COSMO FILMS
Engineered to Enhance

Cosmo Synthetic Paper

Make your paper last forever

SYNTHETIC PAPER

www.cosmofilms.com

INSIDE THE WORLD OF
SYNTHETIC PAPER

The Choice of Modern-Age Commercial Printers, Packaging & Label Convertors, Security Printers, Large Format Printers & Photo- Lab owners.

Loaded with innovative properties, it is ideal for paper applications that withstand harsh environments, such as outdoor exposure or rough handling during shipping. Synthetic paper has excellent printing capabilities, allowing high-quality graphics and text to be printed directly onto the material.

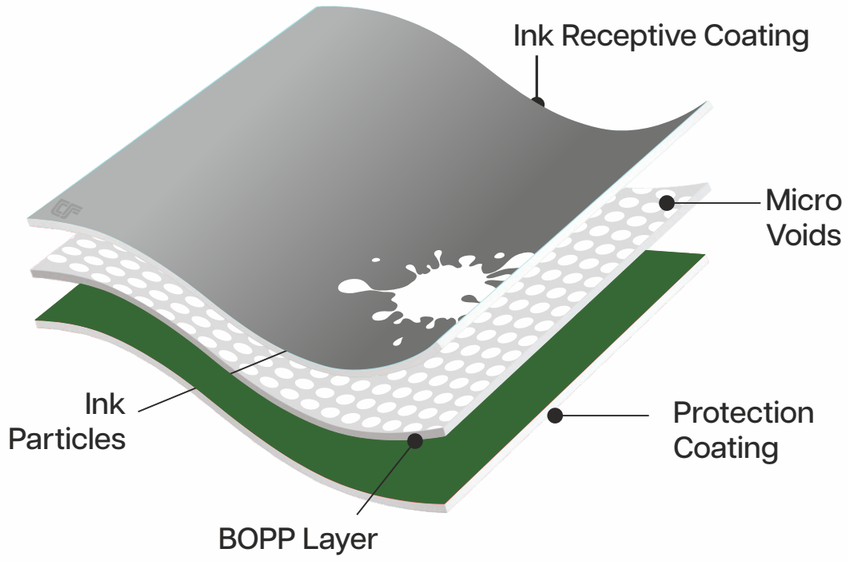
Synthetic paper offers numerous advantages for various end uses across industries, making it an increasingly popular choice among manufacturers and businesses looking for cost-effective, durable, and sustainable paper-based solutions.

CONSTRUCTION OF
SYNTHETIC PAPER

It is a co-extruded, white opaque, polypropylene based film which resembles paper in appearance. It is printable with most available printing technologies which include Conventional/Wet & UV Offset, Wet & UV Flexo, Letterpress, Screen, Thermal Transfer and Digital Printing (HP Indigo technologies & Dry Toner printing technologies).

Synthetic paper is a replacement of paper in applications where durability and longevity is desired. It is non-tearable, has moisture & chemical resistance and excellent lay flatness. The versatility of synthetic paper is reflected in the vast number of applications where it can be used. This includes areas such as commercial printing, tags & labels, retail & packaging, identification & credentials and outdoors.

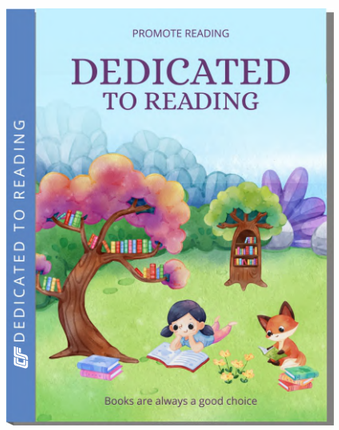
Cosmo Synthetic Paper is EU 10/2011, USFDA, REACH and RoHS compliant.



SYNTHETIC PAPER
APPLICATIONS SPECTRUM

APPLICATIONS

- Maps & Calendars
- Posters
- Coasters & Table Mats
- Hospital Folders
- Brochures & Leaflets
- Photo Albums
- Menu Cards
- Children's Books & Religious Books



Recommended Microns: 120-430

TAGS & LABELS

APPLICATIONS

- Food & Pharma Packaging Labels
- Electronic Appliances Labels
- Apparel & Footwear Tags/Labels
- Chemical Drum Labels
- Paint & other Container Labels
- Construction Site Stickers
- Warning Labels on Appliances
- Airport Transfer Tags
- Wristbands
- Track & Trace Labels
- Steel Bar Tags

Recommended Microns: 75-430

RETAIL & PACKAGING

APPLICATIONS

- POP Graphics
- Posters
- Indoor Billboards
- Banners
- Backlit Displays
- Shelf Talkers
- Danglers
- Shelf Labels
- Carry Bags

