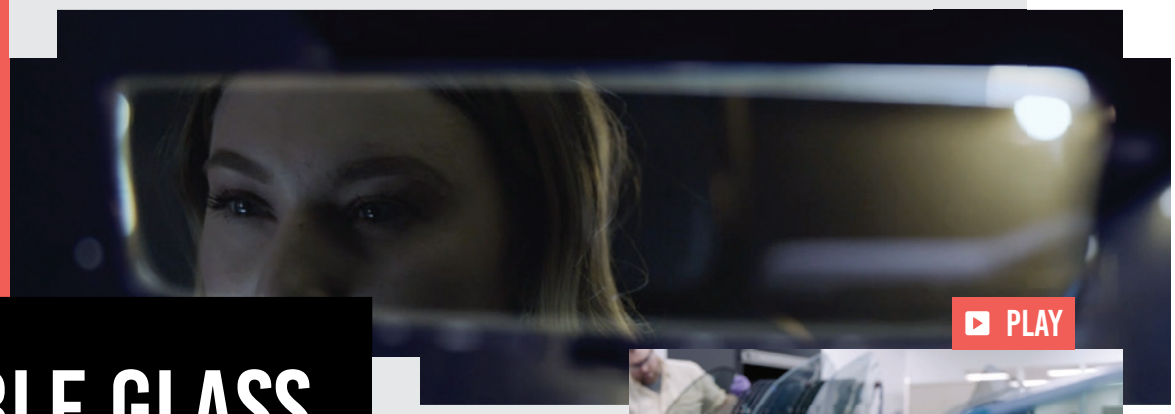
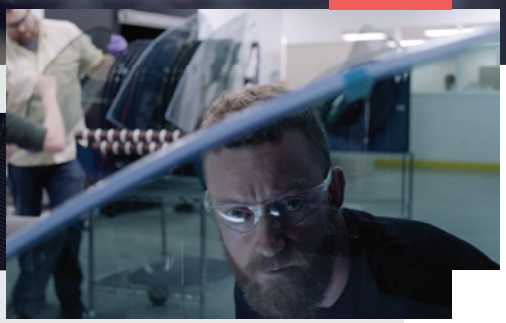
GENTEX CORPORATION

TECH BRIEF
2021



DIMMABLE GLASS



Gentex is the world's leading supplier of dimmable smart glass using electrochromic glass and film-based solutions that manipulate light for safety, convenience and performance. We offer full system solutions — custom glass, coatings, user interfaces, sensors control, dimming algorithms and more.

PRODUCT PORTFOLIO

AUTOMATIC-DIMMING MIRRORS

Core safety technology with global appeal.



Functionality

- Active safety features that eliminate dangerous rearview mirror glare
- Sophisticated light sensors, proprietary gels and microprocessor-based algorithms darken mirror to the precise level necessary
- Interior and exterior mirror solutions
- Must-have feature – prevents nighttime blindness, improves reaction time, prevents driver fatigue
- Mirror is a module for additional electronic features – displays, alerts, transceivers, telematics, etc.





SUNLOAD CONTROL

Dimmable automotive glass to control sunlight.



SUNROOFS

- Electrochromic glass and film-based solutions
- Darken on demand and/or in conjunction with sunload sensors
- Industry-leading dynamic range:
  - 55% to < 1% visible light transmission
  - Full gray scale control throughout range
- Extremely low haze
- Neutral gray color
- Blocks up to 88% of total solar energy in dark state
- OEM development programs underway
- All-new sunroof manufacturing facility with custom machinery and processes



SIDELITES

- Dimmable side windows
- Darkening can be adjusted to meet regional regulations



VISORS

- Dimmable visors/panels prevent glare from reaching driver's eyes or interior components

COMBINER HUDS

- Dimmable combiner head-up display
- Sensor-controlled darkening minimizes sunlight glare and assures optimal display visibility





CONCEALMENT

Dimmable glass to conceal cameras/sensors and enhance system performance.



SENSOR SHROUDS

- Small, dimmable panels that conceal cameras and sensors for enhanced aesthetics
- Optimize camera operation by minimizing sunlight glare
- Clears and darkens according to camera function
- Very low current draw; can remain dark when vehicle is off





PILLAR DISPLAY

- Vehicle pillar-integrated display behind dimmable glass
- Conceals cameras and display, which illuminates upon approach
- Acts as aperture control for enhanced camera/sensor performance
- Ideal for various driver alerts
- Ideal for electric, rideshare and autonomous vehicles

PRIVACY

Dimmable glass for passenger privacy in autonomous and rideshare applications.

Functionality

- Autonomous vehicles will allow passengers new freedoms while traveling
- Large-area dimmable panels will afford passengers privacy, especially during evening travel
- New design flexibility and aesthetic options





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