



e·xim



ABOUT EXIM

BUILDING TRUST AND QUALITY

Our journey started in 1988, as a part of Hitay Holdings, one of the leading group of companies in Turkey. Having over 30 years of foreign trading experience and a passion towards 'The Art of Creating Value', we offer on-site and online technical support, dynamic and responsive attitude towards our customers and business partners, for a thorough and exclusive solution oriented approach.

Hitay Holdings has expertise in information technologies, payment systems, online research and security technologies. Rooting back to 1980, the group was founded by Emin Hitay, one of the leading entrepreneurs in Turkey.

BUILD YOUR
SECURE
DOCUMENTS ON
**SOLID
FOUNDATION**

EXIM POLYCARBONATE FILMS



KEY BENEFITS

- Excellent Lamination Performance
- Finest Choice for all Printing Techniques and Inlay Applications
- Unique Laser Markability
- Superior Durability
- Exceptional Chemical and Impact Resistance
- High Temperature Resistance



POLYCARBONATE FILMS



EXIM offers Polycarbonate Films under JCC-JET™ brand with Standard and Anti-Static grade options; for ID Cards, e-Passports, driving licences and other secure documents.

Various thickness and surface roughness options are available.

POLYCARBONATE FILMS

PRODUCT CODE	PRODUCT TYPE	THICKNESS
JS1501T (Standard) JS1501TS (Anti-Static)	Transparent Non-Laser	30 - 650*
JS1501TL (Standard) JS1501TLS (Anti-Static)	Transparent Laserable	30 - 650*
JS1501P (Standard) JS1501PS (Anti-Static)	White	30 - 650*
JS1501P-OW (Standard) JS1501PS-OW (Anti-Static)	Off-White	30 - 650*
JS1501P-EO (Standard) JS1501PS-EO (Anti-Static)	Extra Opaque White	30 - 650*
JS1501CX (Standard) JS1501CXS (Anti-Static)	Co-extruded	Upon request

*Contact us if you need PC material sheet which has more than thickness of 650 micron.



POLYCARBONATE FILMS

Properties of JS1501T Series for Non-Laser Films

EXIM Transparent Non-laser PC Films, both Standard and Antistatic grades, offer the highest level of protection as a clear overlay for secure documents; such as ID cards, Passport datapages and driving licences. Non-laser PC films have a thickness range of 30 to 650* µm. Applications include roll or sheet based and produced as matte/matte, velvet/matte, fine matte/matte, fine matte/velvet or glossy/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
General Properties				
Gloss, 60° Top side		ISO 2813	Digits	≥ 5
Gloss, 60° Reverse side		ISO 2813	Digits	≥ 5
Density (20°C method C)		ISO 1183	g/cm ³	1.2
Mechanical Properties				
Tensile Strength at break	<i>TD</i> <i>MD</i>	ISO 527	MPa	≥ 50 ≥ 50
Elongation at break		ISO 527	%	> 50
Thermal Properties				
Shrinkage, parallel (130°C 1 h)		DIN 53752	%	< 0,5
Shrinkage, across (130°C 1 h)		DIN 53752	%	< 0,5
Coefficient of linear thermal expansion, parallel 20 to 120°C		DIN 53752	10 ⁻⁶ /K	70
Coefficient of linear thermal expansion, across 20 to 120°C		DIN 53752	10 ⁻⁶ /K	70
Optical Properties				
Light Transmittance		ISO 13468-2	%	> 80
Other Properties				
Water Absorption		ISO 62	%	0,20

- These properties are typical values for 100 µm film; not guaranteed values.”
- Edition date 11/2020

POLYCARBONATE FILMS

Properties of JS1501TL Series for Laserable Films

EXIM Transparent Laserable PC Films, both Standard and Antistatic grades, offer unique laser markability to achieve high-resolution performance during personalization for secure documents. Laserable PC films have a thickness range of 30 to 650* μm . Applications include roll or sheet based and produced as matte/matte, velvet/matte, fine matte/matte, fine matte/velvet or glossy/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
General Properties				
Gloss, 60° Top side		ISO 2813	Digits	≥ 10
Gloss, 60° Reverse side		ISO 2813	Digits	≥ 5
Density (20°C method C)		ISO 1183	g/cm^3	1.2
Mechanical Properties				
Tensile Strength at break	MD TD	ISO 527	MPa	≥ 50 ≥ 50
Elongation at break		ISO 527	%	>50
Thermal Properties				
Shrinkage, parallel (130°C 1 h)		DIN 53752	%	<0,5
Shrinkage, across (130°C 1 h)		DIN 53752	%	<0,5
Coefficient of linear thermal expansion, parallel 20 to 120°C		DIN 53752	$10^{-6}/\text{K}$	70
Coefficient of linear thermal expansion, across 20 to 120°C		DIN 53752	$10^{-6}/\text{K}$	70
Optical Properties				
Light Transmittance		ISO 13468-2	%	>80
Other Properties				
Water Absorption		ISO 62	%	0,20

- These properties are typical values for 100 μm film; not guaranteed values.
- Edition date 11/2020