Recommended Microns: 175-430

IDENTIFICATION & CREDENTIALS

APPLICATIONS

- Visiting Cards
- Healthcare & Insurance Cards
- Marksheets & Certificates
- Birth Certificates
- Membership Cards
- Driver's License
- Voter ID Cards
- Legal Documents

Recommended Microns: 75-430

OUTDOORS

APPLICATIONS

- Tree Tags
- Storefront Displays
- Bus Shelter Displays
- Cattle Identification Tags
- Frontlit & Backlit Displays
- Horticulture Identification Tags
- Outdoor Billboards, Banners & Posters
- Train Station & Airport Signages & Displays
- Displays & Advertisements on Public Transport Vehicles

Recommended Microns: 175-430

GRADES & PRINTING MATRIX (PRINTING METHOD COMPATIBILITIES)

Grade-1 **CSPS-2 (M)**	Standard Synthetic Paper (Uncoated)	Available Sizes: Maximum Width (Sheet) 1750mm Maximum Width (Reel) 1750mm

Available Thickness:

Microns	95	120	150	175	195	215	275	330	375	430
GSM	69	88	106	127	140	155	202	231	266	305

PRINTING MATRIX: Ideal for Conventional/Traditional Offset Printing & Screen Printing

Grade-2 **CSPR-2 (M) TC**	Top Coated Synthetic Paper	Available Sizes: Maximum Width (Reel) 1550mm

Available Thickness:

Microns	95	120	150	170	190	210
GSM	72	98	109	123	136	146

PRINTING MATRIX: Conventional & UV Offset | Water & UV based flexo | Screen | Thermal transfer with wax ribbons, Wax Resin and Resin ribbons | Letter Press | UV Inkjet | HP-Latex

Grade-3 **CSPR-2 (M) BTC**	Both Side Coated Synthetic Paper	Available Sizes: Maximum Width (Sheet) 1550mm Maximum Width (Reel) 1550mm

Available Thickness:

Microns	95	125	150	175	200	205	250	275	305	330
GSM	83	95	109	132	146	153	183	197	211	234
Microns	356	380	406	435	510					
GSM	243	262	287	299	345					

PRINTING MATRIX: Conventional & UV Offset | Water & UV based flexo | Screen | Thermal transfer with wax ribbons, Wax Resin and Resin ribbons | Letter Press | UV Inkjet | HP-Latex

Grade-4 **CSPR-2 (M) FLEXI**	Both Side Coated High Tear Resistance Synthetic Paper	Sizes: Maximum Width (Reel) 1550mm

Available Thickness:

Microns	125	150	200	250
GSM	126	146	198	246

PRINTING MATRIX: UV offset | Water & UV Flexo | Thermal Transfer (TTR) | High Tear Resistance for durable tags and labels | Compatibility for Die Punched, Perforated and sewing.

Grade-4 **CSPR-2 (M) HR BTC**	Both Side Coated Laser Printable Synthetic Paper (Natural Shade)	Sizes: Maximum Width (Sheet) 1550mm Maximum Width (Reel) 1550mm

Available Thickness:

Microns	125	150	200	280	305	335	360
GSM	130	164	227	325	371	397	423

PRINTING MATRIX: Suitable for Powder toner technology like Xerox, Konica Minolta,Kodak, Canon etc. Conventional & UV Offset | Printable on both side printing | Water & UV based flexo Screen | Thermal transfer with wax ribbons, Wax Resin and Resin ribbons | Letter Press UV Inkjet | HP-Latex .

CSPR-2 (MW) BTC	Both Side Coated Laser Printable Synthetic Paper (White Shade)	Sizes: Maximum Width (Sheet) 1550mm Maximum Width (Reel) 1550mm

Available Thickness:

Microns	150	175	200	230
GSM	164	201	227	251

PRINTING MATRIX: Suitable for Powder toner technology like Xerox, Konica Minolta,Kodak, Canon etc. Conventional & UV Offset | Printable on both side printing | Water & UV based flexo Screen | Thermal transfer with wax ribbons, Wax Resin and Resin ribbons | Letter Press UV Inkjet | HP-Latex .

