

## FILM TO GLASS CHART

Product Description	Visible Light Transmitted	Solar Energy Reflected	Solar Energy Absorbed	TSER	Single Pane				Dual Pane						Inboard/Outboard
					Clear Annealed	H/S Tempered	Tinted Annealed		Clear Annealed		Outboard Tinted		Inboard Tinted		Tempered
					1/8" -1/4" Mono	1/8" -3/8" Mono	1/8" -1/4" mono	1/8" -1/4" mono	1/8" -1/4" IG	1/8" -1/4" IG	1/8" -1/4" IG	1/8" -1/4" IG	1/8" -1/4" IG	1/8" -1/4" IG	1/8" -1/4" IG
					1-100 sqft	1-100 sqft	1-40 sqft	40-100 sqft	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-40 sqft
<b>SPECIALTY SERIES</b>															
All Season Intelligence 65 PS	65	28	30	52	●	●	●	●	●	●	●	●	●	●	●
All Season 45 PS	51	28	30	57	●	●	●	●	●	●	●	●	●	●	●
<b>CLEAR VIEW</b>															
Clear View Plus 70% PS	72	31	29	55	●	●	●	●	●	●	●	●	●	●	●
Clear View Plus 55% PS	58	29	37	57	●	●	●	●	●	●	●	●	●	●	●
Clear View Plus 40% PS	40	25	49	62	●	●	●	●	●	●	●	●	●	●	●
Clear View Plus 20% PS	21	25	57	67	●	●	●	●	●	●	■	■	■	■	●
Clear View Alloy 65 PS	65	23	31	44	●	●	●	●	●	●	●	●	●	●	●
Clear View Alloy 50 PS	49	32	33	57	●	●	●	●	●	●	●	●	●	●	●
Clear View Alloy 40 PS	41	38	34	64	●	●	●	●	●	●	●	●	●	●	●
Clear View Ceramic 60 PS	61	13	38	41	●	●	●	●	●	●	●	●	●	●	●
Clear View Ceramic 50 PS	51	15	45	48	●	●	●	●	●	●	●	●	●	●	●
Clear View Ceramic 35 PS	35	22	51	61	●	●	●	●	●	●	●	●	●	●	●
<b>NEUTRAL</b>															
Daylight 50 PS	52	10	39	43	●	●	●	●	●	●	●	●	●	●	●
Daylight 28 PS	25	23	54	64	●	●	●	●	■	■	■	■	■	■	●
Dark Neutral 25 DA	27	22	49	57	●	●	●	●	●	▲	▲	▲	▲	▲	●
Dark Neutral 15 DA	12	30	52	70	●	●	●	●	●	▲	▲	▲	▲	■	●
<b>METALLIC</b>															
Evening View 45 DA	46	10	40	37	●	●	●	●	●	●	●	●	●	●	●
Evening View 35 DA	37	15	44	44	●	●	●	●	●	●	▲	▲	■	■	●
Evening View 25 DA	26	28	43	61	●	●	●	●	●	●	▲	▲	■	■	●
Evening View 15 DA	15	48	39	76	●	●	●	●	●	●	▲	▲	■	■	●
Evening View 5 DA	8	54	37	81	●	●	●	▲	●	●	▲	▲	▲	▲	●
Blend DR 37 PS	40	18	43	51	●	●	●	●	●	●	●	●	●	●	●
Blend DR 27 PS	33	26	45	61	●	●	●	●	●	●	●	●	●	●	●
Blend DR 17 PS	13	46	43	79	●	●	●	●	●	●	●	●	●	●	●
Blend DR 7 PS	6	46	47	82	●	●	●	●	●	●	●	●	●	●	●
Silver 50 PS	50	27	36	52	●	●	●	●	●	●	●	●	●	●	●
Silver 15 PS	17	51	39	78	●	●	●	●	●	●	▲	▲	▲	▲	●
Bronze 40 PS	31	46	36	71	●	●	●	●	●	●	●	●	●	●	●
Bronze 25 PS	22	49	39	77	●	●	●	●	●	●	●	▲	▲	▲	●

● **RECOMMENDED**    
 ▲ **CAUTION RECOMMENDED, PRE-APPROVAL REQUIRED**    
 ■ **DO NOT USE IN ANY CIRCUMSTANCE**

Inboard Tint - tint from the window manufacturer, commonly on surface 4     Outboard Tint - tint from the window manufacturer, commonly on surface 1  
 \* Stamp in corner of the window should indicate which surface and if the glass has been heat strengthened. If not clearly documented, assume it's surface 1 until documentation states otherwise. Inboard tint has the higher risk for thermal breakage.

