

Opal Product Family Catalogue



Image: Corrugated cartons manufactured by Opal from Opal paper products.

Thinking packaging.
Discover Opal.

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Clockwise from top left: Maryvale Mill log entry and dock, B9 paper machine, Aerial view Maryvale Mill (below) Aerial view of Botany Mill

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Welcome!

Opal's two paper mills, Maryvale Mill in Victoria's Latrobe Valley and Botany Mill in Sydney, NSW manufacture a variety of paper for packaging, envelope and printing.

In 1902, paper manufacturing commenced at Botany Mill. Over the years there have been 9 paper machines manufacturing a variety of products. The latest B9, commenced operation in 2013 and is the only paper machine remaining on the site. The state-of-the-art B9 paper machine at Opal Botany Mill annually produces more than 420,000 tonnes of Australian made, high quality 100% recycled liners and mediums. The major input into Botany Mill is post-consumer recovered paper such as Old Corrugated Containers (OCC). Most of the paper produced is converted by Opal Fibre Packaging in Australia and Opal Kiwi Packaging in New Zealand into corrugated packaging board for box manufacture. Botany's recycled paper products are renowned for their uniformity, consistency and high performance which relates to high stacking strength in the final corrugated box. The focus on uniformity from the start delivers a clean, smooth box with high print quality and consistent outstanding performance.

In 1937, Maryvale Paper Mill commenced operations in Victoria's Latrobe Valley and is now one of the largest employers in the region, producing up to 600,000 tonnes of paper each year. Maryvale mill is Australia's only manufacturer of office papers, including Reflex, and one of Australia's biggest envelope, stationery and playing card manufacturers. There are 5 paper machines operating at the Maryvale site, each machine is designed to manufacture a different range of products; M1 - Sack Kraft, M2 - MG Kraft and Recycled Papers, M3 - Fine White Papers and packaging, M4 - Kraft Liners for boxes and M5 - Fine Papers and Copy Papers.

Opal Functional Coatings in Campbellfield, Victoria complement the activities of the paper mills, with a large format extrusion laminator/ coater. This is where a variety of grades from Botany and Maryvale Mills are combined to form new products with poly and foil used as a functional barrier.

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Opal Liner Product Families

High-Performance Kraft Liner (HPKL)

AP Kraft Liner (APKL)

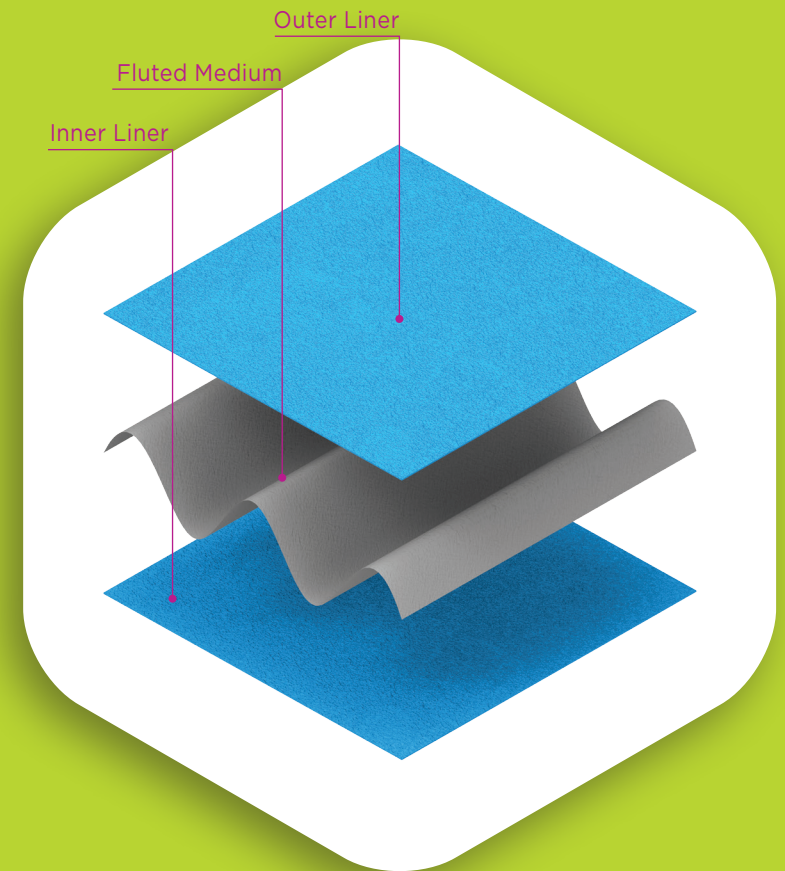
Correx Liner (Kraft Duo, KD)

