



RAYNO
WINDOW FILM

PHANTOM AUTOMOTIVE SERIES

ABOUT



RAYNO

The sun is what gives us life—a celestial body so powerful it's both our doing and undoing. At Rayno we find ways to celebrate the sun while also protecting our customers from it. Our vision: to provide a better quality of life.


We achieve this by looking to science and exploring ways to develop true innovations for windows. Through the fusion of existing technologies and refinements that lead to better quality, we're able to provide you with superior products for your home, office and cars. From Rescue film to Smart film to the Phantom series, we work to enhance comfort and security—while simultaneously making a positive impact upon society.

DIVINE INNOVATION

The Phantom series is an extension of our vision to create a better quality of life. This premium automotive line was designed to help you keep your vehicles in mint condition, maximize your cars' performance, enhance privacy and protect you and your interiors from the damaging effects of the sun. It's a unique product—the world's first carbon ceramic film, and something that only we have the power to produce. Call it divine intervention—we call it our patented Nano Carbon Ceramic technology.



THE SOLUTION



The Rayno Phantom series is more than our answer to automotive window film. It's our solution for the many common complaints associated with car window tint products: glare, discoloration, bubbling, cracking, blistering, just to name a few.

Recognizing a need for innovation, we closely studied existing window voering technologies at a moleculat level, analyzing particle size, fading rates, Total Solar Energy Rejected (TSER) and Infrared Rejection (IR-REJECTION). We then used this information to develop a proprietary product that incorporates the best of both carbon and ceramic window films, ultimately providing a much greater level of color stability than the competition. We call it our Nano Carbon Ceramic technology - the backbone of the Phantom line.

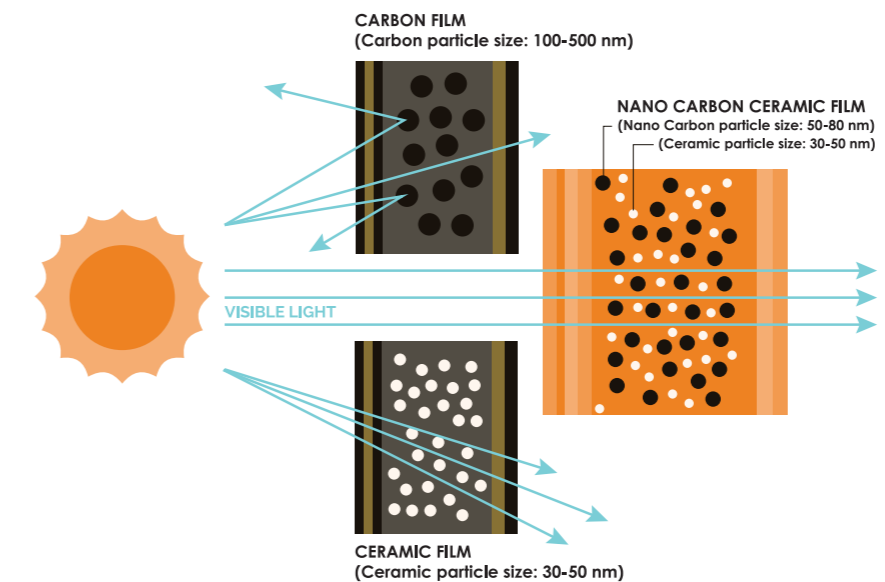


THE TECHNOLOGY



Our patented Nano Carbon Ceramic window film provides you with superior protection and maximum durability, afforded by the unique fusion of carbon and ceramic film.

Here's a look at the benefits of our Nano Carbon Ceramic film versus that of carbon or ceramic:



CARBON WINDOW FILM

Carbon particles are large, dense and very strong—giving carbon film low discoloration rates and high durability. However, these big particles reflect and redirect light, causing glare and a hazy appearance.

CERAMIC WINDOW FILM

Small ceramic particles allow for high visibility, but result in more rapid heat penetration, which oxidizes and fades the naturally blue-colored window film over time.