POLYCARBONATE FILMS

Properties of JS1501P Series for White Films

EXIM White PC Films, both Standard and Antistatic grades, are compliant with all secure printing techniques and finest choice for inlay applications. White PC films have a thickness range of 30 to 650* μm . Applications include roll or sheet based and produced as matte/matte, fine matte/matte, fine matte/velvet or velvet/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
General Properties				
Gloss, 60° Top side		ISO 2813	Digits	< 15
Gloss, 60° Reverse side		ISO 2813	Digits	< 10
Density (20°C method C)		ISO 1183	g/cm^3	1.36
Mechanical Properties				
Tensile Strength at break	MD TD	ISO 527	MPa	≥ 50 ≥ 50
Elongation at break		ISO 527	%	> 50
Thermal Properties				
Shrinkage, parallel (130°C 1 h)		DIN 53752	%	< 0,5
Shrinkage, across (130°C 1 h)		DIN 53752	%	< 0,5
Optical Properties				
Opacity		ISO 13468-2	%	> 95
Others				
Surface Tension (Front-Back)		Dyne Pen	Dyne/cm	36-42

- These properties are typical values for 100 μm film; not guaranteed values
- Edition date 11/2020

POLYCARBONATE FILMS

Properties of JS1501P-OW Series for Off-White Films

EXIM Off-White PC Films, both Standard and Antistatic grades with its specialized colour tone, are compliant with all secure printing techniques and finest choice for inlay applications. Off-White PC films have a thickness range of 30 to 650* μm . Applications include roll or sheet based and produced as matte/matte, fine matte/matte, fine matte/velvet or velvet/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
General Properties				
Gloss, 60° Top side		ISO 2813	Digits	< 15
Gloss, 60° Reverse side		ISO 2813	Digits	< 10
Density (20°C method C)		ISO 1183	g/cm^3	1.36
Mechanical Properties				
Tensile Strength at break	MD TD	ISO 527	MPa	≥ 50 ≥ 50
Elongation at break		ISO 527-1, -3	%	>50
Thermal Properties				
Shrinkage, parallel (130°C 1 h)		DIN 53752	%	<0,5
Shrinkage, across (130°C 1 h)		DIN 53752	%	<0,5
Optical Properties				
Opacity		ISO 13468-2	%	>95
Others				
Surface Tension (Front-Back)		Dyne Pen	Dyne/cm	36-42

- These properties are typical values for 100 μm film; not guaranteed values
- Edition date 11/2020

POLYCARBONATE FILMS

Properties of JS1501P-EO Series for Extra-Opaque White Films

EXIM Extra-Opaque White PC Films, both Standard and Antistatic grades, exclusively developed to increase the opacity performance for thinner inlay applications, transparent window features and they are compliant with all secure printing techniques. Extra-Opaque PC films have a thickness range of 30 to 650* μm . Applications include roll or sheet based and produced as matte/matte, fine matte/matte, fine matte/velvet or velvet/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
General Properties				
Gloss, 60° Top side		ISO 2813	Digits	< 15
Gloss, 60° Reverse side		ISO 2813	Digits	< 10
Density (20°C method C)		ISO 1183	g/cm^3	1.44
Mechanical Properties				
Tensile Strength at break	MD TD	ISO 527	MPa	≥ 50 ≥ 50
Elongation at break		ISO 527-1, -3	%	>50
Thermal Properties				
Shrinkage, parallel (130°C 1 h)		DIN 53752	%	<0,5
Shrinkage, across (130°C 1 h)		DIN 53752	%	<0,5
Optical Properties				
Opacity		ISO 13468-2	%	>95
Others				
Surface Tension (Front-Back)		Dyne Pen	Dyne/cm	36-42

- These properties are typical values for 50 μm film; not guaranteed values.
- Edition date 11/2020



POLYCARBONATE FILMS

Properties of JS1501CX Series for Co-extruded Films

EXIM Co-extruded PC Films, both Standard and Antistatic grades, are tailored with respect to project demands. Combinations of all Transparent and all White PC Films are available. Applications include roll or sheet based and produced as matte/matte, velvet/matte, fine matte/matte, fine matte/velvet or glossy/matte upon request.

PROPERTIES		TEST METHOD	UNIT	VALUE
Mechanical Properties				
Tensile Strength at break	<i>MD</i> <i>TD</i>	ISO 527	MPa	≥ 50 ≥ 50
Young's Modulus		ISO 527	GPa	≥ 2
Elongation at break		ISO 527	%	>50
Thermal Properties				
Shrinkage, parallel (<i>130°C 1 h</i>)		DIN 53752	%	<0,5
Shrinkage, across (<i>130°C 1 h</i>)		DIN 53752	%	<0,5
Optical Properties				
Opacity		ISO 13468-2	%	>95

- These properties are typical values for 100 µm White PC + 50 µm Transparent Laserable film; not guaranteed values.
- Edition date 11/2020



POLYCARBONATE FILMS

Eski Büyükdere Cad. Özcan Sok. No:2
4. Levent, 34416, İstanbul, Turkey
T +90 212 349 48 00
F +90 212 349 48 01
info@exim.com.tr
www.exim.com.tr