

90

YEARS OF EXCELLENCE

INFINITE RANGE OF ARCHITECTURAL FILMS
—— **FOR LIMITLESS ASPIRATIONS** ——



ELEVATING SPACES, IGNITING CREATIVITY

At Garware HI-Tech Films, we champion the boundless potential of design with Innovation and Technology at its forefront. Our suite-Suncontrol films, Safety and Security films, HP films, High Heat Rejection films, Privacy, Designer and Decorative Films is crafted to inspire architects, interior designers, builders and corporates at large.

A LEGACY OF EXCELLENCE: PIONEERING INNOVATION AND SUSTAINABLE SOLUTIONS



Fully vertically integrated chips to film manufacturer



Top two companies in the world to have patented the manufacturing of base Polyester film



Patented Deep Dyeing Technology in Sun control films



World largest manufacturer of Sun Control Films
(in terms of production capacity)



Consecutive Winners of top Exporters' Award from PLEXCOUNCIL



Net Carbon-negative company with 100% closed loop waste processing



ISO:9001:2015 certified company



Gold Shield Awardee by Government of India



Winner of CII Technology & Innovation Award

A JOURNEY OF INNOVATION:



Established Legacy: From its inception in 1957 as Garware Polyester Ltd., Garware Hi-Tech Films Ltd. has been at the cutting edge of film technology.



Pioneered and leading manufacturer: of Suncontrol Film for application in Automotive and Architectural segment under the leading Brand Garware Suncontrol for India and 'Global' for International markets.



Leadership: Since 1982, Sun Control Films have led the Indian market, embodying our commitment to quality and innovation.



Pioneering Technology: Paint Protection Films (PPF) have set new benchmarks in quality and performance in the Automotive films.



Expansive Global Reach: Our presence spans over 90+ countries, supported by strategic subsidiaries in the USA and UK, underscoring our global impact and commitment to excellence.





SUNCONTROL FILM SALIENT FEATURES



Superior Energy Efficiency: Suncontrol Window Films reduce the load on air-conditioner by rejecting up to 78% of total solar energy incident on the glass as a result it also reduces electricity bill up to 10%.



Eliminates Glare: Adds to your comfort by eliminating up to >90% of the sun glare.



Rejects Harmful UV & IR Rays: Protects your family from skin diseases by blocking 99% UV rays.



Provides Privacy: Shields interiors and occupants from prying eyes (depending on light intensity). Thereby, providing privacy in your offices and homes.



Enhances Aesthetics: Suncontrol Window Films are available in a variety of shades, which adds beauty and enhances the looks of your building.















Enhanced Safety: Suncontrol Window Films when bonded on glass makes your glass shatter resistant. This greatly reduces danger from flying splinters in the event of accidental breakage.

APPLICATION AND SEGMENTS FOR SUN CONTROL FILM

APPLICATIONS

- ▶ Window Glazing
- ▶ Glass Curtain Glazing
- ▶ Overhead Canopies
- ▶ Shop Front Glass

SEGMENTS

- | | |
|---|--|
|  Banks |  Commercial Buildings |
|  Hospitals |  Airports |
|  Malls |  Government Buildings |
|  Hotels |  Educational Institutions |
|  Corporate Offices |  Metro Stations |
|  Residential Buildings |  Railways |





Garware Hi-Tech Architectural Window Films are categorized based on their features, functionalities, and intended purposes.

Platina Series window films epitomize cutting-edge technology in window solutions. With nano technology, ceramic coatings, and specialized layers, they ensure durability and lasting performance, boasting superior heat rejection, VLT to TSER ratio, and UV protection.

Premium Series window films provide high-quality, durable, and versatile solutions for a variety of building needs, including safety, energy efficiency, and aesthetic enhancement.

Classic Series window films excel in solar heat rejection and glare reduction through a specialized metallized coating process, while also offering over 99% UV protection.

ARCHITECTURAL WINDOW FILM CATEGORIES

CLASSIC	PREMIUM	PLATINA
REFLECTIVE FILM	HP FILM	SPECTRALLY SELECTIVE FILM
PRIVACY FILMS	4 MIL SAFETY FILM	DECO VISTA FILM
DESIGNER FILMS	WHITEBOARD FILM	IR REJECTION FILM
	WRITABLE FILM	DEFENDO - DUAL REFLECTIVE FILM
	ANTIGRAFFITY FILM	7 MIL SAFETY FILM
		8 MIL SAFETY FILM












SPECTRA PRO – SPECTRALLY SELECTIVE FILMS

Enhance your space with Garware Hi-Tech's spectrally selective window film, the ideal solution for those looking to harness the full potential of natural light. By reducing the sun's glare and providing effective heat rejection, it allows for open blinds while minimizing the need for artificial lighting. Embracing natural light not only boosts productivity but also enhances overall well-being, making it a smart choice for any environment.