Supergold

Premium Recycled Liner (PRL)

Recycled Liner (RL)

Crystal Kraft Liner (CKL)



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Characteristics

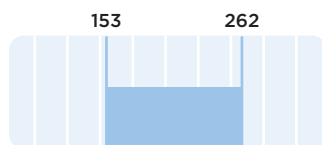
Opal.

Liner Family

Grammage

Recycled
Fibre
ContentCreep
Resistance/
High Stack
Strength1min/2min
Cobb Specs
Liner Side30min Cobb
Specs^{1, 2, 3, 4}
Liner SideBurst¹

Containment

Food
Contact
(Dry Goods)Food
Contact
(Aqueous)⁵High Performance
Kraft Liner (HPKL)

0%

✓

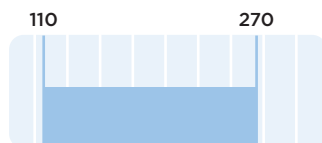
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✓

✓

✓

TBC

AP Kraft
Liner (APKL)

<20%

✓

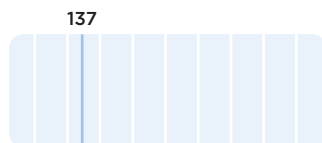
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✓

Kraft Duo



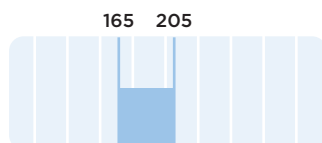
<35%

✓

✓

✓

✓

Premium Recycled
Liner (PRL)

100%

✓

✓

✓

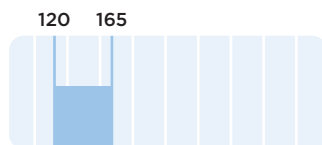
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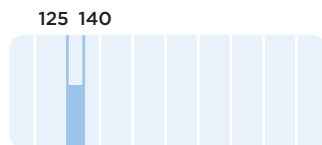
Recycled Liner (RL)



100%

✓

✓

Crystal
Kraft Liner

0%

✓

✓

✓

✓

✓

¹ Covers the Cobb and Burst requirements in AS3724. Fibreboard boxes for export of meat, meat products and offal.² Covers the 30min Cobb test requirement for Dangerous Goods packaging³ AP Kraft Liner, AP Kraft Duo and Premium Recycled Liner (PRL) is controlled to same Cobb (30 min) on the liner side of the sheet as HP Kraft Liner, but a higher absorption target on the Base side with the use of a Cobb (1 min).⁴ No back ply Cobb specification for PRL or RL.⁵ TBC (To be confirmed).

Recommended Markets

Opal.
Liner Family

FMCG
(SRP*)



FMCG*
(RSC)



Pharma



Dangerous
Goods



Bulk Bins



Fruit &
Vegetables



Protein



Frozen
Meat



Seafood



High Performance
Kraft Liner (HPKL)



AP Kraft
Liner (APKL)



Kraft Duo



Premium Recycled
Liner (PRL)



Recycled Liner (RL)



Crystal
Kraft Liner (CKL)



SRP - Self Ready Packaging

FMCG - Fast Moving Consumer Goods

Compliances



Liner Family

FSC
(Forestry
Stewardship
Council)

Chain of Custody of
Wood and Forest Products
AS 4707 (PEFC)

Quality System
AS/NZ
ISO 9001

Environmental System
AS/NZ
ISO 14001

OH&S
AS/NZ
ISO 4801

Recyclable

High Performance
Kraft Liner (HPKL)



AP Kraft
Liner (APKL)



Kraft Duo



Premium Recycled
Liner (PRL)