- Notes and disclaimers:
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  - 2) Values are provided for reference only, actual performance may vary depending on exact glazing configuration. XPPEL does not provide warranty for thermal breakage and accepts no responsibility or liability for the accuracy or the completeness of the information provided.
  - 3) Caution should be exercised when considering film for triple glazing, refer to XPPEL's film to glass chart for guidelines.

## FILM TO GLASS CHART

Product Description	LOW-E				Triple Pane				Laminated	
	Surface 2		Surface 3		Clear/Clear/Clear	Clear/Clear/Low-E	Tinted/Clear/Clear	Tinted/Clear/Clear	Clear Or Tinted	
	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	1/8" - 1/4" IG	Any Size	
	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-40 sqft	1-40 sqft	1-40 sqft	1-40 sqft		
<b>SPECIALTY SERIES</b>										
All Season Intelligence 65 PS	■	■	■	■	■	■	■	■	■	●
All Season 45 PS	■	■	■	■	■	■	■	■	■	●
<b>CLEAR VIEW</b>										
Clear View Plus 70% PS	●	●	●	●	■	■	■	■	■	●
Clear View Plus 55% PS	●	●	●	●	■	■	■	■	■	●
Clear View Plus 40% PS	●	●	▲	▲	■	■	■	■	■	■
Clear View Plus 20% PS	■	■	■	■	■	■	■	■	■	■
Clear View Alloy 65 PS	●	●	●	●	■	■	■	■	■	●
Clear View Alloy 50 PS	●	●	●	●	■	■	■	■	■	●
Clear View Alloy 40 PS	●	●	▲	▲	■	■	■	■	■	■
Clear View Ceramic 60 PS	●	●	▲	▲	■	■	■	■	■	■
Clear View Ceramic 50 PS	●	●	▲	▲	■	■	■	■	■	■
Clear View Ceramic 35 PS	●	●	▲	▲	■	■	■	■	■	■
<b>NEUTRAL</b>										
Daylight 50 PS	●	●	●	●	■	■	■	■	■	■
Daylight 28 PS	■	■	■	■	■	■	■	■	■	■
Dark Neutral 25 DA	▲	▲	▲	▲	■	■	■	■	■	■
Dark Neutral 15 DA	▲	▲	▲	▲	■	■	■	■	■	■
<b>METALLIC</b>										
Evening View 45 DA	●	●	●	●	■	■	■	■	■	■
Evening View 35 DA	●	●	■	■	■	■	■	■	■	■
Evening View 25 DA	●	●	■	■	■	■	■	■	■	■
Evening View 15 DA	●	●	■	■	■	■	■	■	■	■
Evening View 5 DA	▲	▲	▲	▲	■	■	■	■	■	■
Blend DR 37 PS	●	●	●	●	■	■	■	■	■	■
Blend DR 27 PS	●	●	▲	▲	■	■	■	■	■	■
Blend DR 17 PS	●	●	▲	▲	■	■	■	■	■	■
Blend DR 7 PS	●	●	▲	▲	■	■	■	■	■	■
Silver 50 PS	●	●	▲	▲	■	■	■	■	■	■
Silver 15 PS	▲	■	▲	■	■	■	■	■	■	■
Bronze 40 PS	▲	▲	▲	▲	■	■	■	■	■	■
Bronze 25 PS	▲	▲	▲	▲	■	■	■	■	■	■