NANO CARBON CERAMIC WINDOW FILM

Our proprietary Nano Carbon Ceramic window films optimize the advantages of both carbon and ceramic. By reducing the size of carbon particles down to nanoscale, we've mitigated the glare caused by carbon's large size, while retaining its incredible strength. And by integrating high purity ceramic and color stable pigment into our equation, we've further enhanced visibility and created an overall product that boasts higher color stability, durability and heat rejection than any other automotive window film on the market.



THE PERFORMANCE

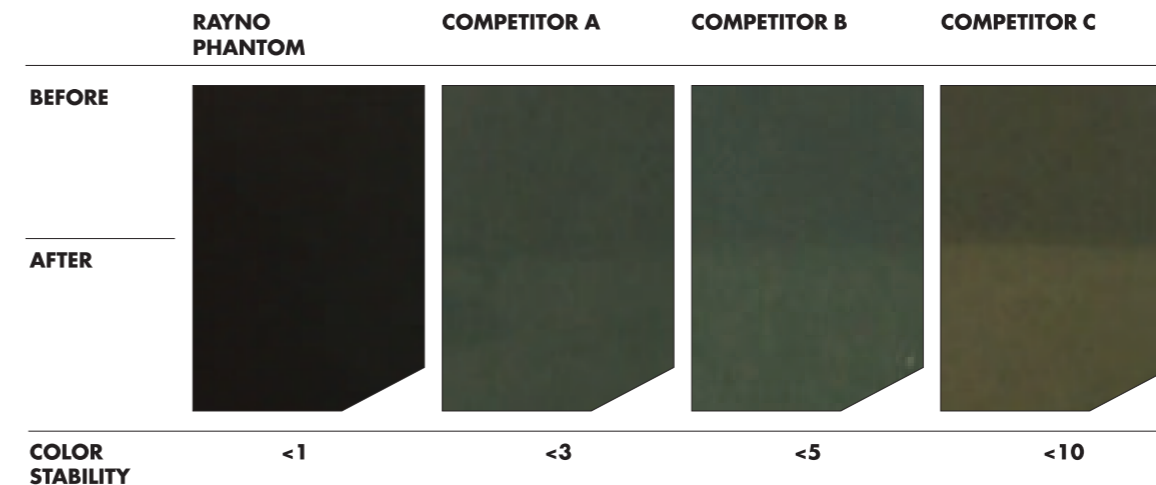
COLOR STABILITY

Traditional dyed films are greatly affected by UV light and humidity, fading and discoloring rapidly with exposure. Not only that, but they offer little to no protection from infrared rays, which can lead to impaired vision over time. To offset this risk, many brands add a derivative of ceramic to increase the IR-Rejection of their product. This solution is counterproductive at best - as ceramic has even greater oxidation and fading rates than traditional films.

Conscious of this when developing the premium Phantom line, we encapsulated individual ceramic particles for increased durability and guaranteed color stability. This ensures you have a dye-free solution that keeps you protected and prevents your window from turning that unattractive "purple" color over time.

COLOR STABILITY TEST

Color stability is one of the first things you should look for in an automotive window film—yet we're the only brand to publish test data. In comparison to other leading products, Rayno Phantom series films are recorded as having the best color stability after the 1000 hour test.

