PolymerFilms
A DIVISION OF POLYMERSHAPES

www.polymerfilms.com

Film East:	Tyngsboro, MA | 978-226-0021
Film Central:	Naperville, IL | 630-428-4350
Film West:	Fresno, CA | 559-383-3456
Film Canada:	Brampton, ON | 905-789-3100
Film Mexico:	Apodaca, Nuevo León | 52-81-8369-4688

Request a sample

Try TESLIN® substrate for yourself. Just tell us some details of your project, and we will send you a sample! Visit **teslin.com/RequestSample**.

Want to learn more?

Visit the online Resource Center at **teslin.com/Resource**.

Abrasion Resistance

Discover the science behind *Teslin* substrate's microporous matrix that allows it to resist scuffs, scratches and abrasions.

Performance

Learn more about *Teslin* substrate's properties, physical characteristics and testing results.

Handling and Storage

Safeguard your investment in *Teslin* substrate with our handling and storage guidelines.

Printing and Production

Find information about the print production capabilities of *Teslin* substrate.

Production Notes
Cover printed on *Teslin* SP1400 Blue substrate (14 mil/356 microns) with 1.3 mil Nylon SR matte laminate.
Divider pages printed on *Teslin* SP1400 Blue substrate (14 mil/356 microns) with 1.3 mil Nylon SR matte laminate.
Text pages printed on *Teslin* SP1000 Blue substrate (10 mil/254 micron).

2855 0616

PPG TESLIN® Synthetic Paper

Engineered for durability. Designed for innovation.

PPG TESLIN® substrate: Unique microporous synthetic paper that enables distinctive products and solutions.

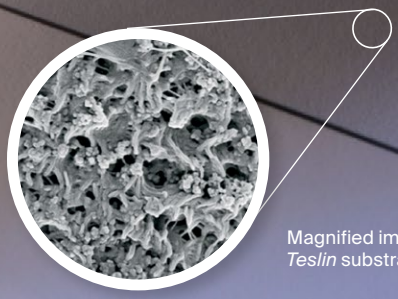
PPG TESLIN® substrate:

The high-performance synthetic paper for your demanding applications

PPG's TESLIN® substrate is a durable, secure and highly printable synthetic paper that excels in laminated print projects and other applications demanding a tough, high-performance material.

As a single-layer, polyolefin-based material, *Teslin* substrate is in a category of its own among synthetic papers and printable plastics. Engineered with a microporous matrix, it absorbs and creates strong, interlocking bonds with inks, adhesives, coatings and laminating films.

In addition to making *Teslin* substrate breathable and lightweight, microporosity enables it to combine insulation, cushioning and other exclusive performance benefits in a way that no other synthetic substrate can equal.



Magnified image of the *Teslin* substrate surface

Microporosity: The difference for securing printed data and images

The microporous polyolefin-silica matrix of *Teslin* substrate works by locking inks and toners into its structure, rendering printed data impervious to mechanical abrasion.

Unlike other synthetics, the microporous technology of *Teslin* substrate (opposite page, first row) distinguishes it from every other synthetic paper or printable plastic.

As this illustration shows, information printed on vinyl, polypropylene, polyester and other non-porous synthetic papers is vulnerable to these threats because inks and toners merely sit atop their surfaces.

Performance Benefits

Combining the durability of plastic with the ease of printing on paper, TESLIN® substrate vividly reproduces brilliant colors and gives you high-quality print resolution.

From chemical container labels to waterproof menus to government IDs, *Teslin* substrate delivers single-source solutions that enable you to meet the demands of virtually any conventional or specialty print project.

Ruggedly Durable

- Resistant to abrasion, water, tears, chemicals and solvents.
- Pliable in temperatures from -94°F/-70°C to 356°F/180°C.
- Flexible and conformable.