COSMO SYNTHETIC PAPER

Die Cutting

Before going for die cutting, following points need to be taken into consideration:

- Blades to be used should be sharp enough and free from nicks
- Avoid right angles & sharp corners as it may cause tearing
- Right angle cuts should be made with a 1/16th inch radius hole Use double beveled blade

Hot Foil Stamping

CSP is suitable for hot foil stamping

Folding

Though folding is possible to be done on CSP, scoring is recommended for better results

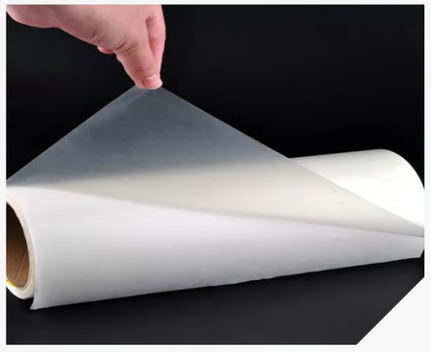
To achieve flatness after folding, it is recommended to keep CSP under nipping for minimum 30 minutes

Punching

It is possible to be done on CSP but to obtain best results, it is recommended to use round holes rather than square shaped as they may lead to tearing

Perforation

It is recommended to use ≤ 0.5 mm tie (joint between two cuts) and the cut portion should be ≥ 2.0 mm to avoid any wander. Optimum pressure should be applied on the die for seamless cutting



Adhesive Compatibility & Lamination

It is recommended to use hot melt adhesive or any other suitable high tack adhesive for bonding with CSP. It is suitable for thermal lamination process

Guillotining

While doing guillotining on CSP, ensure that the blades are sharp and clean

PRINTING RECOMMENDATIONS FOR CSP

Offset Printing

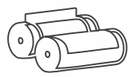
Printing on CSP by offset printing method requires certain care. This is so because the mechanism of ink drying on normal paper follows absorption as well as oxidation on the surface but on CSP, the ink dries due to surface oxidation only. Hence, drying takes a longer time as compared to art paper/card. Generally, when the material does not dry fast, it gives rise to ink set off problems. Therefore, special care must be taken to ensure quick drying to avoid ink set off. The following are some of the precautions to be taken care during printing process:

- Pre-Print Stacking- Stacking of more than 3000 sheets is not advisable.
- Adequate air conditioning is recommended before initiating the printing process.
- Vacuum should be reduced to avoid suction marks
- Printing with conventional inks on CSP is possible, but it takes more time for drying
- Fast drying Ink Must be used to Print CSP
- Printing Ink must be Ideal for both side printing
- UV curable inks are also Compatible to Print on CSP
- Dampening System- Keep dampening level to the minimum. Too much dampening will emulsify the ink
- pH Level: 4.5 to 5.5 (Acidic) to avoid emulsification of inks
- Temperature Must be Maintained between 8-1o0c
- Alcohol content: 5% to 10% for faster drying of dampening water
- Delivery- Stacking is recommended up to 3 inches.

Flexographic Printing

When selecting an ink to print csp on flexo printing process, consult with the ink manufacturer. To avoid misregistration, set the tension at the lowest possible level

Adjust the settings to ensure that the paper surface temperature never exceeds 80'C, and immediately after putting the paper through the dryer, cool the surface of CSP to as close to room temperature as possible



Digital Printing Hp Indigo/Liquid Toner

To Print the CSP on the Digital Printing Machine, Few necessary steps need to be taken care off.

- Care needs to be taken for choosing the correct media selection settings
- We recommend thorough testing of the material in its intended application prior to use
- Please ensure that the sheets are conditioned to the printing environment for 24 hours before use in the room where it is intended to be printed
- To facilitate jam-free feeding, fan the required number of sheets
- Best results can be obtained at 20-25°C, 55 + 10% RH with original toners
- Proper fusing temperature and pressure to be set as per OEM's (Original Equipment Manufacturer) recommendations
- Lamination after printing is advisable for extended print life. The lamination film must be checked for compatibility with the media

Thermal Transfer (TTR)

Thermal transfer printing is a process that uses heat to create an impression on the print media. It uses a carbon ribbon that upon heating is moved to the substrate.

- Top coated and both sides coated CSP is compatible to be printed through thermal transfer printing.
- It's recommended to season the print stock at least for 8 hours before using it for printing.
- It is recommended to check suitable speed and energy combination while printing with different ribbons (wax resin/resin ribbons)
- Compatible Resin Ribbons are Ricoh B110CR, Armor AXR 7+, Mastercorp TTR 2400 & Compatible Wax Resin Ribbons are Ricoh B110A, Armor AXR FH 7+

Digital Laser Printing (Dry Toner)

Laser printing is an electrostatic digital printing process. It produces high-quality text and graphics and moderate-quality photographs by repeatedly passing a laser beam back and forth over a negatively-charged cylinder called a "drum" to define a differentially-charged image. The drum then selectively collects electrically-charged powdered ink toner, and transfers the image to paper, which is then heated to permanently fuse the text, imagery, or both, to the paper. As with digital photocopiers, laser printers employ a xerographic printing process.

