

## SPECIFICATION.

## WINDOW FILM TYPE: SILVER REFLECTIVE 20 - HIGH

## SILVER REFLECTIVE.

Sunguard Reflective Window Film range consists of solar control and privacy window films with a reflective appearance. Provides our highest level of daytime privacy with optical transparency. Used where both high levels of heat and glare reduction are essential. Rejects up to 80% of solar energy, helping reduce heat build-up, and energy costs, increasing occupant comfort. Rejects up to 82% of glare. Reduction of hot spots helps increase HVAC efficiency and lower energy costs. Shields 99% of UV radiation, helping to reduce fading of valuables, fabrics and furnishings. Constructed with a durable scratch resistant coating for easy cleaning.

## PHYSICAL PROPERTIES NOMINAL.

Nom. Thickness: 50 microns Tensile strength: 2,100 kg/cm2 Melting point: 260 – 265°C

\*Infrared rejection = 1 - average unweighted transmittance using ASTM E 903.

\*\*Tdw-ISO is the percentage of transmitted light that causes fading. A lower number means more protection against fading.

All window films meet classification B-S1,d0 (tests acc to SBI EN13823) and class M1 (tests acc.to NF P 92-501).

SOLAR ENERGY REJECTED. UP TO: 80% GLARE
REDUCTION. UP TO:

