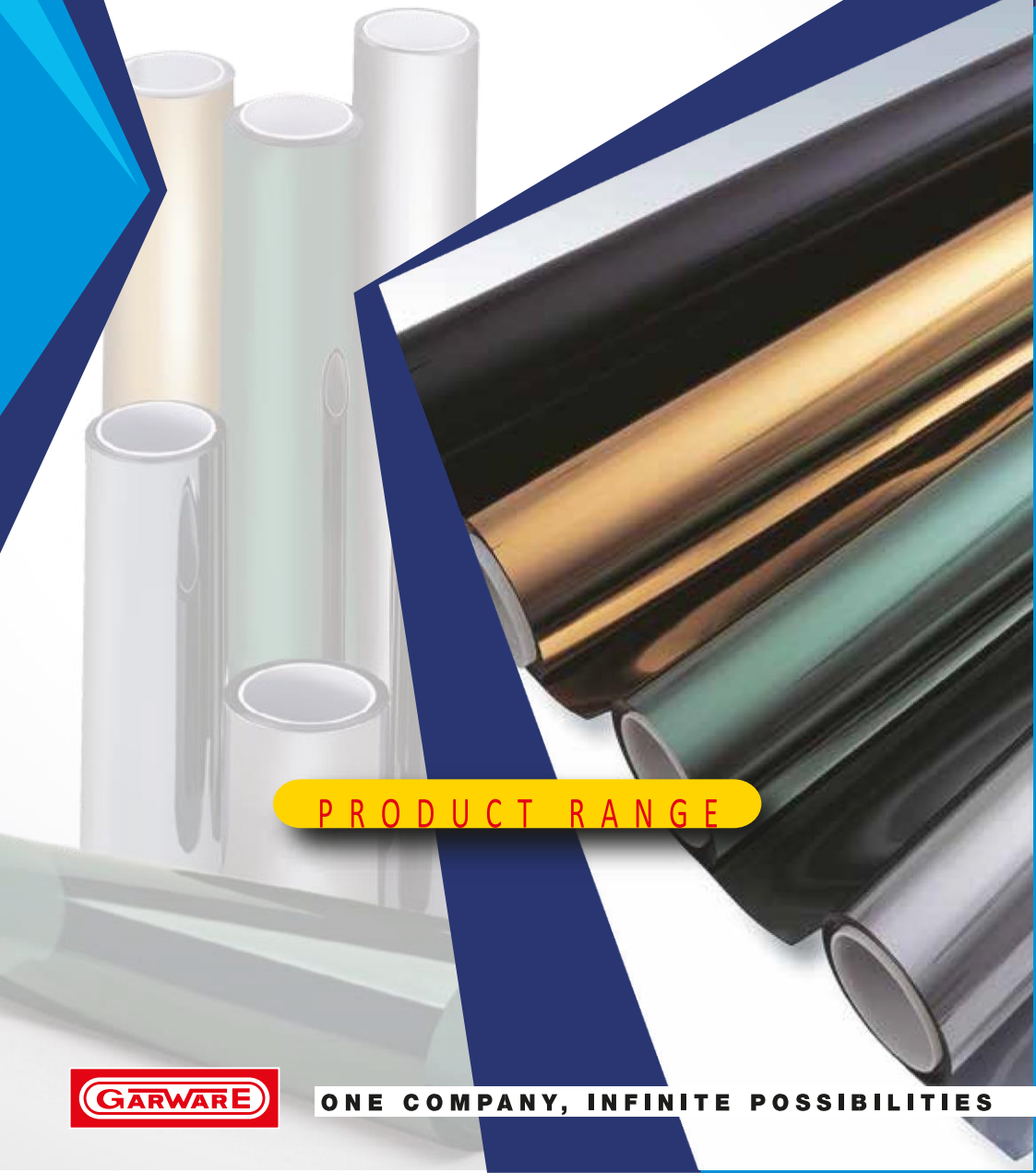
GARWARE SUNCONTROL®

WINDOW FILM



PRODUCT RANGE

GARWARE

ONE COMPANY, INFINITE POSSIBILITIES

GARWARE SUNCONTROL®
WINDOW FILM

Garware Polyester Ltd. is the pioneer and leading manufacturer of Suncontrol Films for application in Automobile and Building under the prominent brand 'Garware Suncontrol' and 'Global'. All Garware films are the result of a single-source, vertically integrated manufacturing process. Simply put, that means Garware films are manufactured in a state-of-the-art facility that makes just about everything that goes into their window films, from the base petrochemical intermediate, right down to the finished products. This eliminates dependency on other manufacturers, enabling complete control over the entire manufacturing process - from polymers to packaged goods, thereby ensuring better performance and longevity.