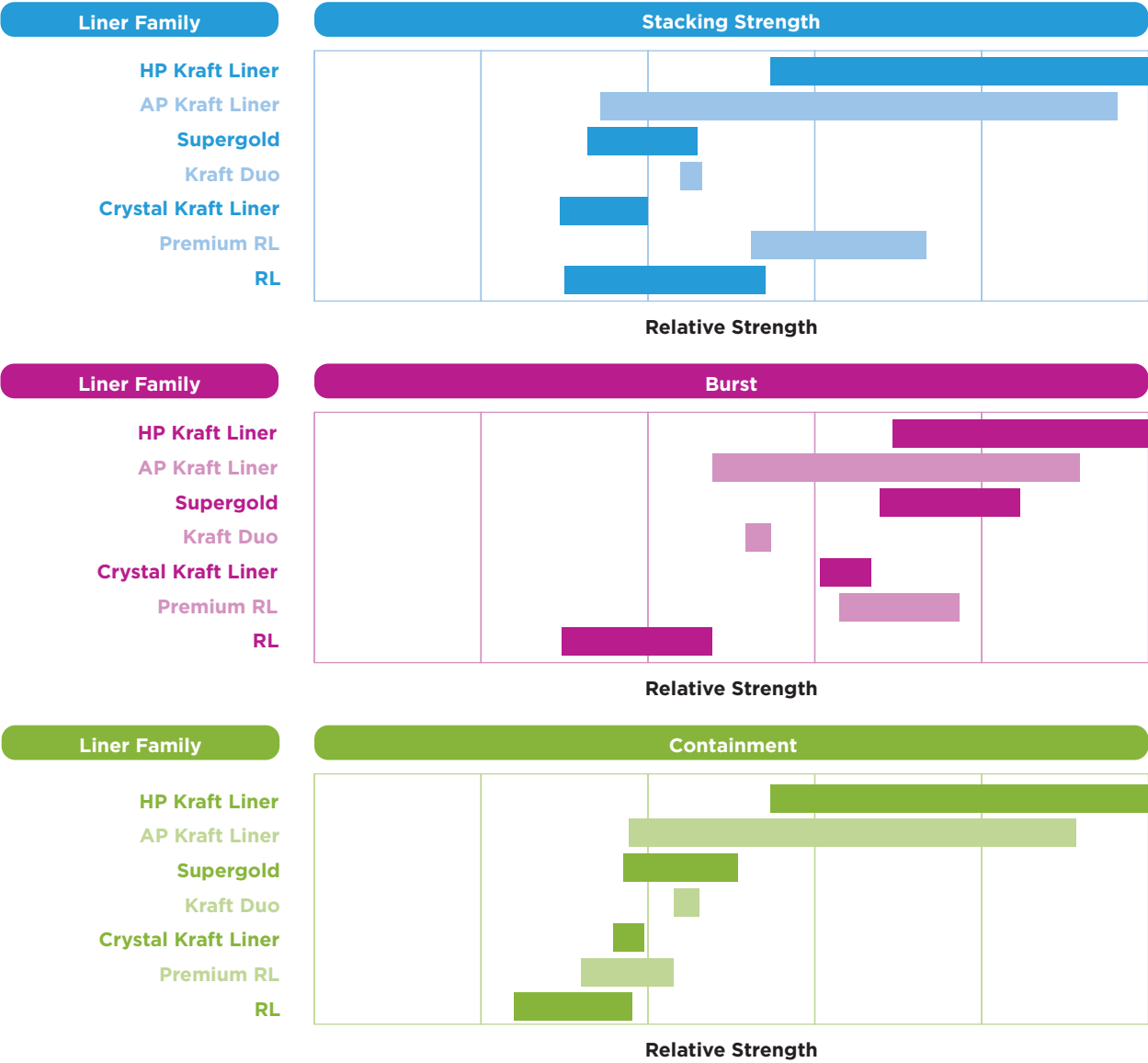
Recycled Liner (RL)



Crystal
Kraft Liner (CKL)



Relative Strength Comparison (g/m² dependent)



High Performance Kraft Liner (HPKL)



Actual Grammage

153, 178, 198, 222, 262 g/m²

Characteristics

- High performance virgin fibre blend with semi-chemical (NSSC) pulp included.
- Sustainable sources with PEFC – Chain of Custody certification.
- Superior high-humidity performance.
- Creep performance; withstands fluctuations in temperature and humidity.
- Enhanced CD Ring Crush and Short-span Compression test (SCT) for stacking performance.
- Heavy-duty.
- Long life cycle.
- Made to maximum containment and burst.
- Maximum thickness, for resistance to buckling.
- Sheet strength development through fibres, without starch addition.
- Our best liner option for all-round performance in the most demanding applications.
- Low Cobb test on both sides of sheet.