Amazingly Printable and Easy to Finish

- Compatible with a wide range of print processes, including digital for on-demand and variable data printing.
- Digital print-ready right out of the package—no corona treatment, sapphire or other coating needed.
- Excellent for laser printing; most synthetics can't take the heat and may actually melt!
- No special oxidizing inks, drying equipment or extended dry times as required by other synthetic substrates.
- Accommodates a variety of finishing techniques for production, creative and design flexibility.
- Supports security printing techniques, including intaglio, rainbow printing, microprinting, serial numbering, guilloches and security inks.

Highly Bondable

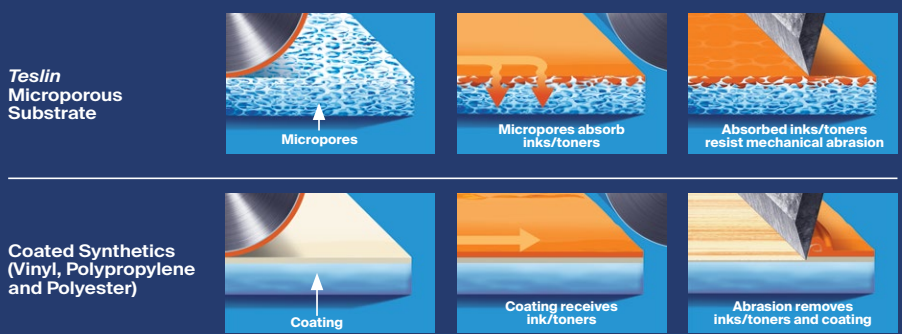
- Micropores create powerful bonds with laminate films, adhesives and coatings.
- No edge sealing required.
- Accommodates die-cutting for unique packaging applications.
- Bubble-free label application.

Inherently Secure

- Absorption technology locks in printed text and graphics, making them nearly impervious to abrasion and other damage.
- Resists mechanical separation and permanently distorts when bond is altered or broken.

Diffusion

- Microporous structure enables gas permeation for packaging, labeling and other specialized applications.
- Cushions and protects electronics embedded in secure cards and biometric passports.
- Dissipates static buildup, reducing risks associated with electrical discharge (passes ESD S.541 @ 30% relative humidity).



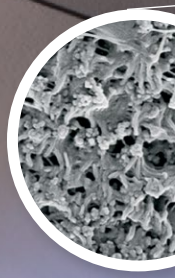
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs



Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

Typical Applications

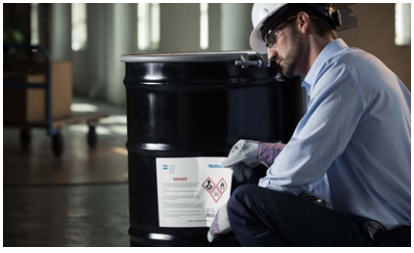
The versatility of TESLIN® substrate provides differentiated solutions for a variety of applications, including:

Print and Laminated Materials

- Waterproof maps
- Heavy-duty manuals
- Racing bibs
- Temporary license plates
- Wristbands
- Menus
- Luggage tags
- Ultra-durable POP advertising

Laminated Cards and Key Tags

- Smart cards
- Loyalty cards
- Health care/insurance cards
- Library cards
- Student identification cards
- Financial cards
- Membership cards



Labels, Tags and Packaging

- Pressure-sensitive/self-adhesive labels
- Anti-static labels
- GHS-compliant labels
- BS 5609-certified labels
- Tamper-evident labels
- Supply chain security labels and packaging
- Drum, pallet and shipping labels
- Identification, safety and warning labels
- Food, beverage and wine labels
- Medical, pharmaceutical and blood bag labels
- Cleanroom labels
- Nursery and horticulture tags
- In-mold labels

Secure Credentials

- National ID and driver's licenses
- Electronic passports
- Voter registration cards
- Social Security cards
- Vehicle registration cards and documents
- Birth certificates and other breeder documents
- Mark sheets and university diplomas
- Temporary vehicle license plates

To learn more, visit:
teslin.com/Applications

Essentials

Distinguished versatility.
Available in a range of product grades to match your application and print requirements, TESLIN® substrate offers a level of versatility that other synthetic papers and printable plastics cannot achieve.