UV REJECTED. UP TO

NO   WITH   FILM   FI	PERFORMANCE PARAMETERS FOR DIFFERENT WINDOW TYPES	4MM SINGLE CLEAR		4/12/4MM DOUBLE CLEAR	
Solar heat gain coefficient (G-value)       .87       .20       .77       .30         Solar heat gain reduction %       0       .77       0       .61         Total solar energy rejected %       13       80       23       .70         Infrared rejection @780 - 2500 nm %*       17       84       17       .73         Light to solar heat gain ratio (VLT/SHGC)       1.04       .82       1.05       .51         Transmittance %       85       12       .73       .11         Absorptance %       7       .35       .14       .41         Reflectance %       8       .53       .13       .48         VISIBLE LIGHT. <th></th> <th></th> <th></th> <th></th> <th></th>					
Solar heat gain reduction %       0       77       0       61         Total solar energy rejected %       13       80       23       70         Infrared rejection @780 - 2500 nm %*       17       84       17       73         Light to solar heat gain ratio (VLT/SHGC)       1.04       .82       1.05       .51         Transmittance %       85       12       73       11         Absorptance %       7       35       14       41         Reflectance %       8       53       13       48         VISIBLE LIGHT.       3       15       58         Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       84       .70       .84       .70         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99	SOLAR ENERGY.				
Total solar energy rejected %       13       80       23       70         Infrared rejection @780 - 2500 nm %*       17       84       17       73         Light to solar heat gain ratio (VLT/SHGC)       1.04       82       1.05       .51         Transmittance %       85       12       73       11         Absorptance %       7       35       14       41         Reflectance %       8       53       13       48         VISIBLE LIGHT.         Transmittance %       90       16       82       15         Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       .84       .70       .84       .70         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       <	Solar heat gain coefficient (G-value)	.87	.20	.77	.30
Infrared rejection @780 - 2500 nm %*  Light to solar heat gain ratio (VLT/SHGC)  Transmittance %  85  12  73  11  Absorptance %  7  35  14  41  Reflectance %  8  53  13  48  VISIBLE LIGHT.  Transmittance %  90  16  82  15  Reflectance exterior %  8  58  15  58  Reflectance interior %  8  58  15  59  Glare reduction %  10  84  70  84  70  84  70  84  70  Winter U-factor (W/m 2°C)  Winter heat loss reduction %  10  10  11  12  13  14  15  16  17  17  17  17  18  18  18  18  18  18	Solar heat gain reduction %	0	77	0	61
Light to solar heat gain ratio (VLT/SHGC)       1.04       .82       1.05       .51         Transmittance %       85       12       73       11         Absorptance %       7       35       14       41         Reflectance %       8       53       13       48         VISIBLE LIGHT.       Transmittance %       90       16       82       15         Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.       Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.       8       59       51       >99         FADE CONTROL.       FADE CONTROL       85       14       74       13	Total solar energy rejected %	13	80	23	70
Transmittance % 85 12 73 11 Absorptance % 7 35 14 41 Reflectance % 8 53 13 48  VISIBLE LIGHT.  Transmittance % 90 16 82 15 Reflectance exterior % 8 58 15 58 Reflectance interior % 8 58 15 59 Glare reduction % 0 82 0 81  THERMAL ENERGY.  Emissivity 84 70 84 70 Winter U-factor (W/m 2°C) 5.8 5.4 2.8 2.7 Winter heat loss reduction % 0 7 0 4  ULTRAVIOLET LIGHT.  Blocked @300 to 380 nm % 36 >99 51 >99  FADE CONTROL.  Fade control UV Tdw-ISO @300 - 700 nm %*** 85 14 74 13	Infrared rejection @780 - 2500 nm %*	17	84	17	73
Absorptance % 7 35 14 41  Reflectance % 8 53 13 48  VISIBLE LIGHT.  Transmittance % 90 16 82 15  Reflectance exterior % 8 58 15 58  Reflectance interior % 8 58 15 59  Glare reduction % 0 82 0 81  THERMAL ENERGY.  Emissivity 84 .70 .84 .70  Winter U-factor (W/m 2°C) 5.8 5.4 2.8 2.7  Winter heat loss reduction % 0 7 0 4  ULTRAVIOLET LIGHT.  Blocked @300 to 380 nm % 36 >99 51 >99  FADE CONTROL.  Fade control UV Tdw-ISO @300 - 700 nm %** 85 14 74 13	Light to solar heat gain ratio (VLT/SHGC)	1.04	.82	1.05	.51
Reflectance % 8 53 13 48  VISIBLE LIGHT.  Transmittance % 90 16 82 15  Reflectance exterior % 8 58 15 58  Reflectance interior % 8 58 15 59  Glare reduction % 0 82 0 81  THERMAL ENERGY.  Emissivity 84 .70 84 .70  Winter U-factor (W/m 2°C) 5.8 5.4 2.8 2.7  Winter heat loss reduction % 0 7 0 4  ULTRAVIOLET LIGHT.  Blocked @300 to 380 nm % 36 >99 51 >99  FADE CONTROL.  Fade control UV Tdw-ISO @300 - 700 nm %** 85 14 74 13	Transmittance %	85	12	73	11
VISIBLE LIGHT.         Transmittance %       90       16       82       15         Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Absorptance %	7	35	14	41
Transmittance %       90       16       82       15         Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       84       .70       .84       .70         Winter U-factor (W/m 2 °C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Reflectance %	8	53	13	48
Reflectance exterior %       8       58       15       58         Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	VISIBLE LIGHT.				
Reflectance interior %       8       58       15       59         Glare reduction %       0       82       0       81         THERMAL ENERGY.         Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Transmittance %	90	16	82	15
Glare reduction % 0 82 0 81  THERMAL ENERGY.  Emissivity 84 .70 84 .70  Winter U-factor (W/m 2°C) 5.8 5.4 2.8 2.7  Winter heat loss reduction % 0 7 0 4  ULTRAVIOLET LIGHT.  Blocked @300 to 380 nm % 36 >99 51 >99  FADE CONTROL.  Fade control UV Tdw-ISO @300 - 700 nm %** 85 14 74 13	Reflectance exterior %	8	58	15	58
THERMAL ENERGY.         Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Reflectance interior %	8	58	15	59
Emissivity       .84       .70       .84       .70         Winter U-factor (W/m 2°C)       5.8       5.4       2.8       2.7         Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Glare reduction %	0	82	0	81
Winter U-factor (W/m 2°C) 5.8 5.4 2.8 2.7  Winter heat loss reduction % 0 7 0 4  ULTRAVIOLET LIGHT.  Blocked @300 to 380 nm % 36 >99 51 >99  FADE CONTROL.  Fade control UV Tdw-ISO @300 - 700 nm %** 85 14 74 13	THERMAL ENERGY.				
Winter heat loss reduction %       0       7       0       4         ULTRAVIOLET LIGHT.       Blocked @300 to 380 nm %       > 51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Emissivity	.84	.70	.84	.70
ULTRAVIOLET LIGHT.         Blocked @300 to 380 nm %       36 >99 51 >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85 14 74 13	Winter U-factor (W/m 2°C)	5.8	5.4	2.8	2.7
Blocked @300 to 380 nm %       36       >99       51       >99         FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	Winter heat loss reduction %	0	7	0	4
FADE CONTROL.         Fade control UV Tdw-ISO @300 - 700 nm %**       85       14       74       13	ULTRAVIOLET LIGHT.				
Fade control UV Tdw-ISO @300 - 700 nm %** 85 14 74 13	Blocked @300 to 380 nm %	36	>99	51	>99
_	FADE CONTROL.				
Fade reduction % 0 84 0 82	Fade control UV Tdw-ISO @300 - 700 nm %**	85	14	74	13
	Fade reduction %	0	84	0	82