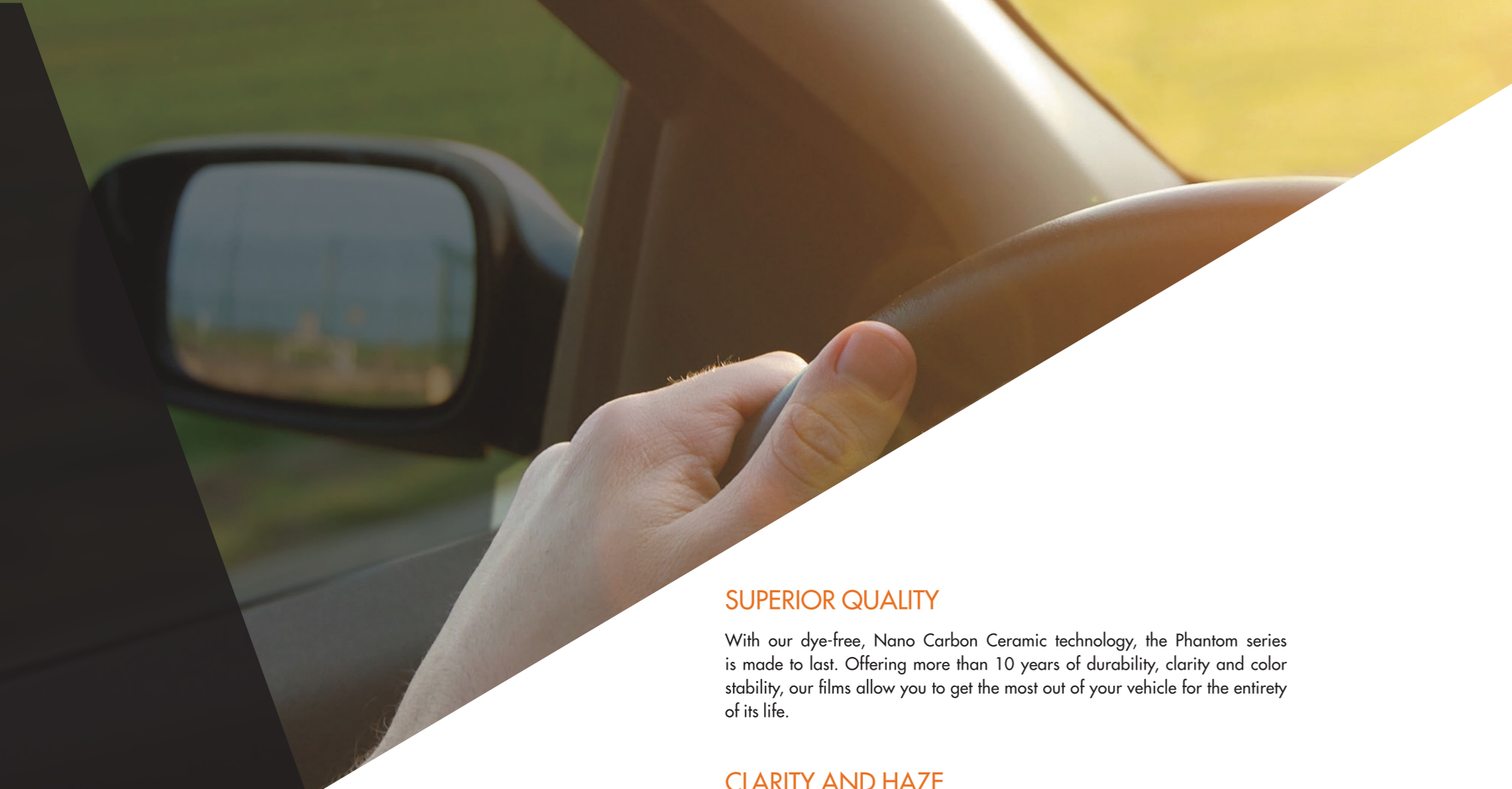


*Tested by Toyota, certified by Tsuchiya lab.

| | INITIAL | 100HR | 200HR | 300HR | 400HR | 500HR | 600HR | 700HR | 800HR | 900HR | 1000HR |
|---------------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| PHANTOM S5 – 15% | 0.01 | 0.14 | 0.33 | 0.31 | 0.35 | 0.58 | 0.58 | 0.58 | 0.79 | 0.77 | 0.81 |
| PHANTOM S7 – 15% | 0.01 | 0.23 | 0.27 | 0.37 | 0.50 | 0.58 | 0.60 | 0.76 | 0.81 | 0.84 | 0.89 |
| PHANTOM S9 – 15% | 0.01 | 0.32 | 0.45 | 0.59 | 0.70 | 0.79 | 0.92 | 0.92 | 0.98 | 1.01 | 1.06 |
| COMPETITOR A – 15% | 0.01 | 1.01 | 1.40 | 1.91 | 1.93 | 2.07 | 2.24 | 2.12 | 2.36 | 2.32 | 2.37 |
| COMPETITOR B – 15% | 0.01 | 0.91 | 1.43 | 1.76 | 2.55 | 2.57 | 3.09 | 3.75 | 3.65 | 3.95 | 4.12 |