Garware Suncontrol Films are widely used in Buildings, Safety, Decorative applications and Automobiles. Since inception we have set pioneering standards in polyester film technology. A vertically integrated, state-of-the-art plant with ISO:9001:2008 accreditation is dedicated to provide uncompromising solutions in technology and quality to its vast customer base that spans the globe.

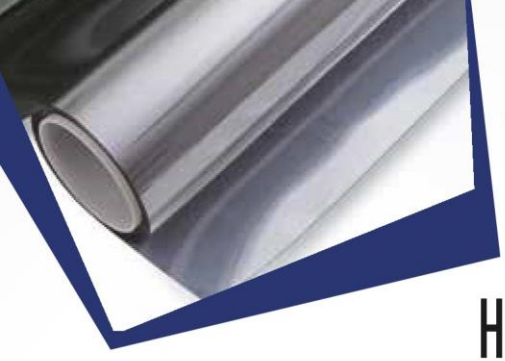
About Us:

- *Pioneered manufacturer of Polyester Films in India since 1975.*
- *ISO:9001:2008 certified.*



- *Technology patented in 14 countries including USA.*
- *Offices in US and UK with exports to more than 80 countries.*
- *Enduring partnerships with more than 200 multinational clients.*
- *Pioneered 'Safety & Security Film' in India.*

Disclaimer: All values as applied to 1/8 Inch Clear Plate Glass.
Tests are representative of actual production & may vary from batch to batch.



GARWARE SUNCONTROL®
WINDOW FILM

HIGH HEAT REJECTION FILMS

Designed to reduce up to 65% Solar heat & Give up to 80% VLT

High Heat Rejection Film, is a high performance window film, which offers consumers the high-end performance properties without usage of metalized film in product design. The NIR blocking organometallic nano particles incorporated within interlayers of laminate construction in combination with conventional dyed film in the product design provides long lasting heat protection to your interiors.

	HHR 25	HHR 50	HHR GREEN 70	HHR GREY 70	HHR GREY 80
Thickness	2 Mil	2 Mil	1.5 Mil	2 Mil	2 Mil
Visible Light Transmittance	26%	53%	69%	69%	79%
Visible Light Reflectance	17%	7%	7%	8%	9%
Solar Energy Transmittance	14%	33%	46%	38%	45%
Solar Energy Reflectance	15%	5%	5%	7%	8%
Solar Energy Absorbance	71%	62%	49%	55%	47%
Ultra Violet Transmittance	< 1%	< 1%	< 1%	< 1%	< 1%
Glare Reduction	71%	42%	24%	24%	13%
Shading Coefficient	0.40	0.59	0.70	0.61	0.67
Emissivity	0.83	0.88	0.89	-	-
U Factor (BTU/hr./sq.ft.)	1.10	1.12	1.13	-	-
Total Solar Energy Rejection	65%	49%	40%	47%	42%
NIR Blocking at 1025 NM	94%	82%	80%	88%	76%



GARWARE SUNCONTROL®
WINDOW FILM

HIGH PERFORMANCE FILMS

Designed to be highly Energy Efficient 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.

	HP CH 05	HP CH 50	HP NAT 20	HP NAT 35	HP GEEN 30	HP BLUE 35	HP GREY 50
Thickness	1.5 Mil	1.5 Mil	1.5 Mil	1.5 Mil	1.5 Mil	1.5 Mil	1.5 Mil
Visible Light Transmittance	4%	54%	21%	39%	35%	41%	53%
Visible Light Reflectance	5%	8%	7%	14%	7%	10%	9%
Solar Energy Transmittance	21%	55%	24%	36%	43%	40%	54%
Solar Energy Reflectance	12%	7%	13%	16%	8%	11%	7%
Solar Energy Absorbance	67%	38%	63%	48%	49%	49%	39%
Ultra Violet Transmittance	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Glare Reduction	96%	41%	77%	57%	61%	55%	42%
Shading Coefficient	0.46	0.76	0.49	0.57	0.66	0.62	0.75
Emissivity	0.78	0.88	0.77	0.80	0.84	0.80	0.87
U Factor (BTU/hr./sq.ft.)	1.03	1.15	1.13	1.11	1.12	1.10	1.14
Total Solar Energy Rejection	61%	34%	58%	51%	43%	46%	35%



GARWARE SUNCONTROL®
WINDOW FILM

DUAL REFLECTIVE FILMS (DEFENDO)

Designed to reduce intensity of 'Electromagnetic Waves'

This film is known for its anti-radiation property that helps in reducing the intensity of 'Electromagnetic Waves' that can cause a variety of potential health problems. It blocks 99% harmful UV rays, cuts glare, conserves energy and provides clearer vision at night by providing improved outward vision.