Forms powerful, virtually impregnable bonds with laminate film.




PPG TE

The
synt
dem

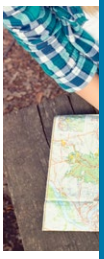
PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs

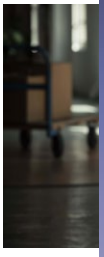
Typic

The versa
to a variet



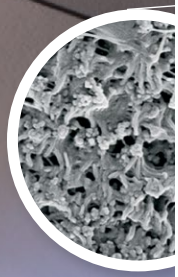
Print and

- Waterpr
- Heavy-d
- Racing b
- Tempora
- Wristbar
- Menus
- Luggage
- Ultra-du



Labels, Ta

- Pressure
- Anti-stat
- GHS-co
- BS 5609
- Tamper-
- Supply c
- Drum, pa
- Identifica
- Food, be
- Medical,
  bag labe
- Cleanroo
- Nursery
- In-mold



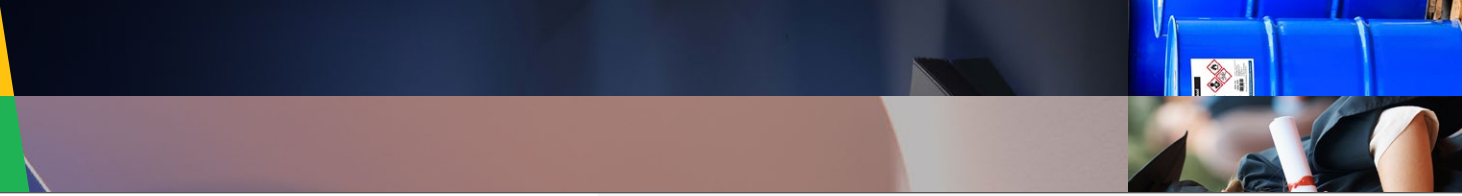
Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

The Essentials: TESLIN® Substrate Product Grades

Product	Recommended Print Technologies	Grade	Thickness	
			Mil	Micron
***Teslin* SP substrate** A high-quality, all-purpose substrate, SP designates the standard product line.	• Offset • Flexography • Gravure • Intaglio • Thermal Transfer • Inkjet (pigment-based)	600 700 800 1000 1200 1400 1800	6 7 8 10 12 14 18	145 178 203 254 305 356 457
***Teslin* HD substrate** Greater stiffness, tear resistance and UV light stability than other *Teslin* products/grades. Tested to survive high temperatures for extended time periods, making it suitable for difficult in-mold applications, such as vulcanization.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Inkjet (pigment-based)	700 1400 1800	7 14 18	178 356 457
***Teslin* TS substrate** For applications where fixed graphics are printed before digital or laser variable data printing. Thermally stabilized (TS) substrate is more resistant to shrinkage when exposed to high temperatures.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* SPID substrate** Pre-coated to enhance conveyance and release from fuser in laser (xerographic) printers that apply fuser oil to the fuser roll.	• Laser (B&W, Color)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Digital substrate** Developed specifically for Xeikon® digital print models, and unlike other synthetics, does not require coating.	• Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	1000	10.5	267
***Teslin* IJWP substrate** Developed to be waterproof (WP) for two-sided, dye-based inkjet (IJ) applications.	• Inkjet (pigment-based) • Inkjet (dye-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
Application-Specific Grades				
***Teslin* Food-Grade substrate** Fully compliant under U.S. Federal Food and Drug Administration (FDA) and all applicable U.S. food-additive regulations as a food contact material. Not limited by food type, amount of material used or operating conditions.	• Offset • Flexography • Gravure • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000	6 7 8 10	145 178 203 254
***Teslin* Blue substrate** Similar to the standard product, *Teslin* Blue substrate has a 12 to 15% whiter appearance.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Biodegradable substrate** Environmentally responsible material breaks down into microbe-consumable particles in anaerobic conditions. Studies show 7.8% degradation over 74 days, with continued breakdown expected.	• Offset • Flexography • Gravure • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Security-Grade substrate** Sold through a secure supply chain and manufactured with security features embedded in the material. Can be made for program-specific applications.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356