*Based on ISO 4892-2 Plastics-Methods of Exposure to Laboratory Light Sources-Xenon-Arc Lamps test.





SUPERIOR QUALITY

With our dye-free, Nano Carbon Ceramic technology, the Phantom series is made to last. Offering more than 10 years of durability, clarity and color stability, our films allow you to get the most out of your vehicle for the entirety of its life.

CLARITY AND HAZE

Heavy rain or excessive shine, we've developed our films to maximize visibility at all times of day, reducing glare, increasing clarity and altogether saving your eyes from strain—allowing you to drive confidently in all conditions.

CLARITY TEST

Phantom series tinted window films are recorded as having lower haze readings than other automotive window film products.

| BRAND | PRODUCT | VLT/IR-REJECTION | HAZE | | |
|--------------|----------------------|------------------|-------------------|----------------------|-------------------|
| | | | WITH RELEASE FILM | WITHOUT RELEASE FILM | RELEASE FILM ONLY |
| RAYNO | PHANTOM S5-05 | 07/75 | 1.51 | 0.75 | 1.30 |
| RAYNO | PHANTOM S5-20 | 16/59 | 1.46 | 0.72 | 1.23 |
| RAYNO | PHANTOM S5-35 | 37/53 | 1.45 | 0.71 | 1.23 |
| RAYNO | PHANTOM S7-20 | 18/74 | 1.68 | 0.94 | 1.23 |
| RAYNO | PHANTOM S7-35 | 37/69 | 1.51 | 0.87 | 1.23 |
| RAYNO | PHANTOM S9-50 | 47/90 | 1.65 | 0.81 | 1.30 |
| COMPETITOR A | PRODUCT A | 14/30 | 2.55 | 1.18 | 2.70 |
| COMPETITOR A | PRODUCT B | 38/30 | 2.60 | 1.27 | 2.60 |
| COMPETITOR A | PRODUCT C | 15/50 | 1.70 | 1.10 | 2.50 |
| COMPETITOR A | PRODUCT D | 33/56 | 2.55 | 1.18 | 2.55 |
| COMPETITOR B | PRODUCT E | 14/30 | 1.90 | 1.25 | 1.30 |
| COMPETITOR B | PRODUCT F | 41/33 | 2.40 | 1.70 | 1.70 |
| COMPETITOR C | PRODUCT G | 26/49 | 3.00 | 2.02 | 1.36 |
| COMPETITOR C | PRODUCT H | 41/32 | 2.28 | 1.25 | 1.60 |
| COMPETITOR D | PRODUCT I | 14/81 | 2.70 | 2.08 | 1.56 |

*Product Hz measured by Haze Meter NDH 2000 (Nippon Denshoku Industries Co., Ltd.)



THE PROTECTION

SOLAR CONTROL

Combine hot, black asphalt with thick, clear glass and your vehicle quickly becomes a giant magnifying glass. This can result in cracked and brittle interiors, including those expensive leather seats, quickly impacting resale value and depreciating your investment. And, far worse, overexposure to the sun can lead to serious health consequences for yourself and your family.