FEATURES & BENEFITS

-  Excellent glare control for enhanced comfort
-  Excellent clarity and aesthetics
-  Blocks above 99% harmful UV to limit fading.
-  Well suited for various residential and commercial applications
-  High Total Solar Energy rejection providing enhanced personal comfort
-  Blocks heat effectively
-  Allows more natural light

SSF 70 EXTERIOR



THICKNESS (MIL)

3.0

VLT

70

UVR

>99

TSER

48

NIRB

95 ±3%

TSA

36

WARRANTY (Years)

7 (C)

7 (R)

SSF 50 EXTERIOR



THICKNESS (MIL)

3.0

VLT

54

UVR

>99

TSER

57

NIRB

97 ±3%

TSA

49

WARRANTY (Years)

7 (C)

7 (R)

SSF 70 INTERIOR



THICKNESS (MIL)

2.0

VLT

70

UVR

>99

TSER

47

NIRB

97

TSA

38

WARRANTY (Years)

10 (C)

10 (R)

SSF 50 INTERIOR



THICKNESS (MIL)

2.0

VLT

55

UVR

>99

TSER

54

NIRB

97

TSA

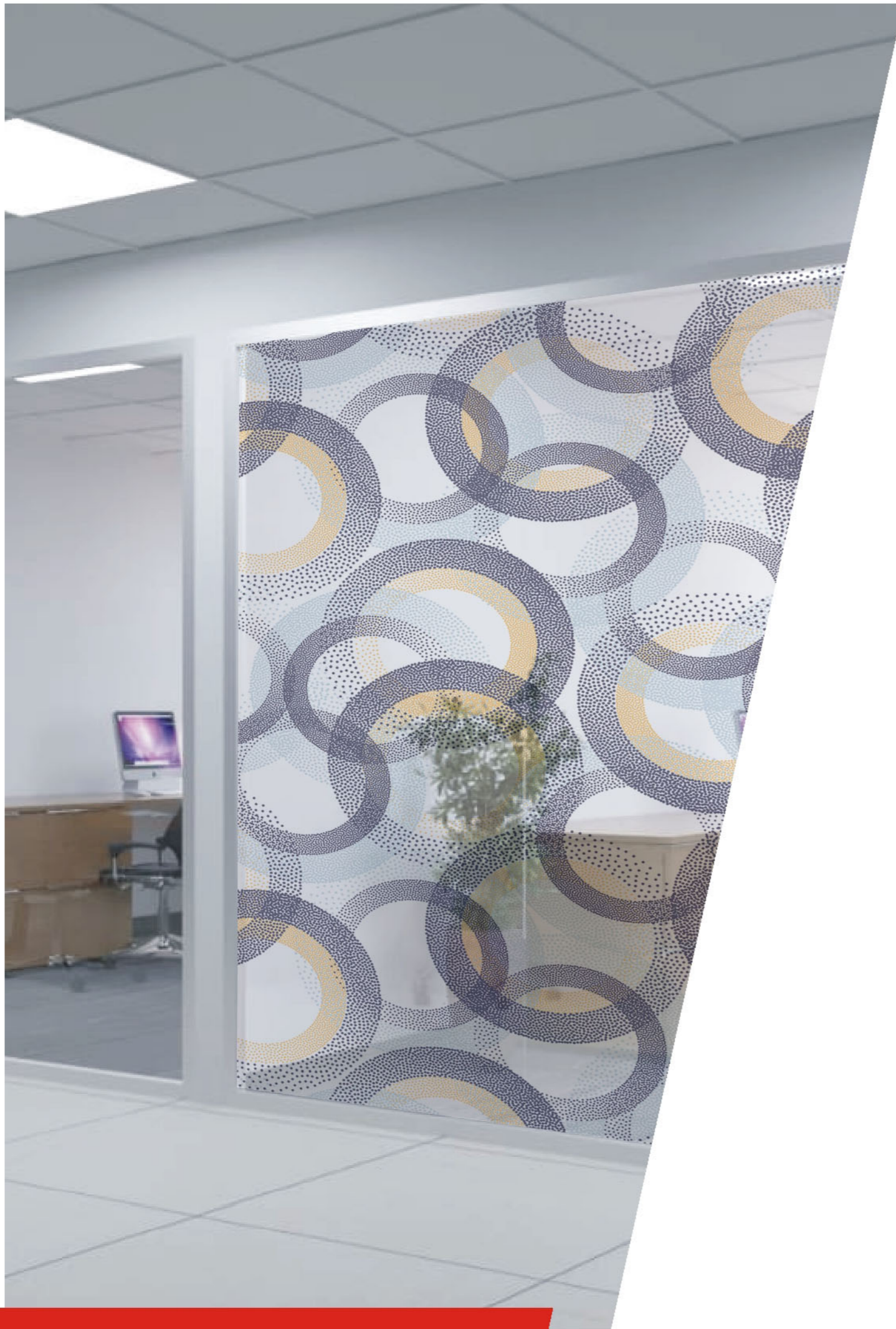
50

WARRANTY (Years)

10 (C)

10 (R)