	DEFENDO CH 15	DEFENDO CH 25	DEFENDO CH 45
Thickness	2 Mil	2 Mil	2 Mil
Visible Light Transmittance	15%	23%	45%
Visible Light Reflectance	47%	40%	15%
Solar Energy Transmittance	13%	19%	36%
Solar Energy Reflectance	44%	36%	14%
Solar Energy Absorbance	43%	45%	50%
Ultra Violet Transmittance	<1	<1	<1
Glare Reduction	84%	74%	51%
Shading Coefficient	0.29	0.36	0.57
Emissivity	0.77	0.68	0.75
	1.08	1.03	1.07
	75%	69%	50%



GARWARE SUNCONTROL®
WINDOW FILM

IR FILMS

Designed to reduce up to 65% Solar heat & Give up to 80% VLT

IR Films, also known as "Nano Ceramic Films" has got the application of IR Rejection, which offers consumers the cooling effect at lighter VLTs and attain maximum heat rejection. The NIR blocking organometallic nano particles incorporated within interlayers of laminate construction in combination with conventional dyed film in the product design provides long lasting heat protection to your interiors.

	IR COOL GREY 80	ARCTIC COOL 70	IR PLUS CHARCOAL 30	IR SUPREME CHARCOAL 20	IR XT CHARCOAL 05	IR PLUS BLAST 70
Thickness	2 Mil	2 Mil	2 Mil	1.5 Mil	2 Mil	2 Mil
Visible Light Transmittance	79%	68%	32%	20%	5%	69%
Visible Light Reflectance	9%	9%	7%	7%	6%	8%
Solar Energy Transmittance	47%	34%	23%	11%	5%	35%
Solar Energy Reflectance	7%	7%	6%	6%	6%	7%
Solar Energy Absorbance	46%	59%	71%	83%	89%	58%
Ultra Violet Transmittance	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Glare Reduction	13%	25%	65%	78%	95%	24%
Shading Coefficient	0.69	0.58	0.49	0.39	0.34	0.59
Emissivity	-	-	-	-	-	-
U Factor (BTU/hr./sq.ft.)	-	-	-	-	-	-
Total Solar Energy Rejection	40%	50%	58%	66%	70%	49%
NIR Blocking at 1025 NM	76%	92%	76%	98%	92%	88%

Also available Ice Cool Grey in 40, 50 & 70 VLT's, IR Plus Charcoal in 05, 20, 38, 42, 46 VLT's, IR Supreme Charcoal in 05, 35, 50 VLT's & IRXT Charcoal in 20, 35, 50 VLT's



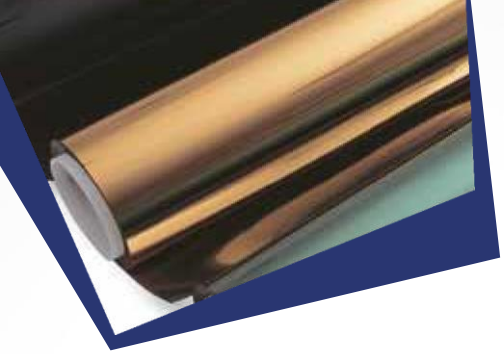
GARWARE SUNCONTROL®
WINDOW FILM

SAFETY & SECURITY FILMS

Designed to Prevent Glass from Splintering on impact

These are optically clear, transparent, high impact resistant Polyester Films installed on glass, give additional strength to glass, reduce glare & prevent splintering on impact. Typical thicknesses are 4 Mil & 7 Mil. Safety Films are applied at high security zones like Embassies, Banks, Government Building Airports, Hotels & Hospitals and any structure where glass is used including Shower Cubicles, French Windows, Glass Doors & Windows in residential

	SAFETY 4 Mil	SAFETY 7 Mil
MECHANICAL PROPERTIES		
Thickness	4 Mil	7 Mil
Tensile Strength At Break (MD/TD)	>1900 kg/cm2	>1900 kg/cm2
Elongation At Break MD	>130%	>140%
Peel Strength	Above 2.500 kg/inch	Above 2.500 kg/inch
Impact Test BS6206 For Class 'B'	Passes	Passes
SOLAR PROPERTIES		
Visible Light Transmittance	90%	91%
Ultra Violet Transmittance	< 1%	< 1%
Shading Coefficient	0.98	0.98
Emissivity	0.89	0.88
	1.12	1.12
	13%	15%



