

# COSMO SYNTHETIC PAPER

Engineered to enhance **longevity**

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

**NON-TEARABLE | EXCELLENT PRINTABILITY**  
**ENVIRONMENT FRIENDLY | OIL & WATER RESISTANT**

**INDIA | AMERICAS | EUROPE | APAC**




## Cosmo 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, RoHS compliant and ISCC certified.

Grades	Product Code	Product Description	Available Thickness	Sizes																																				
<b>CSP Classic</b> (Grade-1) <b>Available in</b> Sheet and Reel	CSPR-2/ CSPS-2 (M)	Standard Synthetic paper (Uncoated)	<table border="1"> <tr> <td>Microns</td> <td>95</td> <td>120</td> <td>150</td> <td>175</td> <td>195</td> </tr> <tr> <td>GSM</td> <td>69</td> <td>88</td> <td>106</td> <td>127</td> <td>140</td> </tr> <tr> <td>Microns</td> <td>215</td> <td>275</td> <td>330</td> <td>375</td> <td>430</td> </tr> <tr> <td>GSM</td> <td>155</td> <td>202</td> <td>231</td> <td>266</td> <td>305</td> </tr> </table>	Microns	95	120	150	175	195	GSM	69	88	106	127	140	Microns	215	275	330	375	430	GSM	155	202	231	266	305	Maximum Width (Sheet) 1200mm Maximum Width (Reel) 1750mm												
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<b>CSP Unicoat</b> (Grade-2) <b>Available in</b> Reel	CSPR-2 (M) TC	Top Coated Synthetic paper	<table border="1"> <tr> <td>Microns</td> <td>95</td> <td>120</td> <td>150</td> </tr> <tr> <td>GSM</td> <td>72</td> <td>98</td> <td>109</td> </tr> <tr> <td>Microns</td> <td>170</td> <td>190</td> <td>210</td> </tr> <tr> <td>GSM</td> <td>123</td> <td>136</td> <td>146</td> </tr> </table>	Microns	95	120	150	GSM	72	98	109	Microns	170	190	210	GSM	123	136	146	Maximum Width (Reel) 1580mm																				
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<b>CSP Dualcoat</b> (Grade-3) <b>Available in</b> Sheet and Reel	CSPR-2/ CSPS-2 (M) BTC	Both Side Coated Synthetic paper	<table border="1"> <tr> <td>Microns</td> <td>95</td> <td>125</td> <td>150</td> <td>175</td> <td>200</td> </tr> <tr> <td>GSM</td> <td>83</td> <td>95</td> <td>109</td> <td>132</td> <td>146</td> </tr> <tr> <td>Microns</td> <td>205</td> <td>250</td> <td>275</td> <td>305</td> <td>330</td> </tr> <tr> <td>GSM</td> <td>153</td> <td>183</td> <td>197</td> <td>211</td> <td>234</td> </tr> <tr> <td>Microns</td> <td>356</td> <td>380</td> <td>406</td> <td>435</td> <td>510</td> </tr> <tr> <td>GSM</td> <td>243</td> <td>262</td> <td>287</td> <td>299</td> <td>345</td> </tr> </table>	Microns	95	125	150	175	200	GSM	83	95	109	132	146	Microns	205	250	275	305	330	GSM	153	183	197	211	234	Microns	356	380	406	435	510	GSM	243	262	287	299	345	Maximum Width (Sheet) 1200mm Maximum Width (Reel) 1580mm
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<b>CSP FlexoTuff</b> (Grade-4) <b>Available in</b> Reel	CSPR-2 (M) FLEXI 	Both Side Coated High Tear Resistance Synthetic paper	<table border="1"> <tr> <td>Microns</td> <td>125</td> <td>150</td> <td>200</td> <td>250</td> </tr> <tr> <td>GSM</td> <td>126</td> <td>146</td> <td>198</td> <td>246</td> </tr> </table>	Microns	125	150	200	250	GSM	126	146	198	246	Maximum Width (Reel) 1580mm																										
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<b>CSP DigiLux</b> (Grade-5) <b>Available in</b> Sheet and Reel	CSPR-2/ CSPS-2 (M) HR BTC	Both Side Coated Laser Printable Synthetic Paper (Natural Shade)	<table border="1"> <tr> <td>Microns</td> <td>125</td> <td>150</td> <td>200</td> <td>280</td> </tr> <tr> <td>GSM</td> <td>130</td> <td>164</td> <td>227</td> <td>325</td> </tr> <tr> <td>Microns</td> <td>305</td> <td>335</td> <td>360</td> </tr> <tr> <td>GSM</td> <td>371</td> <td>397</td> <td>423</td> </tr> </table>	Microns	125	150	200	280	GSM	130	164	227	325	Microns	305	335	360	GSM	371	397	423	Maximum Width (Sheet) 1200mm Maximum Width (Reel) 1580mm																		
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\*CSP Flexi is approved and compliant for Direct Food Applications.

