TRANSITGUARD

THERMOGUARD GLASS

Energy Rejecting Heat Dissipating Glass for Public Transit

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PERFORMANCE & SPECIFICATIONS

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ThermoGUARD is a uniquely manufactured glass specifcally designed for rail and buses that operate in all climates. Our heat dissipation glass helps control the temperature inside of vehicle by reflecting heat and keeping the cabin air cool in the summer or warm in the winter. ThermoGUARD accomplishes this without the use of a film.

ThermoGUARD glass has a cool-blue hue with approximately 70% visibility in the driver area and 65% visibility in the passenger area. At night, when the interior lights are on most darker tinted glass can create a reflection making it difficult for passengers to see outside. The visibility of ThermoGUARD glass allows people on the bus or rail car to see what is happening outside before disembarking whether during the day or at night.

ThermoGUARD Blue Spruce heat strengthened, energy rejecting, high visibility, laminted safety glass helps control the interior temperature in all climates while eliminating passenger inconveniences and safety concerns.

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PERFORMANCE

- **IMPROVE CABIN COMFORT** Infrared rays are prohibited from entering, reducing vehicle interior temperatures by 35%. The driver and passengers are protected from harmful UV radiation that can burn the skin by blocking up to 100% of incoming UV rays.
- **ENERGY EFFICIENT USAGE** Reducing A/C or heater usage helps to extend the battery range and save fuel. Also, reducing cabin heat lowers A/C or heater usage by 30% and reduced A/C fuel usage by 26% according to the California Air Resouce Board.
- **REDUCES CO2 EMISSIONS** 100% of infrared heat is prohibited in the passenger area and 94% in the driver area. Lower energy and improved fuel efficiency consumption reduces CO2 emissions.

BENEFITS

- **LESS GLARE & REFLECTION** Our glass improves safety for the driver by reducing the driver slider and front door glare during the daytime. Also, safety at night is improved as passengers are able to see outside with less reflection on the interior of the glass.
- **REDUCTION OF GRAFFITI** People sitting in graffiti prone areas are less likely to damage the glasss as they can be seen. Agencies that switch to ThermoGUARD see a significant reduction in graffiti, saving them from additional expenses each year.
- **ACOUSTIC CABIN COMFORT** Our laminated glass creates an acoustically comfortable cabin. Outside noises coming through the window are reduced without adding weight or thickness to the glass.

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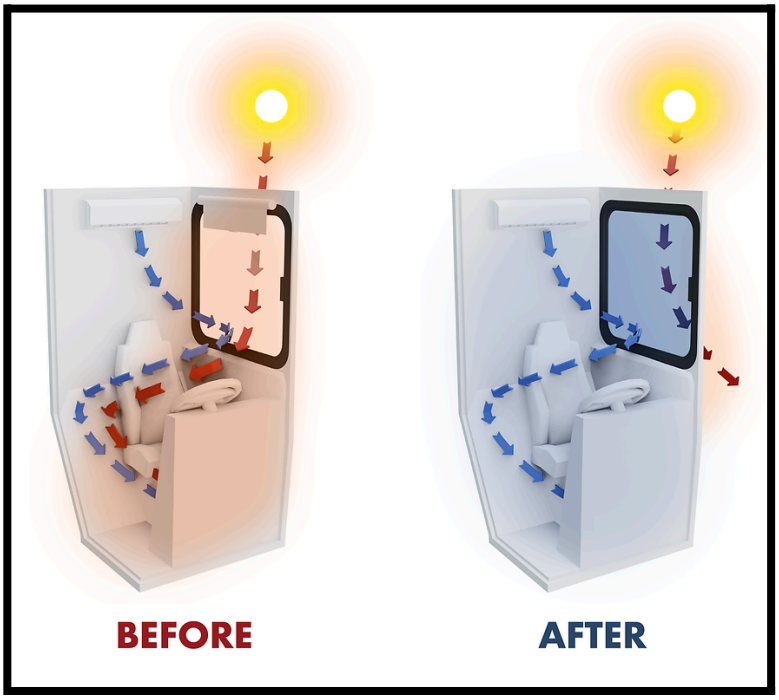
SPECIFICATIONS

ThermoGUARD Blue Spruce heat strengthened, laminated safety glass has the following impressive properties:

- Light Transmittance (LT) - 65-70% of light allowed to pass through.
- Infrared (IR) Heat - Rejects up to 94% of heat in the driver's area and up to 100% in the passenger area.
- Ultraviolet (UV) Radiation - Rejects up to 100% of harmful cancer causing rays.

Driver slider, front door, and destination sign glass shall be ThermoGUARD BS70L. Pasenger windows and rear door glass shall be ThermoGUARD BS65L. ThermoGUARD glass is manufactured in the USA. The glass shall be 6.3mm - 7.1mm nominal thickness and shall be heat treated, laminated safety glass. The material shall conform to the requirements of ANSI Z26.1 and the recommended practices defined in SAE J673. The glass tint shall comply with AS2/AS3 DOT requirements, blocking up to 100% of the UV and allowing less than 7% of the infrared heat for BS70L and less than 1% of the infrared heat for BS65L.

All glass shall have SpotGUARD or equivalent applied. This coating helps prevent water spots from building up on the surface of the glass. The glass will have the added benefits of water-phobic, impact and scratch resistant, and repel prints or finger prints.



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METHOD OF APPROACH

There are three methods to implement ThermoGUARD glass into your fleet.