BLUE1000
HD1400
SP1400
SP1200
SP1000
SP800
SP700
SP600

Essentials

For added assurance, please contact PPG to learn which grade is recommended for your application and print technology. PPG gives no guarantees and strongly advises that pre-test qualification of material, processes and equipment be conducted to ensure suitability.

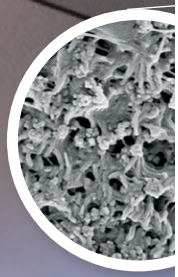
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs



Microp
The Dif

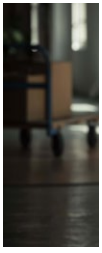
The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

Typic

The versa
to a variet

Print and
- Waterpr
- Heavy-d
- Racing b
- Tempora
- Wristbar
- Menus
- Luggage
- Ultra-du

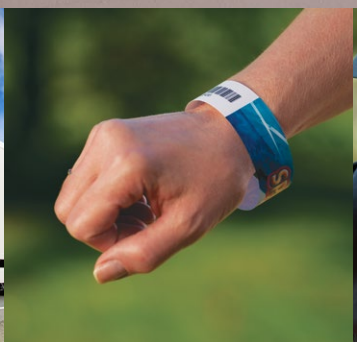


Labels, Ta
- Pressure
- Anti-stat
- GHS-co
- BS 5609
- Tamper-
- Supply c
- Drum, pa
- Identifica
- Food, be
- Medical,
  bag labe
- Cleanroo
- Nursery
- In-mold

Digital

Tight deadlines demand flexibility.
TESLIN® substrate is offered in grades that are specifically engineered to run on digital presses, including inkjet, laser and thermal transfer, providing a beautiful look and superior performance.

Requires no corona treatment or coating.

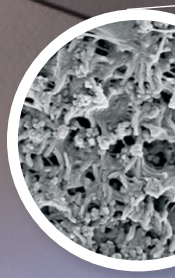
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs



Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

TESLIN® Substrate Digital Product Grades

Product	Recommended Print Technologies	Grade	Thickness	
			Mil	Micron
***Teslin* SPID substrate** Pre-coated to enhance conveyance and release from fuser in laser (xerographic) printers that apply fuser oil to the fuser roll.	• Laser (B&W, color)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* IJWP substrate** Developed to be waterproof (WP) for two-sided, dye-based inkjet (IJ) applications.	• Inkjet (pigment-based) • Inkjet (dye-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Digital substrate** Developed specifically for Xeikon® digital print models, and unlike other synthetics, does not require coating.	• Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	1000	10.5	267
***Teslin* TS substrate** For applications where fixed graphics are printed before digital or laser variable data printing. Thermally stabilized (TS) substrate is more resistant to shrinkage when exposed to high temperatures.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
Application-Specific Grades				
***Teslin* Food-Grade substrate** Fully compliant under U.S. Federal Food and Drug Administration (FDA) and all applicable U.S. food-additive regulations as a food contact material. Not limited by food type, amount of material used or operating conditions.	• Offset • Flexography • Gravure • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000	6 7 8 10	145 178 203 254
***Teslin* Blue substrate** Similar to the standard product, *Teslin* Blue substrate has a 12 to 15% whiter appearance.	• Offset • Flexography • Gravure • Intaglio • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Biodegradable substrate** Environmentally responsible material breaks down into microbe-consumable particles in anaerobic conditions. Studies show 7.8% degradation over 74 days, with continued breakdown expected.	• Offset • Flexography • Gravure • Digital • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356
***Teslin* Security-Grade substrate** Sold through a secure supply chain and manufactured with security features embedded in the material. Can be made for program-specific applications.	• Offset • Flexography • Gravure • Intaglio • Thermal Transfer • Laser (B&W, color) • Inkjet (pigment-based)	600 700 800 1000 1200 1400	6 7 8 10 12 14	145 178 203 254 305 356