Common Applications

- Bulk bins & heavy-duty applications.
- Direct Food contact; this product is recommended as safe for use in contact with dry, non-fatty foodstuffs and foodstuffs which are shelled, peeled or washed before consumption.
- Dangerous goods.
- Fruit & vegetables.
- Produce.
- Cold chain.

AP Kraft Liner (APKL)



Grammage

110, 120, 135, 145, 165, 200, 225, 250, 270 g/m²

Characteristics

- Blend of kraft pulp, semi-chemical (NSSC) Pulp and Recycled Fibre with PEFC – Chain of Custody Certification.
- Liner ply is 100% Kraft Pulp; contains approximately 20% recycled fibre, which is added in back ply only.
- Grammages 200gsm – 270gsm are calendared for improved smoothness and printability.
- Enhanced containment over recycled grades.
- Sheet strength development through fibres, without starch addition.
- A kraft liner rich in new fibre for all-round performance.
- Increased Cobb on bonding side of sheet for corrugator conversion.

Common Applications

- Consider for use where kraft on the face is needed for dangerous goods or direct food contact (dry food, or foodstuffs peeled and washed) and box performance or long life cycle is not critical.
- Has been used in most performance applications. However, the high humidity performance will be lower than HP Kraft liner.
- Applications where higher containment is needed.

Correx Liner (Kraft Duo, KD)



Grammage

137 g/m²

Characteristics

- Blend of kraft pulp, semi-chemical (NSSC) pulp and recycled fibre with PEFC – Chain of Custody Certification.
- Liner ply is 100% Kraft Pulp; approximately 35% recycled fibre which is added to back ply only.
- Enhanced containment over recycled grades and performance in difficult conditions.
- Economical grade with virgin fibre for higher containment.
- Sheet strength development through fibres, without starch addition.
- Strength development through fibres, without starch addition.
- Increased cobb (water absorption) on bonding side of sheet for corrugator conversion.

Common Applications

- Consider for use where kraft on the face is needed for dangerous goods or direct food contact (dry food, or foodstuffs peeled and washed) and box performance or long life cycle is not critical.
- Applications where higher containment is needed.
- An alternative to premium RL.

Supergold



Grammage

110, 120, 140 g/m²

Characteristics

- A light-shaded kraft sheet.
- Contains a blend of virgin pulps.
- Single-ply sheet.
- Highly-developed burst strength.
- Restricted use due to width availability (e.g., 2 x 2200mm).
- Cost per tonne will be higher.

Common Applications

- Could be used as liner or medium.
- Direct food contact; this product is recommended as safe for use in contact with dry, non-fatty foodstuffs and foodstuffs which are shelled, peeled or washed before consumption.

Premium Recycled Liner (PRL)



Grammage

165, 205 g/m²

Characteristics

- Superior strength to other recycled liners in ambient and high humidity conditions as a result of extensive research and development.
- 100% recycled fibre.
- Clean, uniform dyed surface for printing.
- Burst and tensile >30%, Ring Crush and internal bond strength at least 15% higher than standard recycled liner at equivalent grammage.
- Consider as an alternative to HP Kraft or APKL where virgin fibre appearance is not a requirement.
- Equivalent stacking and burst strength to HP 153 and 178, respectively.
- 30min Cobb <150g.

Common Applications

- Dangerous goods.
- Fruit & vegetable.
- Protein.
- Frozen & cold chain.
- Food contact; independent testing of representative samples indicate the product complies with the guidelines of BfR Recommendation XXXVI (1st June 2019) and by association Article 3 of regulation (EC) no. 1935/2004.
- Extraction testing of this product (aqueous & fatty simulants) found that it satisfied the requirements for direct contact with aqueous and fatty food types stored at room temperature in accordance with the requirements of US FDA Code of Federal Regulation Title 21, Chapter 1, §176.170.
- Consider for any application not requiring kraft/virgin fibre but where high performance is essential.

Recycled Liner (RL)

**Grammage**

120, 135, 165 g/m²

Characteristics

- 100% recycled fibre. Minimum 70% OCC and mixed industrial. No household raw material used.
- Superior product cleanliness to other recycled competitors.
- High degree of colour uniformity, formation and printability.