SPECTRA PRO - SPECTRALLY SELECTIVE FILMS



DECO VISTA FILM

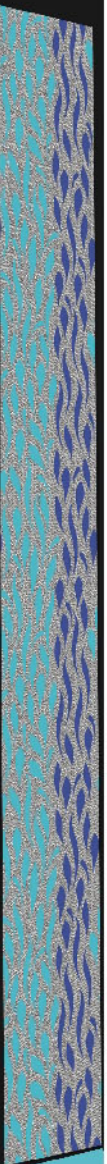
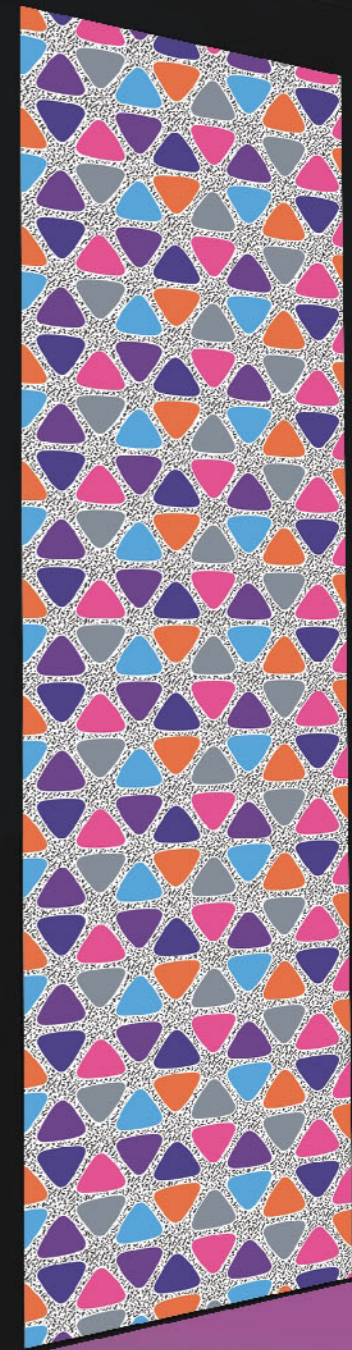
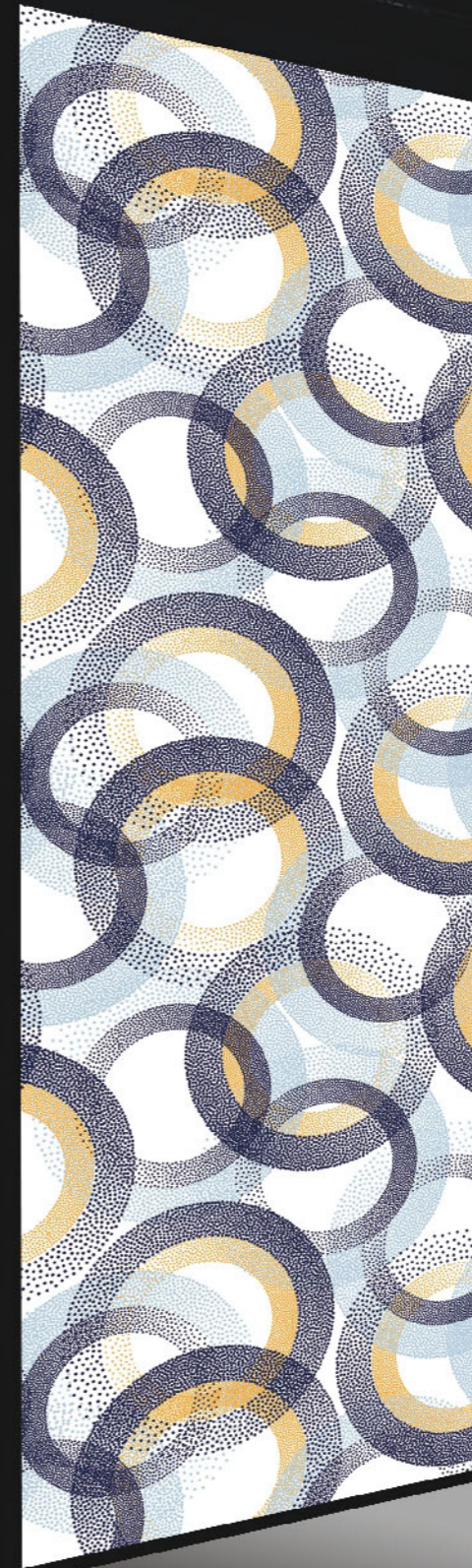
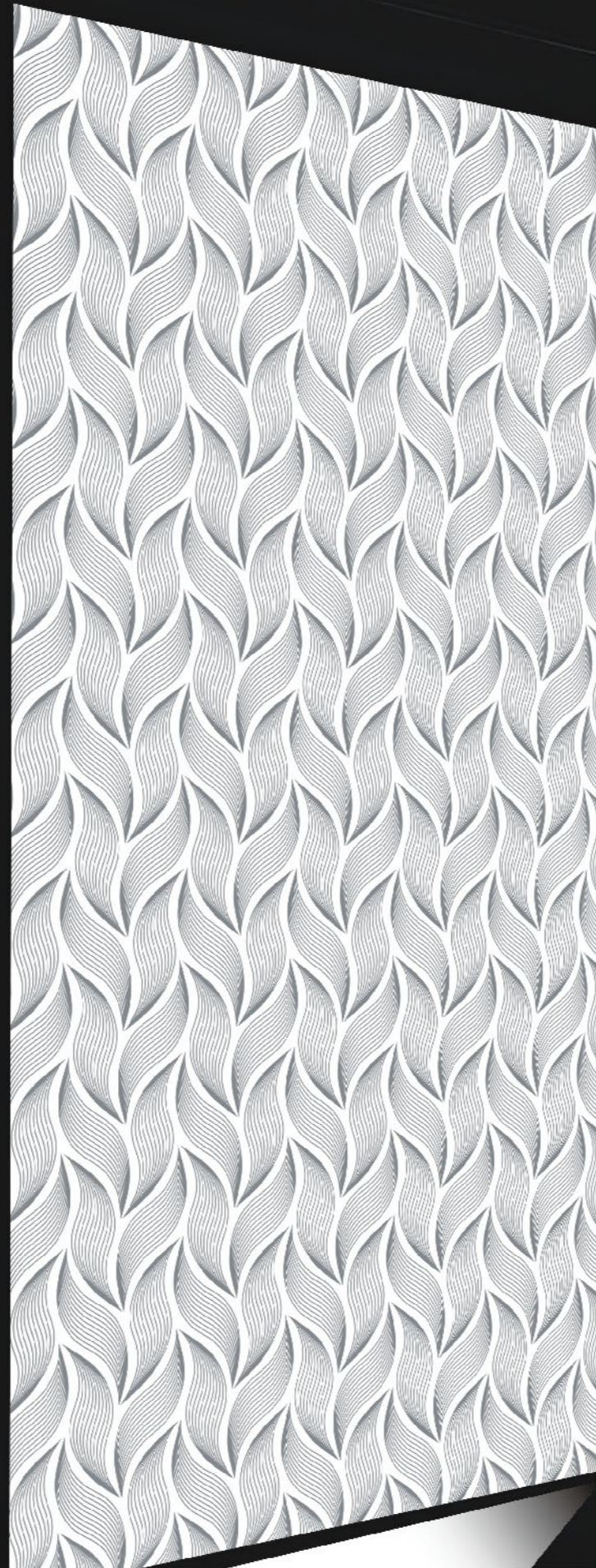
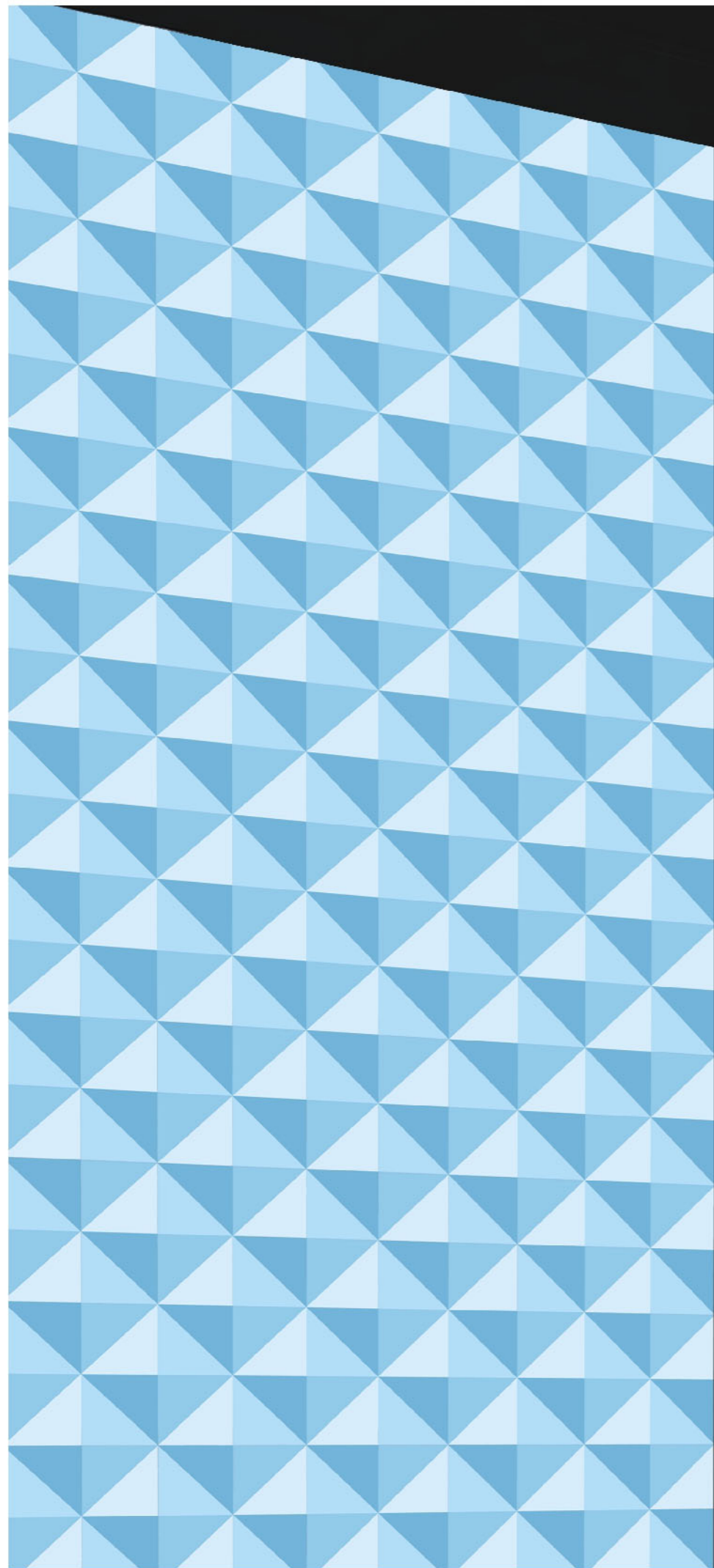
Elevate your space with Garware HI-Tech's exquisite Decorative Film collection, where function meets style in perfect harmony. Crafted with meticulous attention to detail, these films offer a myriad of elegant designs & textures to suit any aesthetic preference. Whether you're looking to add a touch of sophistication to your home or create a statement in your office, Garware's Deco Vista Film range provides endless possibilities.