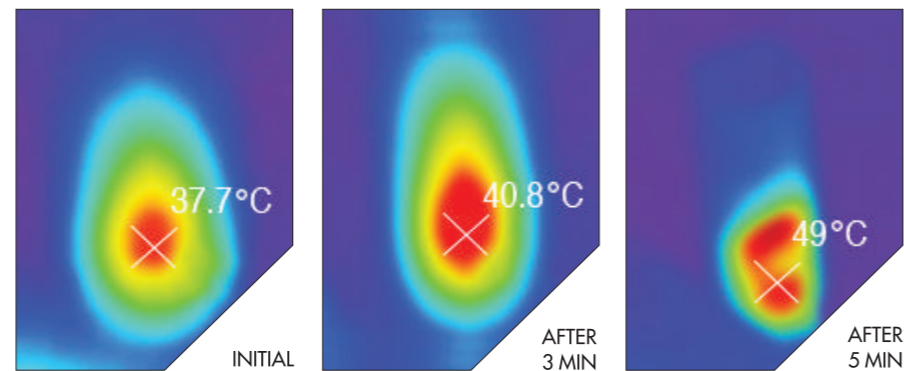
During independent testing, Rayno Phantom Series window tints improved TSER, the amount of heat and skin- and vision-damaging light allowed into your vehicle by up to 70 percent. Additionally, our films reject harmful ultraviolet and infrared rays by nearly 99 percent over other window film brands.

Protective window film is recommended by the Skin Cancer Foundation as a part of their comprehensive skin care program.

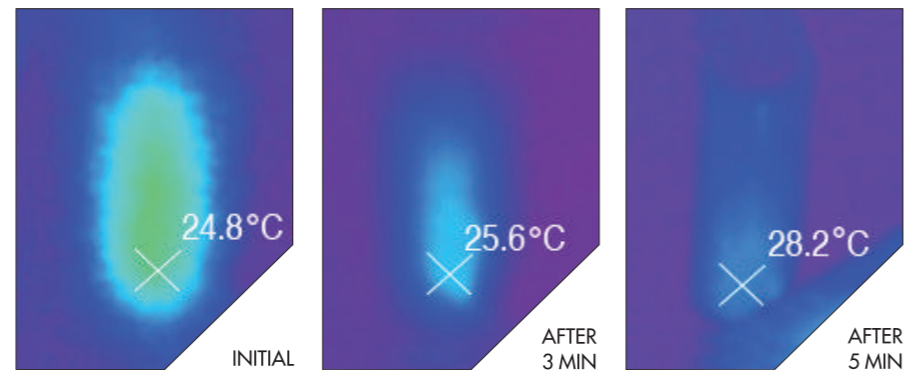
THERMAL CAMERA TEST

Under the lens of an IR camera, Phantom films are shown to reject more heat than competitors, resulting in lower film temperatures.

COMPETITOR A



PHANTOM S9



IR-REJECTION RESULTS

Recent tests show our films to be more effective at blocking invisible infrared light, minimizing heat and protecting you from the damaging effects of IR waves on your eyes.

| BRAND | PRODUCT | VLT/IR-REJECTION |
|--------------|----------------------|------------------|
| RAYNO | PHANTOM S5-05 | 07/ 75 |
| RAYNO | PHANTOM S5-20 | 16/ 59 |
| RAYNO | PHANTOM S5-35 | 37/53 |
| RAYNO | PHANTOM S7-20 | 18/ 74 |
| RAYNO | PHANTOM S7-35 | 37/ 69 |
| RAYNO | PHANTOM S9-50 | 47/ 90 |
| COMPETITOR A | PRODUCT A | 14/ 30 |
| COMPETITOR A | PRODUCT B | 38/ 30 |
| COMPETITOR A | PRODUCT C | 15/ 50 |
| COMPETITOR A | PRODUCT D | 33/ 56 |
| COMPETITOR B | PRODUCT E | 14/ 30 |
| COMPETITOR B | PRODUCT F | 41/ 33 |
| COMPETITOR C | PRODUCT G | 26/ 49 |
| COMPETITOR C | PRODUCT H | 41/ 32 |
| COMPETITOR D | PRODUCT I | 14/ 81 |

THE STYLE



PHANTOM SERIES

Phantom series window films are divided into three lines, S5, S7 and S9—each combining our proprietary nanotechnology with unique tint percentages and specifications. Sold at three different price points, our S5, S7 and S9 lines each offer the best value in terms of quality, protection, luxury and longevity when compared to other like products.