NOTE : CSPR for Reels & CSPS for sheets

HP INDIGO CERTIFIED

## Commercial Printing

### Applications

- Maps & Calendars
- Posters
- Coasters & Table Mats
- Hospital Folders
- Recommended Microns: 120-510
- Brochures & Leaflets
- Photo Albums
- Menu Cards
- Children's Books & Religious Books
- Gaming Cards



## 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: 75-510



## Retail & Packaging

### Applications

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

Recommended Microns: 175-510



## Identification & Credentials

### Applications

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

Recommended Microns: 175-510



## Outdoors

### Applications

- Tree Tags
- Storefront Displays
- Bus Shelter Displays
- Cattle Identification Tags
- Frontlit & Backlit Displays
- Recommended Microns: 215-510
- Horticulture Identification Tags
- Outdoor Billboards, Banners & Posters
- Train Station & Airport Signages & Displays
- Displays & Advertisements on Public Transport Vehicles



## Benefits

- Non-Tearable - Provides excellent tear resistance for tags applications
- Waterproof & Chemical Resistance - Excellent moisture and weather resistance
- Environmental friendly - Good substitute for pulp based trees and uses no water for the manufacturing process unlike paper along with higher yield
- Ease of Convertibility - Can be die punched, folded, perforated with excellent lay flatness properties
- Excellent Printability with diverse printing processes - Conventional & UV offset, Water & UV Flexo, Thermal Transfer, HP Indigo, UV Inkjet, HP Latex and various powder toner technologies.

# 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 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 printing process as it helps in smooth feeding of sheets in the printing machine. Vacuum should be reduced to avoid suction marks
- **Inks**- The ink used for oil-based offset printing undergoes evaporative drying (first drying) and oxidative polymerization (second drying) before it is completely dry. Printing with conventional inks on CSP is possible, but it will take more time for drying

Inks used are specially designed and should have the following properties:

- I) Ink should be fast drying or quick set type
- II) Develops even surface to reduce set off
- III) Ideal for both side printing
- IV) Also compatible with UV curable inks

Ink manufacturers and their recommended brands for CSP	
Manufactures	Brands
Siegwerk	Plastic Ink
DIC India Ltd.	Plustick
Huber	Megafix
Toyo	FS Foam
Flint	Novaplast / Novavit
Sakata	HP Insta Plus

- **Dampening System**- Keep dampening level to the minimum. Too much dampening will emulsify the ink hence causing set off and poor drying. In multicolour printing, the ink may not properly transfer to the following unit due to excessive water and thus the bonding of ink may not be proper
- **Dampening Water Criteria**- Following characteristics should be maintained for good results:
  - I) Water Level: Minimum as per machine parameters to eliminate emulsification of ink
  - II) pH Level: 4.5 to 5.5 (Acidic) to avoid emulsification of inks used
  - III) Temperature: 8-10°C
  - IV) Alcohol content: 5% to 10% for faster drying of dampening water
- **Delivery**- Stacking is recommended up to 3 inch. However, it varies depending upon sheet size, amount of solid background, ink deposition, type of printing pattern, sheet size and amount of powder sprayed

## Flexographic Printing

- When selecting an ink, 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

- 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 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 Z400 & Compatible Wax Resin Ribbons are Ricoh B110A, Armor AXR FH 7+

