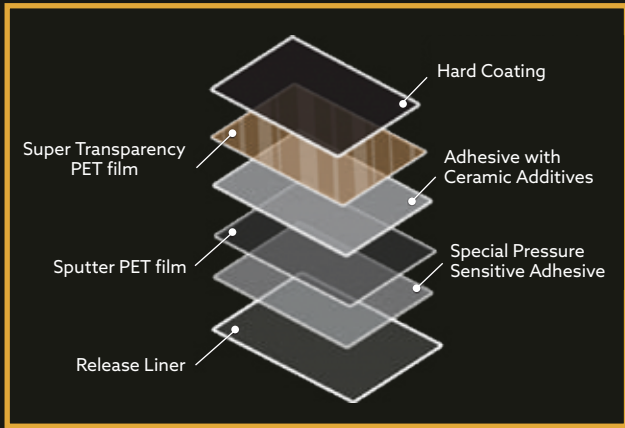


# VUNYX® SPUTTERING CERAMIC WINDOW FILM

Vunyx® Sputtering Ceramic Window Film is an advanced solution designed to provide superior heat rejection performance through the combination of ceramic and sputtering technologies.



## STRUCTURE AND COMPOSITION

**Base Film:** The foundation of this window film is composed of 2-ply PET (polyethylene terephthalate) film.

**Sputter PET Base Film:** One of the base layers incorporates sputtering technology.

**Adhesive Layer:** The adhesive layer between the two PET base films is enhanced with ceramic additives. This integration of ceramic materials within the adhesive layer further optimizes the film's performance.

## KEY TECHNOLOGIES

**Sputtering:** This is a complex vacuum deposition process where ceramic particles are bombarded with high-energy ions, causing them to eject and coat a substrate (the window film) in a thin layer. This allows for precise control over the film's thickness and properties.

**Nano-Ceramic Particles:** Unlike traditional window films that use dyes or metal layers, ceramic films utilize microscopic ceramic particles. These particles are non-conductive and non-metallic, offering several advantages.

## VUNYX® SPUTTERING CERAMIC WINDOW FILM VS REGULAR CERAMIC WINDOW FILM

FEATURE	VUNYX® SPUTTERING CERAMIC WINDOW FILM	REGULAR CERAMIC WINDOW FILM
Manufacturing Process	Advanced sputtering technology	Conventional ceramic coating
Heat Rejection	Up to 98% IR rejection	Very good IR rejection, slightly less
Heat Rejection	Superior clarity, minimal distortion	High clarity, more variance
Durability	Extremely durable, Scratch-resistant	Highly durable, but slightly less



## BENEFITS OF VUNYX® SPUTTERING CERAMIC FILMS:

**Superior Heat Rejection:** Ceramic particles efficiently block infrared radiation, leading to significant heat reduction inside the vehicle or building.

**Exceptional UV Protection:** These films block up to 99% of harmful UV rays, safeguarding occupants and furnishings from sun damage and fading.

**High Visibility:** Despite excellent heat rejection, ceramic films maintain good clarity due to the non-metallic nature of the particles.

**Signal-Friendly:** Unlike metal-based films, ceramic films won't interfere with cell phone signals or GPS navigation.

**Durability:** Sputtering creates a robust film resistant to scratching, fading, and color change over time.



## PERFORMANCE SPECIFICATIONS

FEATURE	PERFORMANCE	BENEFIT
Total Solar Energy Rejected (TSER)	Up to 90%	Reduces heat gain, lowering cooling costs and creating a more comfortable interior.
Visible Light Transmission (VLT)	Up to 70%	Offers a variety of options for balancing light control and privacy with clear visibility.
Ultraviolet Rejection (UV)	99%	Protects occupants and furnishings from harmful UV rays, reducing the risk of sunburn and furniture fading.
Infrared Rejection (IR)	Up to 99%	Blocks infrared heat, significantly reducing interior temperature for improved comfort.
Glare Reduction	Up to 85%	Minimizes eye strain and improves visibility for drivers and building occupants.
Shading Coefficient	0.5 to 0.87	Lowers the heat gain through windows, making spaces cooler and more comfortable.
Solar Heat Gain Coefficient (SHGC)	0.43 to 0.85	Lowers the heat gain through windows, making spaces cooler and more comfortable.
Haze	1.20	Haziness or cloudiness in the film - The result of inferior manufacturing.

## PRODUCT SPECS

Products	Thicknee	VLT	IR Cut	UV Cut	TSER	Color	Haze	Warranty
Vunyx® Ceramic Sputtering Windows Film SPC 10	2mil	10%	98%	99%	90%	Black	1.20	10 Years
Vunyx® Ceramic Sputtering Windows Film SPC 20	2mil	20%	98%	99%	85%	Black	1.20	10 Years
Vunyx® Ceramic Sputtering Windows Film SPC 40	2mil	40%	98%	99%	75%	Black	1.20	10 Years
Vunyx® Ceramic Sputtering Windows Film SPC 60	2mil	60%	98%	99%	68%	Light Blue	1.20	10 Years
Vunyx® Ceramic Sputtering Windows Film SPC 70	2mil	70%	98%	99%	55%	Light Blue	1.20	10 Years

## LONG-LASTING VALUE

**Exceptional Durability:** Our commitment to quality extends to product longevity. These films feature a scratch-resistant coating, ensuring enduring performance and protection against everyday wear and tear.

**Non-Reflective, Signal-Friendly Design:** Maintain seamless connectivity without compromise. The non-metallic composition eliminates concerns about signal interference with electronic devices.

**Color Stability for Lasting Aesthetics:** Enjoy a consistently elegant appearance. The color-stable film formulation resists fading and degradation, ensuring a pristine look for years to come.

## ONYX WARRANTY COVERAGE

**Vunyx® Sputtering Ceramic Window Film** is warranted for 15 years from the original purchase date, ensuring proper installation by an authorized dealer. The film maintains reactive and adhesive properties, along with appearance, without charge for warranted part replacement due to defects. Terms and conditions apply.