TINTS

Window tints can be just as stylish as they are practical, improving the appearance of your car in a unique, personalized way. When comparing options and choosing shades, it's important to select a film that both protects and enhances, while also complying with federal and state laws.



phantom S5—NANO CARBON CERAMIC FILM

| PRODUCT | COLOR | VLT | FADING RESISTANCE | TSER | IR-REJECTION | UV-REJECTION | SC | SHGC |
|---------|-------|------|-------------------|------|--------------|--------------|-----|------|
| S5-50 | Black | 50 % | .81 | 46% | 55 % | 99.9 % | .74 | .54 |
| S5-35 | Black | 35 % | .82 | 51% | 53 % | 99.9 % | .68 | .49 |
| S5-20 | Black | 20 % | .81 | 59% | 58 % | 99.9 % | .58 | .41 |
| S5-05 | Black | 5 % | .79 | 66% | 72 % | 99.9 % | .49 | .34 |

phantom S7—NANO CARBON CERAMIC FILM

| PRODUCT | COLOR | VLT | FADING RESISTANCE | TSER | IR-REJECTION | UV-REJECTION | SC | SHGC |
|---------|----------|------|-------------------|------|--------------|--------------|-----|------|
| S7-50 | Charcoal | 50 % | .89 | 50% | 70% | 99.9 % | .67 | .50 |
| S7-35 | Charcoal | 35 % | .90 | 54% | 70% | 99.9 % | .61 | .46 |
| S7-20 | Charcoal | 20 % | .89 | 61% | 70% | 99.9 % | .54 | .39 |
| S7-05 | Charcoal | 5 % | .87 | 66% | 81% | 99.9 % | .48 | .34 |

phantom S9—NANO CARBON CERAMIC FILM

| PRODUCT | COLOR | VLT | FADING RESISTANCE | TSER | IR-REJECTION | UV-REJECTION | SC | SHGC |
|---------|----------|------|-------------------|------|--------------|--------------|-----|------|
| S9-50 | Charcoal | 50 % | .87 | 54% | 92 % | 99.9 % | .59 | .46 |
| S9-35 | Charcoal | 35 % | .85 | 58% | 92 % | 99.9 % | .55 | .42 |
| S9-20 | Charcoal | 20 % | .87 | 66% | 93 % | 99.9 % | .47 | .34 |
| S9-05 | Charcoal | 5 % | .83 | 70% | 92 % | 99.9 % | .42 | .30 |

INSTALLATION

For maximum protection, professional installation is recommended. All Rayno-certified installers are among the best in the industry, and our premium line of window film offers superior heat forming and adhesion properties. This means no bubbling, cracking or blistering—providing a seamless pro tint installation that is guaranteed to be free of defects or imperfections.

FOR FURTHER DETAILS, PRICES AND TO FIND A RAYNO-AUTHORIZED DEALER, CONTACT US AT **844-RAY-FILM** TODAY.





MISSION

Our mission is to inspire true innovation within the window industry. We strive to lead in product innovation, as well as in quality and service, providing our customers with the best value and best protection of any window film on the market.

THE GUARANTEE

Phantom series films are backed by a reliable warranty program and are guaranteed to meet higher standards than any other window film. We offer a lifetime warranty program, providing extensive coverage for both customers and dealers. Specific terms may vary by region.

SEE AN AUTHORIZED DEALER OR GO TO [RAYNOFILM.COM](https://www.raynofilm.com) FOR MORE INFORMATION.



Rayno Window Films are independently tested and certified Eco Friendly to be free of heavy metal and toxic substances.

[RAYNOFILM.COM](https://www.raynofilm.com)

844-RAY-FILM | CONTACT@RAYNOFILM.COM