## Digital Laser printing (Dry Toner)

- 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%

## Print Process Compatibility Matrix

Print Process	CSP Classic CSPR-2 (M)	CSP Unicoat CSPR-2 (M) TC	CSP Dualcoat CSPR-2 (M) BTC	CSP FlexoTuff CSPR-2 (M) FLEXI	CSP DigiLux CSPR-2 (M) HR BTC	CSP DigiLux-MW CSPR-2 (MW) BTC
<b>Conventional Offset</b>	Yes (Recommended to use fast curing inks for best results)	Yes	Yes	No	Yes	Yes
<b>UV Offset</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Screen</b>	Yes	Yes	Yes	No	Yes	Yes
<b>Flexography (UV based inks)</b>	No	Yes	Yes	Yes	Yes	Yes
<b>Flexography (Water based inks)</b>	No	Yes	Yes	Yes	Yes	Yes
<b>Thermal Transfer (TTR)</b>						
Compatible Ribbons						
Resin	Wax Resin					
Ricoh B110CR	Ricoh B110A	No*	Yes	Yes	Yes	Yes
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.						
<b>Letterpress</b>	No	Yes	Yes	No	Yes	Yes
<b>HP Indigo 3000, 5000, 6000, 7000 ser, 10000, 12000, 15000 &amp; 25000</b>	No	Yes	Yes	No	Yes	Yes
<b>Water &amp; Solvent based Inkjet</b>	No	No	No	No	No	No
<b>UV Inkjet (HP Scitex FB 550)</b>	No	Yes	Yes	No	Yes	Yes
<b>HP - Latex</b>	No	Yes	Yes	No	Yes	Yes
<b>Laser Printer (Dry Toner) production printers Xerox, Konica Minolta, Ricoh, Kodak, Canon</b>	No	No	No	No	Yes	Yes

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

## Converting Recommendations for CSP

### 01 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

### 02 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

### 03 Perforation

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

### 04 Hot Foil Stamping

CSP is suitable for hot foil stamping

### 05 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

### 06 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

### 07 Guillotining

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

# About Us

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 and warehousing in different parts of the World, Cosmo Films is a global leader in offering specialty BOPP, BOPET, PET G & 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.

## Installed Production Capacity

**BOPP Films:** 1,96,000 TPA  
**CSP :** 7,200 TPA  
**CPP Films:** 10,000 TPA  
**BOPET Films:** 30,000 TPA  
**PET G Films :** 14,000 TPA  
**Thermal Films:** 30,000 TPA  
**Coating Films:** 30,000 TPA  
**Metalized Films:** 41,000 TPA

## Infrastructure\*\*

**9 BOPP Production Lines\***  
**1 CSP Line**  
**2 CPP Lines**  
**1 BOPET Line**  
**1 PET G Line**  
**7 Extrusion Coating Lines**  
**6 Gravure Coating Lines**  
**6 Metalizers**

## Certifications


**ISO 9001: 2015** - Quality Management System  
**BRCGS** - Global Standard For Packaging Material System  
**ISO 14001: 2015** - Environment Management System  
**FSSC 22000** - Food Safety System Certification  
**ISCC** - International Sustainability and Carbon Certification

## Sustainable Manufacturing Practices

The Company is committed to environmentally friendly and socially responsible manufacturing processes. Cosmo strives to establish a sustainable manufacturing model by:

1. Reusability - Cosmo Synthetic paper is made of polypropylene and is therefore 100% reusable in category 5 (PP).
2. Environment Friendly - Cosmo synthetic paper has no impact on forest resources it is 100% Tree Free.
3. The Cosmo manufacturing process uses very less water than traditional paper production, thus preserving water resources.
4. Regeneration of waste/scrap material to be used as input for production.
5. Recycling of paper cores and use of plastic and aluminum cores for in-house requirements, resulting in reduced use of paper core.
6. Partnering with customers for packaging structure rationalization to reduce material consumption.

 **MANUFACTURING FACILITIES**  
India: 3

 **SALES OFFICES**  
India: 6 | US: 1 | Germany: 1  
Japan: 1 | Korea: 1

 **CUSTOMER FOOTPRINTS**  
100+ Countries

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

### CORPORATE OFFICE

Cosmo First Limited  
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Jasola District Centre  
New Delhi- 110025  
Ph: +91 11 4949 4949

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[www.cosmofilms.com](http://www.cosmofilms.com)  
[enquiry@cosmofilms.com](mailto:enquiry@cosmofilms.com)

### INDIA MANUFACTURING FACILITIES

#### AURANGABAD

B-14/8 & 9, MIDC, Waluj, Aurangabad- 431136  
Maharashtra, Ph: +91 240 6660000

#### AURANGABAD (SEZ UNIT)

AL-24/1, MIDC, Shendra Indl. Area  
Aurangabad- 431201, Maharashtra  
Ph: +91 240 6660730

### VADODARA

Vemardi Road, Village Navi Jithardi,  
Near Inox, Off N.H. No 8, Taluka: Karjan,  
District: Vadodara- 391240  
Ph: +91 2666 669669

 **COSMO FILMS**  
Engineered to Enhance