Common Applications

- Shelf-ready packaging.
- Ambient/dry conditions.
- Single-use.
- Fast-moving consumer goods.
- Online sales.
- Resellers.

Crystal Kraft Liner (CKL)

**Grammage**

125, 140 g/m² (under development)

Characteristics

- A solid bleached kraft liner, with PEFC – Chain of Custody.
- Manufactured from kraft virgin fibre.
- Calendared to match the smoother finish of bleached boards for printability.
- Optimised levels of stacking strength, burst and containment.

Common Applications

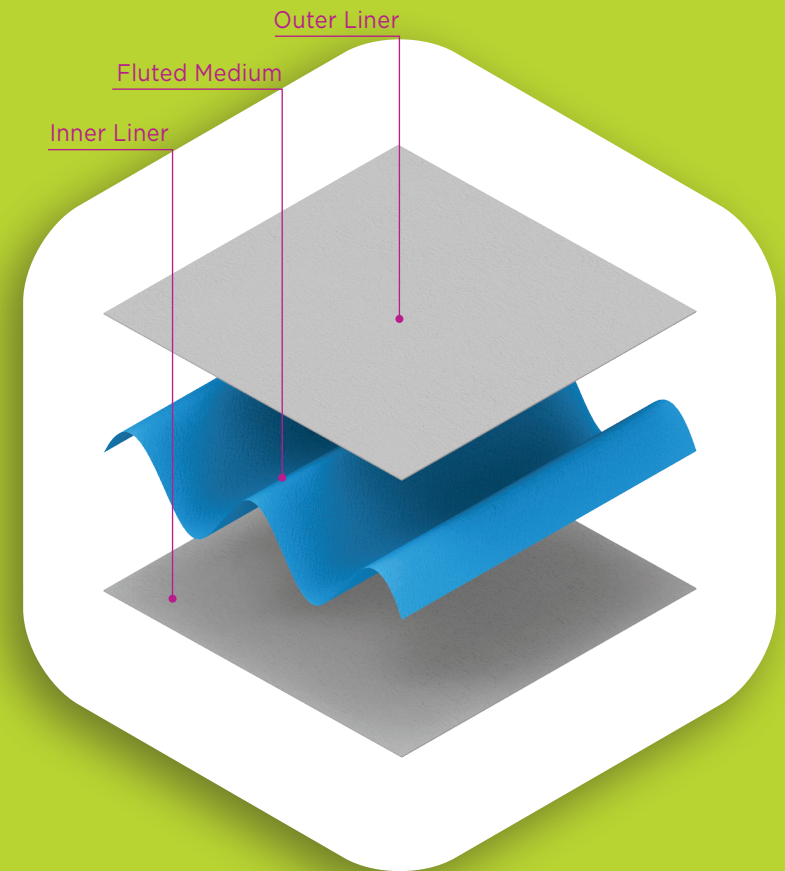
- All general applications including wine and packaging.
- Direct food contact; this product is recommended as safe for use in contact with moist, dry, non-fatty foodstuffs and foodstuffs which are shelled, peeled or washed before consumption.

Opal Fluting Product Families

Supergold

Dura-Flute Medium (DFM)

Fluting Medium (FM)



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Supergold



Grammage	110, 120, 140 g/m ²
Characteristics	• A light shaded Kraft sheet. • Contains a blend of virgin pulps. • Single ply sheet. • Restricted use due to width availability (e.g., 2 × 2200mm).
Nominal Fibre	• Virgin Kraft
Common Applications	• Properties allow it to be used as liner or medium.

Dura-Flute Medium (DFM)