TS1000
DIGITAL1000
IJWP1000
SPID1000

Digital

For added assurance, please contact PPG to learn which grade is recommended for your application and print technology. PPG gives no guarantees and strongly advises that pre-test qualification of material, processes and equipment be conducted to ensure suitability.

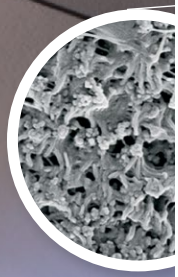
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs



Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

Labels

Solutions that stick.

Whether your labels need protection from the elements or from tampering, TESLIN® label stock offers a high-quality solution that sticks.

Accommodates on-demand color printing.

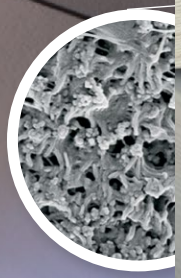
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to n
combine insula
synthetic subs



Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

TESLIN® Label Stock

Product	Facestock	Adhesive	Liner	Application Temperature	Service Temperature
***Teslin* General-Purpose Permanent label** Engineered to be more print and process friendly than competitive general adhesives.	SP700	TPAT	3.2LF	20°F/-7°C min.	30°F/-1°C–250°F/121°C
***Teslin* Ultimate Bond label** Ideal for industrial and tamper-evident applications requiring high initial tack and ultimate adhesion. Can be used in indirect food contact applications per 21 CFR 175.105.	SP700	TB64	83#	35°F/2°C min.	20°F/-7°C–220°F/104°C
***Teslin* General-Purpose Removable label** Used in applications requiring labels to be cleanly removed from low-energy surfaces.	SP700	TGR	83#	35°F/2°C min.	20°F/-7°C–200°F/93°C
***Teslin* BS 5609-Certified GHS label** Formulated for heavy-duty industrial labeling when long-term adhesion in extreme environments is critical. BS 5609 certification is required by the International Maritime Dangerous Goods (IMDG) Code for hazardous goods shipped via ocean freight. BS 5609 Section 2-certified and available for Section 3 certification with your specific printer model. For a list of BS 5609 Section 3-certified printer models, visit teslin.com/BS5609.	SP700PR	TSP1	92# PCK	10°F/-12°C min.	-30°F/-34°C–250°F/121°C

Custom-Engineered Label Solutions

In addition to our standard label stock options, additional adhesive and liner combinations are available to meet your specific label application needs. Our liner options range from a simple 50# liner to a complex custom liner. Select from our wide variety of adhesives to use in applications ranging from ultra-removable to secondary blood bag labels and other medical-grade applications.

Label Stock

SP700PR with TSP1 Adhesive on 92# PCK Liner		
SP700 with TGR Adhesive on 83# Liner		
SP700 with TB64 Adhesive on 83# Liner		
SP700 with TPAT Adhesive on 3.2LF Liner		

For added assurance, please contact PPG to find out which label stock is recommended for your application. PPG gives no guarantees and strongly advises that pre-test qualification of material, processes and equipment be conducted to ensure suitability.

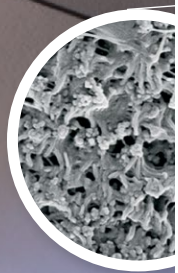
PPG TE

The
synt
dem

PPG's TESLIN
laminated prin

As a single-lay
synthetic pape
creates strong

In addition to m
combine insula
synthetic subs



Microp
The Dif

The microporo
substrate work
structure, rend
mechanical ab

Unlike other sy
Teslin substrat
from every othe

Standard Common Sheet Sizes and Weights

TESLIN® substrate grades are available in a variety of popular sheet sizes. PPG can also supply any format, from custom sheet sizes to rolls, for all product grades. For more information, please contact PPG at **TeslinInfo@PPG.com** or your local *Teslin* substrate distributor.