FEATURES & BENEFITS

-  Improves ambience & aesthetics.
-  Provides partial privacy.
-  Substitute to designer glass.
-  Decorative designs possible.

PLATINA

DECO VISTA FILM











IR REJECTION FILM

IR Rejection Film is crafted with a primary focus on enhancing film performance. Designed to maximize heat rejection while maintaining optimal visibility, this film stands out for its ability to deliver superior results without the use of metalized content.

FEATURES & BENEFITS

-  Rejects I.R. to further improve energy efficiency.
-  Longer life span due to no metal content.
-  Neutral films to adjust with existing glass façade.
-  Protection against more than 99% of UV rays.

ICE COOL BLAST 80	HHR GREEN 70	HHR GREY 70	SHR NATURAL 70	SHR GREY 70
 THICKNESS (MIL) 2.0 <hr/> VLT 78 <hr/> UVR >99 <hr/> TSER 42 <hr/> NIRB 73 <hr/> WARRANTY (YEARS) 10 (C) 10 (R)	 THICKNESS (MIL) 1.5 <hr/> VLT 69 <hr/> UVR >99 <hr/> TSER 40 <hr/> NIRB 80 <hr/> WARRANTY (YEARS) 10 (C) 10 (R)	 THICKNESS (MIL) 2.0 <hr/> VLT 69 <hr/> UVR >99 <hr/> TSER 47 <hr/> NIRB 88 <hr/> WARRANTY (YEARS) 10 (C) 10 (R)	 THICKNESS (MIL) 2.0 <hr/> VLT 66 <hr/> UVR >99 <hr/> TSER 49 <hr/> NIRB 91 <hr/> WARRANTY (YEARS) 10 (C) 10 (R)	 THICKNESS (MIL) 2.0 <hr/> VLT 69 <hr/> UVR >99 <hr/> TSER 47 <hr/> NIRB 85 <hr/> WARRANTY (YEARS) 10 (C) 10 (R)






IR REJECTION FILM



DEFENDO – DUAL REFLECTIVE FILM

This film provides clearer vision at night by providing improved outward vision, rejects solar energy up to 75%, cuts glare up to 84%, and blocks 99% of harmful UV rays.

FEATURES & BENEFITS

-  Enhances night views by minimizing interior reflectivity, ensuring clear visibility without distracting glare
-  Conserves energy due to high level of Total Solar Energy Rejection.
-  Protects against harmful skin problems due to blocking of UV rays.
-  Prevents fading of interiors & furniture due to blocking of UV rays.
-  Reduces infiltration of harmful 'Electromagnetic' Waves

DUAL REFLECTIVE CHARCOAL 15

DUAL REFLECTIVE CHARCOAL 25

DUAL REFLECTIVE CHARCOAL 45



THICKNESS (MIL)

2.0

VLT

15

UVR

>99

TSER

75

NIRB

82

WARRANTY (YEARS)

10 (C)

Limited Lifetime (R)



THICKNESS (MIL)

2.0

VLT

23

UVR

>99

TSER

69

NIRB

74

WARRANTY (YEARS)

10 (C)

Limited Lifetime (R)



THICKNESS (MIL)

2.0

VLT

45

UVR

>99

TSER

50

NIRB

60

WARRANTY (YEARS)

10 (C)

Limited Lifetime (R)

DEFENDO - DUAL REFLECTIVE FILM

PLATINA

C-COMMERCIAL






R-RESIDENTIAL



SAFETY & SECURITY FILM

These are optically clear, transparent, high impact resistant Polyester Films, which once installed on glass, gives additional strength to glass, reduces glare and prevents glass from splintering on impact.

FEATURES & BENEFITS

-  Protects from flying glass splinters
-  Provides protection against injury due to accidental collision.
-  Deters thieves.
-  In case of fire, these films have self-extinguishing properties.
-  Doesn't compromise on the light factor and ensures clear visibility.