GARWARE SUNCONTROL®
WINDOW FILM

REFLECTIVE FILMS

Designed to reduce up to 78% Solar heat & to Provide Privacy

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

	R GREY	R GREEN 10	R BLUE	R BRONZE	R GOLD	R SILVER	R SILVER	R SILVER
Thicknes	2 Mil	2 Mil	2 Mil	2 Mil	2 Mil	2 Mil	2 Mil	2 Mil
Visible Light	8%	13%	13%	10%	14%	18%	49%	69%
Visible Light	13%	23%	31%	21%	46%	58%	26%	12%
Solar Energy	9%	12%	11%	10%	12%	13%	38%	56%
Solar Energy	27%	32%	37%	31%	44%	53%	26%	12%
Solar Energy	64%	56%	52%	59%	44%	34%	36%	32%
Ultra Violet	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Glare	92%	86%	86%	89%	84%	80%	46%	24%
Shading	0.31	0.32	0.29	0.31	0.28	0.25	0.56	0.75
	0.68	0.66	0.69	0.66	0.69	0.64	0.78	0.81
	1.03	1.01	1.01	1.01	1.04	1.01	1.07	1.09
	73%	73%	75%	74%	76%	78%	52%	35%



GARWARE SUNCONTROL®
WINDOW FILM

PRIVACY FILMS

Designed to provide Privacy and boost Aesthetics

Translucent or opaque films-constructed to convert any glass pane into Privacy Glass

	MATT WHITE	MATT GREY	MATT BRONZE	MATT SILVER	WHITE OUT	BLACK OUT
Thickness	2 Mil	2 Mil	2 Mil	2 Mil	2 Mil	2.5 Mil
Visible Light Transmittance	66%	35%	35%	19%	8%	0%
Visible Light Reflectance	22%	10%	9%	54%	59%	5%
Solar Energy Transmittance	60%	43%	43%	15%	12%	0%
Solar Energy Reflectance	18%	11%	11%	47%	47%	34%
Solar Energy Absorbance	22%	46%	46%	38%	41%	66%
Ultra Violet Transmittance	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Glare Reduction	28%	62%	62%	79%	91%	100%
Shading Coefficient	0.76	0.65	0.65	0.29	0.27	0.21
	0.85	0.86	0.86	0.70	0.87	0.63
	1.09	1.14	1.14	1.05	1.12	1.00
	34%	44%	44%	75%	77%	82%



GARWARE SUNCONTROL®
WINDOW FILM

DESIGNER FILMS

Designed for creating different environments and desired ambience

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

	ICE CUBE	ICE LINE	ICE BLINDS	ICE DOTS	BLUE 20 SRC	RED 20 SRC	YELLOW 80 SRC
Thickness	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil
Visible Light Transmittance					23%	23%	83%
Visible Light Reflectance					6%	4%	7%
Solar Energy Transmittance					49%	59%	72%
Solar Energy Reflectance					6%	6%	6%
Solar Energy Absorbance					45%	35%	22%
Ultra Violet Transmittance	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Glare Reduction					75%	75%	8%
Shading Coefficient					0.71	0.80	0.90
					0.86	0.89	0.89
					1.13	1.13	1.13
					39%	31%	22%



GARWARE SUNCONTROL®
WINDOW FILM

NON-REFLECTIVE FILMS

Designed with super shrink & Anti-static property for easy installation

Non-Reflective Films are normal tinted films, which primarily cut the heat. S

& Anti-static qualities help in easy installation.

	CH 06 SRC	CH 20 SRC	CH 35 SRC	GREY 05 SRC	GREY 20 SRC	GREEN SR	BRONZE SR	CLEA WEATHERA
Thicknes	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil	1 Mil	2 Mil
Visible Light	6%	2 %	3 %	4%	2 %	7 %	1 %	8 %
Visible Light	6%	5%	6%	6%	5%	7%	6%	6%
Solar Energy	4 %	4 %	5 %	4 %	4 %	7 %	4 %	8 %
Solar Energy	7%	6%	7%	6%	6%	9%	6%	6%
Solar Energy	4 %	4 %	4 %	5 %	4 %	2 %	4 %	1 %
Ultra Violet	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<0.5%
Glare	9 %	7 %	6 %	9 %	7 %	2 %	8 %	2%
Shading	0.6	0.6	0.7	0.6	0.7	0.8	0.6	0.9
Emissivit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
U Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total Solar Energy	4 %	4 %	3 %	4 %	3 %	2 %	4 %	1 %

Also available in VLTs of 35%, 50% & 70%

GARWARE SUNCONTROL®
WINDOW FILM

DO'S	DON'T'S
• A soft Turkish towel or clean sponge is recommended for washing followed by soft cloth for drying the window.	• Do not wash the windows for first two weeks after the Sun Control film has been fixed.
• Common cleaning solutions without abrasive materials or clear water should be used.	• Avoid any abrasive or Ammonia based solutions or paper towels for cleaning the glass from inside.
• Use separate window cleaning materials when washing exterior and interior glass at the same time.	• Do not use bristle brushes. • Avoid use of any sharp edges or hard arti in contact with your film.

NOTE: • Any distortion you observed should disappear in about four days.
• Any additional information or instructions you may require will be furnished on requ



GARWARE

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