

Security films	resistance classification	finish hardcoat	area of application	thickness ca. [µ]	reference number	total solar energy			visible light		transmittance UV 300 - 380 nm (%)	total energy rejected (%)	g- coefficient	recommended combination with glass type (*)
						transmitted (%)	reflected (%)	absorbed (%)	transmitted (%)	reflected internal/external (%)				
PROFILON® explosion resistant security film														
PROFILON® ER1, transparent (Multilayer)	ER 1 according to EN 13541, A1 according to DIN 52 290, UL 972 P2A according to EN 356**	sr	interior	475	A112100	84	6	10	84	5	<1	13	0,87	1/2/3
PROFILON® Impact resistant security film														
PROFILON® AXA1 sr, transparent (Multilayer)	A1 according to DIN 52290, UL 972 P2A according to EN 356**	sr	interior	360	A112001	85	6	9	87	5	<1	14	0,86	1/2/3
PROFILON® AXA1 sr, white matte (Multilayer)	A1 according to DIN 52290, UL 972 P2A according to EN 356**	sr	interior	360	A113051	63	17	20	25	20	<1	29	0,71	1/2/3
PROFILON® P3A, transparent (multilayer)	P3A according to EN 356**	sr	interior	475	A112200	83	8	9	85	7	<1	13	0,87	1/2/3
PROFILON® P4A, transparent (multilayer)	P4A according to EN 356**	sr	interior	1000	A112210	80	8	12	78	7	<1	13	0,87	1/2/3
PROFILON® Alarm A1 Impact resistant security film														
PROFILON® ALARM A1 , transparent (4, 10, 20 cm) - (Multilayer)	A1 according to DIN 52290, UL 972 P2A according to EN 356**	sr	interior	360	A115001	85	6	9	89	5	<1	14	0,86	1/2/3
PROFILON® ALARM A1 , white matte (4, 10, 20 cm) - (Multilayer)	A1 according to DIN 52290, UL 972 P2A according to EN 356**	sr	interior	360	A115951	63	17	20	25	20	<1	29	0,71	1/2/3
PROFILON® facade films														
PROFILON® FF, transparent (single-ply)	DIN EN 12 600	sr	interior/exterior	190	A110101	80	9	11	88	10	<1	18	0,85	1/2/3
PROFILON® laser films														
PROFILON® Laser I, grey (single-ply)		sr	exterior	70	A110030	36	30	34	67	16	<0,01	54	0,44	1/2/3
PROFILON® Laser II, grey (Multilayer)		sr	exterior	140	A110040	27	36	37	50	15	<0,01	72	0,28	1/2/3
PROFILON® Laser III, grey (Multilayer)		sr	interior/exterior	120	A110050	45	7	48	57	7	<0,01	47	0,45	1/2/3
PROFILON® AntiSpy 100		sr	interior/exterior	50	500100			32	53	9	<1	>50	0,36	1/2/3
PROFILON® AntiSpy 250		sr	interior/exterior	50	500250			36	53	13	<1	>70	0,27	1/2/3

tinted/colored types on request

- * non-binding recommendation for glass types:
- 1 float glass ; toughened glass (ESG)
 - 2 insulating glass
 - 3 laminated safety glass (VSG); heat- and sun protection glazing
 - 3* VSG; heat- and sun protection glazing; only in combine with ESG as outer pane

All technical data listed refer on a 3mm single glazing. The light transmission and light reflexion referred through a spectrometer under C.I.C and D-65 daylight.
**Tested and certified on 4 mm float glass

UV Transmittance was measured in the range of 300 - 380 nm. The rejection of the total solar energy tested according to HAVERKAMP standards.
HAVERKAMP Primus series films are of limited suitability for roof windows. We recommend to use silver 20R or PRIMUS PLUS instead.
All data is subject to normal manufacturing tolerances. Technical modifications reserved.