- Do proper fanning of sheets prior to load in tray
- It is recommended to involve the service engineer for media Settings
- If require adjust image transfer current to get good quality print result
- Please ensure proper earthing of the machine
- Suggested to use external static eliminator device for higher productivity
- Maintain room temperature in between 20 - 25 °c & relative humidity 55 % ± 10%

REIMAGINE A WORLD OF PRINTING WITHOUT CONVENTIONAL PAPER

WHY CSP

Print Process		CSPR-2 (M)	CSPR-2 (M) TC	CSPR-2 (M) BTC	CSPR-2 (M) HR-BTC	CSPR-2 (MW) BTC	CSPR-2 (M) FLEXI
Conventional Offset		Yes (Recommended to use fast curing inks for best results)	Yes	Yes	Yes	Yes	No
UV Offset		No*	Yes	Yes	Yes	Yes	Yes
Flexography (Water based inks)		No	Yes	Yes	Yes	Yes	Yes
Flexography (UV based inks)		No	Yes	Yes	Yes	Yes	Yes
Screen		Yes	Yes	Yes	Yes	Yes	No
Thermal Transfer (TTR)							
Compatible Ribbons							
Resin	Wax Resin	No*	Yes	Yes	Yes	Yes	Yes
Ricoh B110CR	Ricoh B110A						
Armor AXR 7+	Armor AXR FH 7+						
Mastercorp TTR Z400							
Printing compatible even with local brands (Resin and Wax-Resin ribbons). It is recommended to check suitable speed and energy combination while printing with different ribbons (wax resin/resin ribbons) for optimum results.							
Letterpress		No	Yes	Yes	Yes	Yes	No
HP Indigo 3000, 5000 and 7000 ser, 10000 &12000		No	Yes	Yes	Yes	Yes	No
Water & Solvent based Inkjet		No	No	No	No	No	No
UV Inkjet (HP Scitex FB 550)		No	Yes	Yes	Yes	Yes	No
HP - Latex		No	Yes	Yes	Yes	Yes	No
Laser Printer (Dry Toner) production printers Xerox,Konica Minolta, Ricoh, Kodak, Canon		No	No	No	Yes	Yes	No

CSP - Cosmo Synthetic Paper TC - Top Coated BTC - Both Side Coated MW - More White HR - High Resistance

NO*-It can be printable, customer need to do satisfactory print trial.

RECYCLE

Cosmo Synthetic paper is made of polypropylene and is therefore 100% recyclable in category 5 (PP).

REUSE

- We constantly trying to eliminate the waste generated by our production processes throughout the ensure production.
- Production waste is granulated and recycled in our production processes.
- The waste which cannot be reused in our process is collected by a recycling company to be reprocessed as raw materials for other plastic items.

ENVIRONMENT FRIENDLY

- Cosmo synthetic paper has no impact on forest resources it is 100% Tree Free.
- The Cosmo manufacturing process uses very less water than traditional paper production, thus preserving water resources.
- No toxins or heavy metal used manufacturing process.
- In addition to complying with the ISO 14001:2015 EMS standards.

OUR STORY

Cosmo Films is one of the businesses of Cosmo First Limited with more than 42 years into existence. Cosmo First Limited has diverse businesses including Cosmo Films, Cosmo Speciality Chemicals (Coatings, Adhesive, Masterbatches and Textile Chemicals), Cosmo Plastech (temper proof containers), Cosmo Sunshield (Window & Security Films), Zigly (D2C omnichannel Petcare brand) and Philanthropic arm Cosmo Foundation.

With manufacturing units in India & Korea and warehousing in different parts of the World, Cosmo Films is a global leader in offering specialty BOPP, BOPET & CPP films for Sustainable Packaging, Labels (shrink wrap, face stock films, labels for injection moulded containers and wrap around), Lamination (thermal and wet lamination), Synthetic Paper, and various industrial applications. The company has been at the forefront of developing customer-centric solutions to deliver the finest product and service experience, backed by innovation, people, and processes.

Infrastructure	Certifications
9 BOPP Production Lines*	ISO 9001: 2008
1 BOPET Line	Quality Management System
2 CPP Lines**	BRC/IOP
8 Extrusion Coating Lines	Product Safety and Hygiene
6 Gravure Coating Lines	Management System
5 Metalizers***	ISO 14001: 2004
7 Thermal Lines	Environment Management System

* 10th BOPP line to be commissioned by 2025

**3rd CPP Line to be commissioned by 2024

***2 Metalizers to be commissioned in 2023

CONTACT US

CORPORATE OFFICE
Delhi

MANUFACTURING FACILITIES
India: 3 | Korea: 1

CUSTOMER FOOTPRINTS
100 Countries

SALES OFFICES
India: 6 | US | Germany | Korea
Japan

WAREHOUSES
Canada: 1 | US: 7 | Korea: 1 | Japan: 1
Germany: 2 | Mexico: 1

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