APPLICATIONS

- Facade Glasses, Glass Railings, French Windows
- Shower Cubicles, Staircase Glasses, Showroom facade Windows
- Glass Doors & Windows

SEGMENTS

- Embassies, Banks, ATMs, Government Buildings,
- Airports, Metro Stations, Residential Complexes
- Shopping Malls, Hotels, Hospitals, Educational institutions

Product Name	Thickness (Mil)	Tensile Strength At Break (MD/TD)	Elongation At Break MD	Peel Strength	Impact Test BS6206
4 MIL SAFETY FILM	4.0	>1900 kg/cm ²	>130%	Above 2,500 kg/inch	Passes (Class B)
7 MIL SAFETY FILM	7.0	>1900 kg/cm ²	>140%	Above 2,500 kg/inch	Passes (Class A)
8 MIL SAFETY FILM	8.0	>1900 kg/cm ²	>140%	Above 2,500 kg/inch	Passes (Class A)

C 4 MIL R SILVER 20	4 MIL CH 35 COMBINATION SAFETY	4 MIL SAFETY FILM	7 MIL SAFETY FILM	8 MIL SAFETY FILM
				
THICKNESS (MIL) 4.0	THICKNESS (MIL) 4.0	THICKNESS (MIL) 4.0	THICKNESS (MIL) 7.0	THICKNESS (MIL) 8.0
VLT 17	VLT 35	VLT 90	VLT 91	VLT 89
UVR >99	UVR >99	UVR >99	UVR >99	UVR >99
TSER 78	TSER 37	TSER 13	TSER 15	TSER 16
NIRB 80	NIRB 15	NIRB 15	NIRB 15	NIRB 15
WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)

SAFETY & SECURITY FILM

PREMIUM

PLATINA

C-COMMERCIAL






R-RESIDENTIAL



HP FILM

This is a double ply (1.5 MIL) 37 microns thick dyed film with a metallic sheen, which has been specially developed to provide higher heat rejection and to be highly energy efficient, without compromising on light transmission.

FEATURES & BENEFITS

-  Minimum Light Reflection - provides better visibility
-  Soothing colours to enhance aesthetics of the building facade
-  Cost effective solution with better cooling effect
-  Reduces glare up to 96%
-  Blocks 99% UV ray - protects upholstery material

HP NATURAL 35



THICKNESS (MIL)

1.5

VLT

39

UVR

>99

TSER

51

NIRB

50

WARRANTY (YEARS)

10 (C)

10 (R)

HP FILMS

PREMIUM

C-COMMERCIAL

R-RESIDENTIAL









WHITEBOARD FILM

Garware "Quick Erase Whiteboard Film" is a multilayer laminate produced by laminating specially formulated white opaque film with a permanent pressure-sensitive adhesive and silicon release liner. Laminate has a strong hard coat and long-lasting surface.

It has the ability to transform your any flat surfaces in meeting rooms, offices, classrooms, residences & hotels into writable & projectable Whiteboard without sacrificing interior space.

FEATURES & BENEFITS

-  Easy to install on any smooth surface eg. Glass, Acrylic sheet, CRCA sheet, Oil painted smooth wall, MDF etc.
-  Excellent write-on and easy wipe-off performance.
-  Excellent adhesion to various substrates.
-  Excellent dimensional stability and conversion properties on computerized cutters.
-  Lower cost compared to a new Whiteboard.
-  Can be cut into any size or shape and affixed like a sticker on any flat surface.

APPLICATIONS

- Writing Menu Board in Kitchen
- Whiteboard for Hospitals
- School / Colleges / Institutions
- Coaching Classes
- Offices / Meeting Rooms
- Hotels
- Retail Shops
- Study Rooms

Thickness (MIL)	Adhesive Type	Peel Adhesion	Flammability	Elogation at Break MD	Service Temperature	Surface Type	Warranty (Years) (C)/(R)
6.0	Acrylic Solvent based Pressure - Sensitive Adhesive	2.5 Kgs / 25mm 180 peel	Self-Extinguishing	Above 125%	-20° c to + 50° c	Flat	5/5

PREMIUM







C-COMMERCIAL

R-RESIDENTIAL

WRITABLE FILM

Garware "Quick Erase Writable Film" is a quick solution to transform your flat surface at home, small establishments, restaurants, shops, etc. into writable space because of its good writability property and can be quickly erased as well.

FEATURES & BENEFITS

-  Easy to install on any smooth surface e.g. Glass, Acrylic sheet, CRCA sheet, MDF etc.
-  Excellent write-on and easy wipe-off performance.
-  Excellent adhesion to various substrates.
-  Excellent dimensional stability and conversion properties on computerized cutters.
-  Lower cost compared to a new Whitedo board.
-  Can be into any size or shape and affixed like a sticker on any flat surface.