Product Grade	Gauge		Sheet Size (CDxMD)*		Sheets per Carton	Carton Weight	Weight per MSheets
	Microns	Mils					
SP 600	145	6	45x64 cm		250	7,0 kg	27,9 kg
			64x90 cm		250	14,0 kg	55,9 kg
			635x965 mm	25x38 in	825	101 lb (46 kg)	122 lb (55 kg)
SP 700	178	7	45x64 cm		250	8,3 kg	31,1 kg
			64x90 cm		250	16,6 kg	66,2 kg
			635x965 mm	25x38 in	700	109 lb (49 kg)	156 lb (71 kg)
			584x889 mm	23x35 in	700	92 lb (42 kg)	132 lb (60 kg)
SP 800	203	8	45x64 cm		250	9,6 kg	38,6 kg
			64x90 cm		250	19,3 kg	77,2 kg
			635x965 mm	25x38 in	625	113 lb (51 kg)	181 lb (82 kg)
			584x889 mm	23x35 in	625	96 lb (44 kg)	154 lb (70 kg)
SP 1000	254	10	21x29.7 cm		500	5,2 kg	10,4 kg
			45x64 cm		250	12,0 kg	48,1 kg
			64x90 cm		250	24,0 kg	96,2 kg
			635x965 mm	25x38 in	500	113 lb (51 kg)	226 lb (102 kg)
			584x889 mm	23x35 in	500	96 lb (44 kg)	191 lb (87 kg)
			635x483 mm	25x19 in	500	56 lb (26 kg)	113 lb (51 kg)
SP 1000 TS	254	10	457x305 mm	18x12 in	500	26 lb (12 kg)	51 lb (23 kg)
			330x482 mm	19x13 in	500	29 lb (13 kg)	58 lb (26 kg)
SP 1000 SPID	254	10	21x29.7 cm		500	5,5 kg	10,9 kg
			42x29.7 cm		250	5,5 kg	21,8 kg
			45x64 cm		250	12,6 kg	50,4 kg
			210x297 mm	8.5x11 in	2000	47 lb (21 kg)	23 lb (11 kg)
			297x420 mm	11x17 in	1000	47 lb (21 kg)	47 lb (21 kg)
			457x305 mm	18x12 in	500	27 lb (21 kg)	53 lb (24 kg)
SP 1000 DIGITAL	267	10.5	46x32 cm		250	6,6 kg	26,4 kg
			457x305 mm	18x12 in	500	28 lb (13 kg)	56 lb (25 kg)
SP 1200	305	12	64x90 cm		125	14,8 kg	118,7 kg
			635x965 mm	25x38 in	425	118 lb (54 kg)	278 lb (126 kg)
SP 1400	356	14	64x90 cm		125	17,5 kg	140,0 kg
			635x965 mm	25x38 in	350	115 lb (52 kg)	329 lb (149kg)
			584x889 mm	23x35 in	350	98 lb (44 kg)	279 lb (127 kg)
SP 1400 SPID	356	14	21x29.7 cm		500	7,9 kg	15,7 kg
			42x29.7 cm		250	7,9 kg	31,4 kg
			210x297 mm	8.5x11 in	1400	47 lb (27 kg)	34 lb (15 kg)
			297x420 mm	11x17 in	700	47 lb (27 kg)	67 lb (30 kg)
SP 1400 HD	356	14	21x29.7 cm		250	4,5 kg	18,1 kg
			64x90 cm		125	20,9 kg	167,0 kg

*CD (cross direction); MD (machine direction)