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					1-100 sqft	1-100 sqft	1-40 sqft	40-100 sqft	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-40 sqft
<b>EXTERIOR</b>															
Exterior Clear Performance 75 PS	78	7	51	42	●	●	●	●	●	●	●	●	●	●	
Exterior Neutral 40 PS	40	16	46	50	●	●	●	●	●	●	●	●	●	●	
Exterior Neutral 20 PS	12	39	50	76	●	●	●	●	●	●	●	●	●	●	
Exterior Silver 15 PS	18	61	23	78	●	●	●	●	●	●	●	●	●	●	
Exterior Blend DR 7 PS	5	60	33	88	●	●	●	●	●	●	●	●	●	●	
<b>SECURITY</b>															
Security Clear 4mil PS	89	8	12	17	●	●	●	●	●	●	●	●	●	●	
Security Clear 8mil PS	89	8	13	18	●	●	●	●	●	●	●	●	●	●	
Security Clear 14mil PS	88	9	13	19	●	●	●	●	●	●	●	●	●	●	
Security 8 mil Clear View Plus 70	73	26	34	51	●	●	●	●	●	●	●	●	●	●	
Security 8mil Neutral 50 PS	55	12	43	41	●	●	●	●	●	●	●	●	●	●	
Security 8mil Neutral 35 PS	38	13	49	50	●	●	●	●	●	●	●	●	●	●	
Security 8mil Silver 15 PS	15	51	37	79	●	●	●	●	●	●	●	●	●	●	
Exterior Security Clear 7mil	88	7	17	19	●	●	●	●	●	●	●	●	●	●	
<b>ANTI-GRAFFITI</b>															
Anti-Graffiti 4mil PS	89	8	12	17	●	●	●	●	●	●	●	●	●	●	
Anti-Graffiti 6mil PS	89	8	12	17	●	●	●	●	●	●	●	●	●	●	
<b>DECORATIVE</b>															
White Frost	65	20	19	33	●	●	●	●	●	●	●	●	●	●	
Black Out	0	5	95	75	■	●	■	■	■	■	■	■	■	●	
White Out	9	53	33	78	■	●	■	■	■	■	■	■	■	●	
Dusted Crystal	86	8	13	17	■	●	■	■	■	■	■	■	■	●	
Blisters Prevention	89	8	12	16	●	●	●	●	●	●	●	●	●	●	
Bird Safe	88	9	13	18	●	●	●	●	●	●	●	●	●	●	

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	1-30 sqft	30-40 sqft	1-30 sqft	30-40 sqft	1-40 sqft	1-40 sqft	1-40 sqft	1-40 sqft	
<b>EXTERIOR</b>									
Exterior Clear Performance 75 PS	●	●	●	●	●	●	●	●	■
Exterior Neutral 40 PS	●	●	●	●	●	●	●	●	■
Exterior Neutral 20 PS	●	●	●	●	●	●	●	●	■
Exterior Silver 15 PS	●	●	●	●	●	●	●	●	■
Exterior Blend DR 7 PS	●	●	●	●	●	●	●	●	■
<b>SECURITY</b>									
Security Clear 4mil PS	●	●	●	●	●	●	●	●	●
Security Clear 8mil PS	●	●	●	●	●	●	●	●	●
Security Clear 14mil PS	●	●	●	●	●	●	●	●	●
Security 8 mil Clear View Plus 70	●	●	●	●	■	■	■	■	●
Security 8mil Neutral 50 PS	●	●	●	●	■	■	■	■	■
Security 8mil Neutral 35 PS	▲	▲	▲	▲	■	■	■	■	■
Security 8mil Silver 15 PS	▲	▲	▲	▲	■	■	■	■	■
Exterior Security Clear 7mil	●	●	●	●	●	●	●	●	●
<b>ANTI-GRAFFITI</b>									
Anti-Graffiti 4mil PS	●	●	●	●	●	●	●	●	●
Anti-Graffiti 6mil PS	●	●	●	●	●	●	●	●	●
<b>DECORATIVE</b>									
White Frost	●	●	●	●	●	●	●	●	●
Black Out	■	■	■	■	■	■	■	■	■
White Out	■	■	■	■	■	■	■	■	■
Dusted Crystal	■	■	■	■	■	■	■	■	■
Blisters Prevention	●	●	●	●	●	●	●	●	●
Bird Safe	●	●	●	●	●	●	●	●	●

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