APPLICATIONS

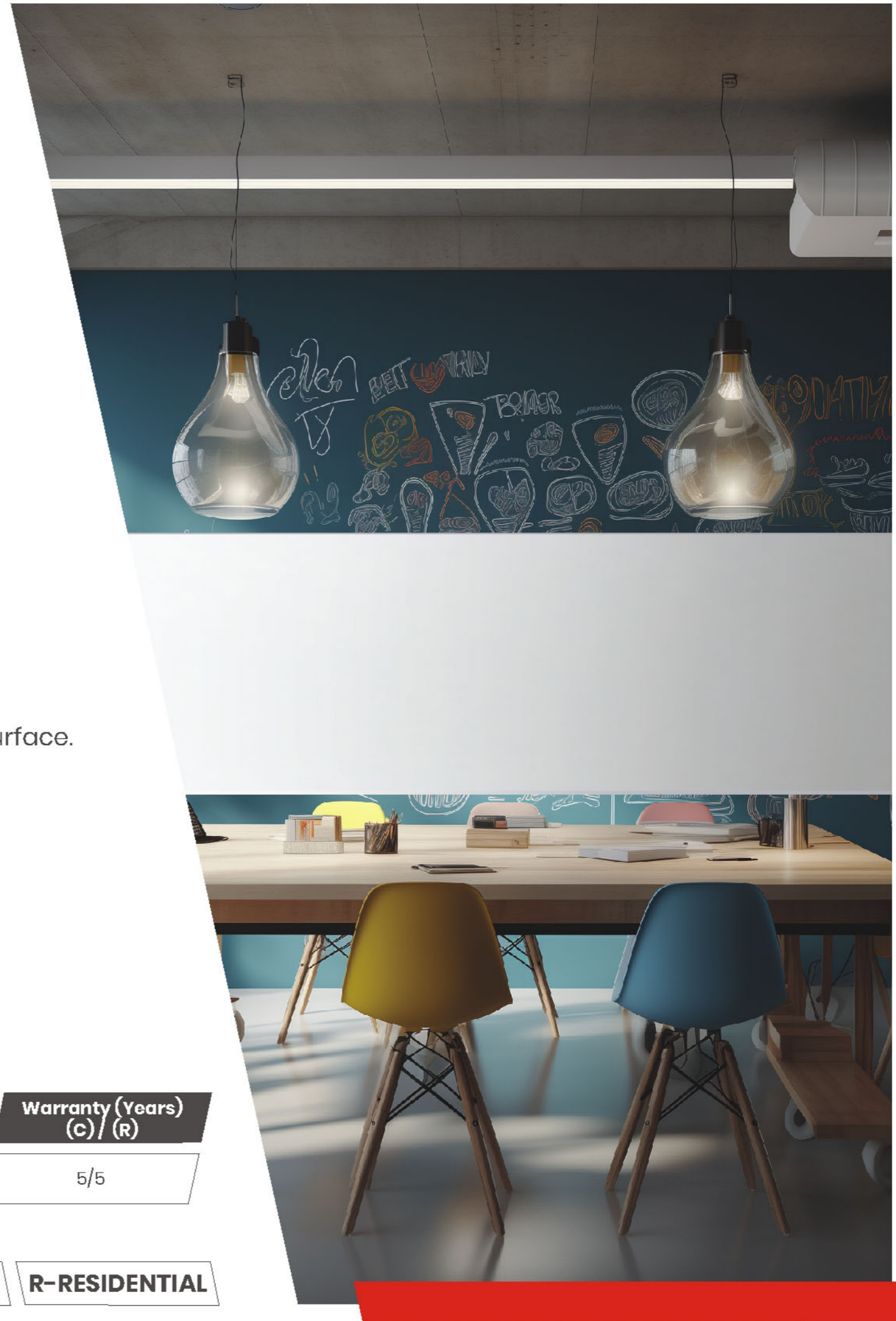
- ▶ Writing Menu/Message in Kitchen
- ▶ Patient Info in Hospitals
- ▶ School / Colleges / Institutions
- ▶ Coaching Classes
- ▶ Retail Shops
- ▶ Study Rooms
- ▶ Super Markets

Thickness (Mil)	Tensile Strength Kg/cm2 (ASTM 882)	Elongation at Break (ASTM 882)	Peel Adhesion Kg/inch (FTM 01)	Warranty (Years) (C) / (R)
4 Mil	1500	85	1.40%	5/5

PREMIUM

C-COMMERCIAL

R-RESIDENTIAL





ANTIGRAFFITY FILM

Antigraffiti Films are made with a specially made mounting adhesive, which makes it easy to remove and replace with a fresh layer of protective film, these films can be applied on exterior surface of the glass. These are specially designed optically clear, distortion-free films and can be applied to windows, mirrors, and other surfaces. The films nearly invisible once installed, provides a removable, surface that can reduce or eliminate the need for expensive glass replacement. These films have a specially developed Scratch resistance coating which can withstand exterior climatic conditions without disturbing the clarity of laminate.

FEATURES & BENEFITS

- 👁️ Optical Clarity and Durability
- 🛡️ Cost-Effective Surface Protection

Product Name	Thickness (Mil)	Tensile Strength at break (MD)	Elongation at break (MD)	PEEL STRENGTH
CLEAR EXTERIOR ANTIGRAFFITY FILM	4.0	1800 Kg/cm ²	130%	2020 Grams/inch

PREMIUM

DESIGNER FILM

Designer Films offers wide scope for creating different environments and desired ambience for home and office interiors. They are available in unique designs.

FEATURES & BENEFITS



Improves ambience & aesthetics.



Provides partial privacy.



Substitute to designer glass.



Decorative designs possible.

Product Name	Thickness (Mil)	Ultraviolet Rejection	Warranty (Years) (C) / (R)
ICE CUBE	1.0	>99	3/3
ICE LINE	1.0	>99	3/3
ICE BLINDS	1.0	>99	3/3

CLASSIC

C-COMMERCIAL

R-RESIDENTIAL















REFLECTIVE FILM






Reflective Films are coated with a micro-thin, partially transparent layer of metal and has a mirror like finish. They prevent visibility from outside (area of greater light intensity) during the day and vice-versa during the night. Total solar energy rejection is on higher side.

