# VortexIR®

**CERAMIC FILM SERIES** 

This isn't your first vehicle and you already know high-performance window film dramatically improves how you feel and look in your car or truck. So do we. That's why we introduced the combined power of timeless raw materials and nanotechnology in our new VortexIR® Ceramic Film Series. Ceramic nanoparticles create a deeper black that won't make your windows look like mirrors. But more than that, VortexIR premium technology absorbs energy from the sun instead of reflecting light and radio waves like other films on the market. For you, that means a cooler interior, more bars on your cell phone and a look that will last a lifetime.

### FAST FACTS:

- Advanced ceramic technology rejects up to 88% of infrared rays
- Total Solar Energy Rejection (TSER) of up to 63%
- Blocks more than 99% of harmful UV rays, preventing overexposure
- Signal-friendly construction won't interfere with mobile phones, GPS navigation, satellite radio, and other electronic devices
- Helps keep shattered glass together for increased safety
- Reduced interior fading
- · Rich black color
- Available in a wide range of shades to accommodate any driver's preference and minimize glare

## **WARRANTY:**

- · Limited lifetime transferable
- Replacement product and labor
- · National dealer network



### **PERFORMANCE SPECS:**

VortexIR	70	55	45	35	30	25	15	5
% Visible light transmittance	71	53	46	38	30	24	17	8
% Visible light applied to auto glass	60	45	39	32	25	20	15	7
% Total solar energy rejected	40	47	49	53	55	57	60	63
% Total solar energy rejected applied to auto glass	50	55	56	59	60	62	63	65
% Ultraviolet blocked (300 to 380 nanometers)	>99	>99	>99	>99	>99	>99	>99	>99
% Infrared energy rejected (IRER)	52	56	57	45	59	61	62	63
% Selective infrared rejection (SIRR)	60	72	72	74	78	81	82	88
% Glare reduction	20	40	48	57	67	73	80	91
% Visible light reflectance	8	7	6	6	6	5	5	5

### Performance Notes:

Performance results are calculated using NFRC methodology and LBNL Window software, and are subject to variations within industry standards and only intended for estimating purposes. This data is provided for informational purposes only and subject to normal manufacturing variances.

Performance results based on film applied to 1/4" (6mm) clear glass and a representative automotive glass with a base visible light transmission of 75%. Due to variations in glass performance, these values should not be used to comply with local tinting laws.

### **SOLAR ENERGY TECHNICAL DEFINITIONS**

### VISIBLE LIGHT TRANSMITTANCE (VLT)

The percent of total visible light that is transmitted through the window film/glass system. The lower the number, the less visible light transmitted.

### TOTAL SOLAR ENERGY REJECTED (TSER)

The percent of total solar energy that is directly reflected and absorbed and radiated outwards. The higher the number, the more total solar energy rejected. Calculated as 1-SHGC (Solar Heat Gain Coefficient).

### ULTRAVIOLET LIGHT BLOCKED

The percent of invisible light blocked between 300 nm and 380 nm. The higher the number, the more ultraviolet light blocked. This light is a primary cause of skin cancer, fading and discoloration of furnishings, and materials. Solar Gard window films block more than 99% of both UVA and UVB.

### INFRARED ENERGY REJECTION (IRER)

The percent of infrared energy (780 nm to 2500 nm) that is directly reflected and absorbed and radiated outwards. Calculated as 1 – SHGC (780 nm to 2500 nm) using Lawrence Berkeley National Laboratory (LBNL) Windows oftware and NFRC 200 solar spectrum from 780 nm to 2500 nm. The higher the number, the more infrared energy reflected and absorbed and released outwards. IRER is the endorsed calculation method of IWFA.

# SELECTIVE INFRARED REJECTION (SIRR)

The percent of "film only" transmitted infrared energy (780 nm to 1700 nm) measured using the Solar Spectrum Transmission Meter (model # SS2450). The higher the number, the less infrared directly transmitted.

# GLARE REDUCTION

The percent of glare that is reduced by window film/glass system compared to untreated glass. The higher the number, the more glare reduced.

### VISIBLE LIGHT REFLECTANCE

The percent of total visible light that is reflected by the window film/glass system. The lower the number, the less visible light reflected.

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