- Based on the size of the fleet, we recommend a pilot program. We start by upgrading the driver sliders and front door glass to ThermoGUARD in 10 buses. Additionally, we recommend 1-2 vehciles are completely retrofitted with our glass. In most instance, the feedback from driver and passengers is immediate. They notice the new look and they feel the heat reduction in the cabin area.
- You can install ThermoGUARD glass during your mid life rehab program. We can supply the glass directly or you can take advantage of our WindowREBUILD program to provide completed window equipped with ThermoGUARD glass.
- ThermoGUARD glass can be specified on all new vehicle buys. This method is the most cost efficient way to include the glass without having an impact on the operation budget.

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WINDOW REBUILD

Our WindowREBUILD program came from our customer's needs to quickly return their bus back into service, to keep their inventory full at the body shop, and have a source of new windows for mid life rehabs. Our team of professionals can ship ready-to-install windows in as little as 2 weeks. and at a fraction of the cost when compared to other options. We have two methods to rebuild and replace your broken window.

1. Send your frame to us and we replace the broken glass.
2. Order a new frame and new glass.

We work with our industry partners to provide replacement windows for Gillig and New Flyer buses. Exclusive to Gillig, we offer an improved driver slider design that solves glass breakage and slider binding issues. Another benefit is that all glass will be treated with SpotGUARD. It does not matter if you are on the East Coast or West Coast, we have teams located from Califronia to Florida who are ready to assist.

THERMOGUARD

WHO WE ARE

TransitGUARD is focused on becoming the premier glass supplier for the bus and rail market. Through our travels in the United States we have learned that all agencies have hard water problems, heating and cooling issues, objectives to reduce emissions and long lead times for replacement glass and frames. Our goal is to help them save money in new vehicles purchases, reduce operational costs by using less energy, and minimize the labor needed to maintain the vehicles. We intend to achieve this by delivering quality products on time, staying within budget, and improving the riding experience for passenger and drivers during their commute.

Our team is made up of leaders who believe in open communication with agencies, the general public, and the transit industry. We believe in working directly with the shops at all levels to help meet their needs. TransitGUARD's goal is to improve transit services while generating a positive political movement for the CEO and transit board members.

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TESTIMONIALS & REFERENCES

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“WE ARE AWARE THAT THERE IS AN UP-CHARGE FOR THIS GLASS, BUT THE FACT THAT OUR FUNDS ARE MATCHED 80/20 WITH FEDERAL MONEY MEANS WE GET THE BENEFITS, LOOK GOOD TO OUR CUSTOMERS & EMPLOYEES, AND REDUCED OUR OPERATIONS COSTS WHEN IT COMES TO COOLING DOWN THE BUS BY 50% LESS TIME.”

Chris James
Maintenance Manager
Golden Empire Transit District
Bakersfield, CA

“I STARTED WITH A RETROFIT OF 10 GILLIG BUSES - DRIVER’S WINDOWS ONLY. I HAD SUCH A GOOD RESPONSE FROM OUR OPERATORS AFTER THE FIRST 10 THAT I BEGAN TO RETROFIT 10 BUSES A MONTH UNTIL THE ENTIRE FLEET WAS COMPLETE. AN OPERATOR (UNION VP) CAME UP TO ME TO TELL ME HOW MUCH HE APPRECIATED “WHATEVER YOU DID TO MAKE THE HEAT GO AWAY.” NOT MUCH MORE NEEDED TO BE SAID.”

Sergio Rodriguez
Manager of Maintenance
Trinity Metro
Fort Worth, TX

“THERE WAS SIGNIFICANT IMPROVEMENT WITH THE USE OF THERMOGUARD GLASS. THERMOGUARD PROVIDES COOLER TEMPERATURES WHICH PROVIDES PASSENGER COMFORT, LESS RUNNING OF THE HVAC UNITS - PROLONGING THE LIFE OF THE HVAC SYSTEMS- AND SAVINGS ON FUEL, LABOR, AND MAINTENANCE FOR THE HVAC UNITS. WE ALSO NO LONGER HAVE TO IDLE THE BUS AT LEAST 30-45 MINUTES PRIOR GOING INTO SERVICE IN ORDER FOR THE INTERIOR TO HAVE A COMFORTABLE TEMPERATURE...THE DARK GLASS WE PREVIOUSLY USED WAS THE ONLY ALTERNATIVE TO REDUCING THE HEAT IN THE VEHICLES, HOWEVER, THERMOGUARD PROVIDES THAT SERVICE WITHOUT THE DARK TINT, ALLOWING MORE VISIBILITY INTO AND OUT OF THE VEHICLE.”

Jeff Rock
VP of Maintenance
Sun Tran
Tucson, AZ

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REFERENCES

- **Honolulu, HI - TheBus**
  - Adam Tamayoshi, VP of Maintenance
  - adam.tamayoshi@thebus.org
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- **Bakersfield, CA - Golden Empire Transit**
  - Chris James, Maintenance Manager
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  - M) 661-889-5799
- **Fresno, CA - Fresno Area Express**
  - Frank Peter, Fleet Manager
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- **St Petersburg, FL - PSTA**
  - Henry Lukasik, Director of Maintenance
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CUSTOMER PHOTOS

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SF MUNI 40LF NOVA

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VISALIA 40LF NEW FLYER

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PSTA 40LF GILLIG

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SANTA MONICA 40LF GILLIG

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