FEATURES & BENEFITS

-  Highest cooling by reflecting solar light.
-  Maintains daytime privacy.
-  Reduces glare up to 92%.
-  Best economical solution for cooling purpose

RA CHARCOAL 10	RA CHARCOAL 20	RA CHARCOAL 35			
 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0			
VLT 10	VLT 18	VLT 31			
UVR >99	UVR >99	UVR >99			
TSER 70	TSER 65	TSER 62			
NIRB 68	NIRB 68	NIRB 68			
WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)			

	REFLECTIVE SILVER 20	REFLECTIVE SILVER 35	REFLECTIVE SILVER 50		
	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0		
	VLT 18	VLT 36	VLT 49		
	UVR >99	UVR >99	UVR >99		
	TSER 78	TSER 63	TSER 52		
	NIRB 80	NIRB 68	NIRB 55		
	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)		

REFLECTIVE GREY 10	REFLECTIVE GREEN 10	REFLECTIVE BLUE 15	REFLECTIVE BRONZE 10	REFLECTIVE GOLD 15	
 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	 THICKNESS (MIL) 2.0	
VLT 8	VLT 13	VLT 13	VLT 10	VLT 14	
UVR >99	UVR >99	UVR >99	UVR >99	UVR >99	
TSER 80	TSER 73	TSER 75	TSER 74	TSER 76	
NIRB 80	NIRB 80	NIRB 80	NIRB 80	NIRB 80	
WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	WARRANTY (YEARS) 10 (C) Limited Lifetime (R)	

CLASSIC

C-COMMERCIAL





R-RESIDENTIAL



PRIVACY FILM

Experience the ultimate in privacy and versatility with Garware HI-Tech's cutting-edge Privacy Films, designed to effortlessly transform any glass pane into Privacy Glass. Whether opting for a translucent or opaque finish, this innovative film offers the perfect balance of discretion and style.

FEATURES & BENEFITS

-  Improves ambience & aesthetics.
-  Provides partial privacy.
-  Substitute to designer glass.
-  Decorative designs possible.

Product Name	Thickness (Mil)	Visible Light Transmittance	Ultraviolet Rejection	Warranty (Years) (C)/(R)
Blackout	2.5	0	>99	5/5
Whiteout	2.0	8	>99	5/5
Matte White	2.0	66	>99	5/5
Matte Bronze	2.0	35	>99	3/5
Matte Grey	2.0	35	>99	3/5

CLASSIC

C-COMMERCIAL

R-RESIDENTIAL

SOLAR TERMS

Solar Energy Spectrum: Solar Energy is typically divided into three categories, namely – Ultraviolet (3%), Visible (44%) & Infrared (53%).

Visible Light Transmittance (VLT): is the ratio of visible solar energy that passes through a glazing system to the total visible energy falling on the system. Higher the VLT more is the light inside the room.

Total Solar Transmittance (TST): is the measurement of the percentage of solar radiation that passes directly through a glazing system.

Solar Energy Reflectance (R): is the measurement of the percentage of solar radiation reflected by the glazing system.

Total Solar Absorption (TSA): measurements express the percentage of solar radiation absorbed by the glazing system.

Total Solar Energy: is the sum of energy transmitted, reflected, and absorbed by the system. It represents 100% of the solar energy.

Ultra-violet Transmittance (UVT): is the measurement of the percentage of solar radiation in the ultra-violet region that passes directly through the glazing system.

Glare Reduction (GR): is a measurement of the reduction in visible light transmission after applying the film to the system as compared to the visible light transmission earlier. (It is represented in%).

Solar Heat Gain Coefficient (SHGC): It is the percentage of incident solar energy transmitted by a glazing system which is equal to solar energy transmittance plus the part of solar absorption which is re-radiated inward.

Shading Co-efficient (SC): is the ratio of solar heat gain through a given glazing system to that of a clear float glass of 1/8 inch (approx. 3mm) thickness under the same test conditions. Lower the shading co-efficient, better is the ability to reduce solar heat.

Emissivity (E): measures the surface ability to absorb or reflect Far Infrared Radiation. Lower the emissivity rating, better the insulating quality of the material.

'U' Factor (U): is the overall heat transfer co-efficient of the glazing system. It is the amount of conductive heat energy (BTUs) transferred through one square foot of the glazing system during one hour time period for each one degree Fahrenheit temperature difference between indoor and outdoor air. Lower the U-factor, better is the insulating quality of the material.

Total Solar Energy Rejection (TSER): is an important measurement of the ability of a glazing system to reject solar heat in form of the visible light and infrared radiation. Total SER equals solar reflectance plus the part of solar absorption re-radiated outward. Glazing System comprises of the window frame, glazing materials, film applied and the glass itself. Thickness of the polyester film is represented in MIL where 1 MIL represents a thickness of 25 microns.

NIR Blocking (NIRB): is the Near Infra-Red energy blocking. It specifies NIR Blocking at 1025 nm of our speciality films.



A HALLMARK OF INNOVATION, PROUDLY MADE IN INDIA



REGISTERED OFFICE:

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CORPORATE OFFICE

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