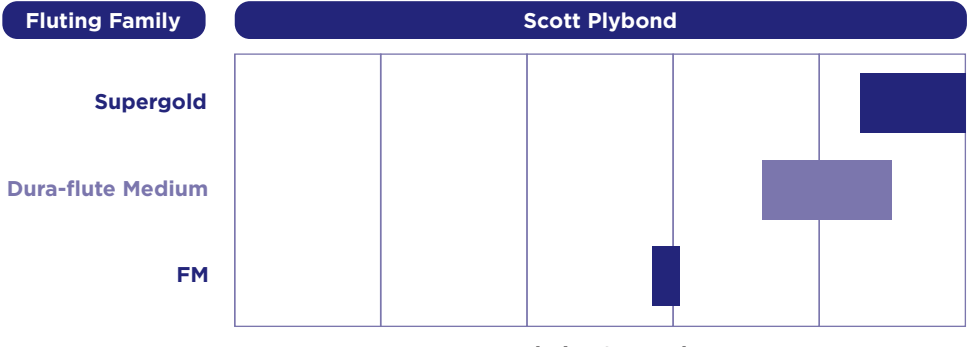
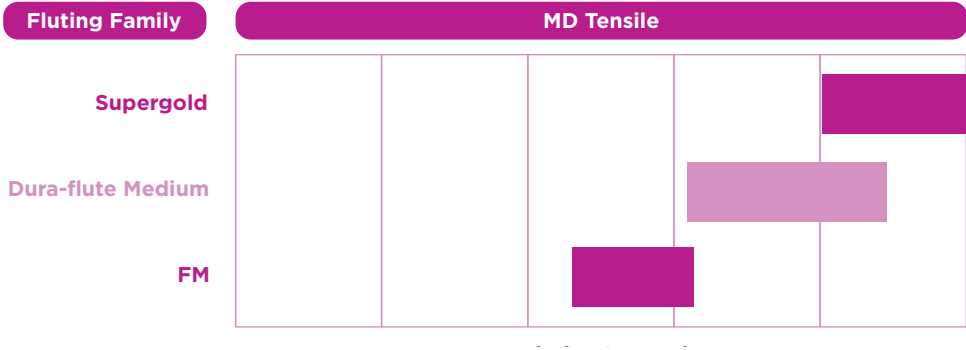
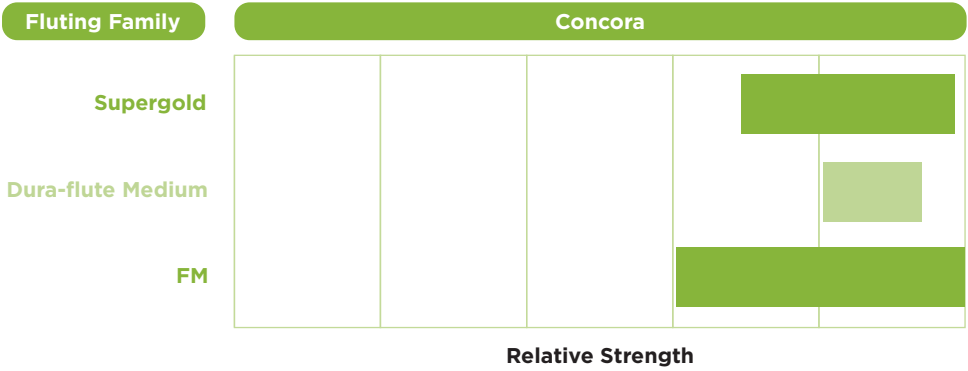
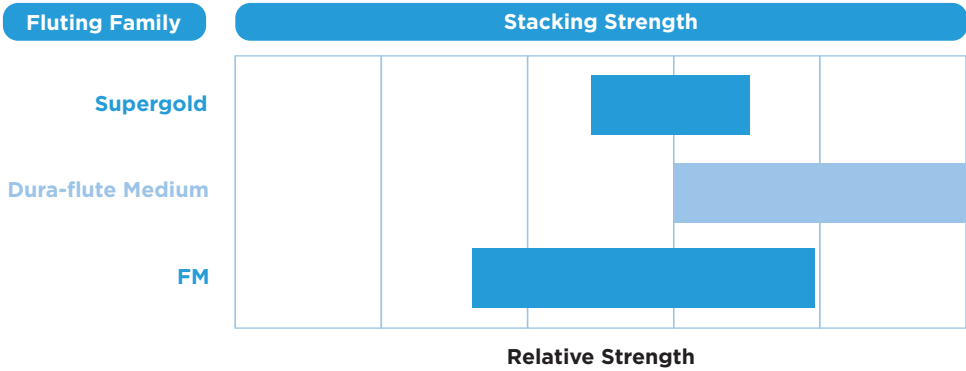
Grammage	135, 165, 185 g/m ²
Characteristics	• Superior strength to other recycled fluting mediums in ambient and high humidity conditions as a result of extensive research and development. • Potential alternative to virgin fibre semi-chem mediums designed to withstand fluctuations in temperature and humidity and long-life cycle. • Superior performance in Tensile, Ring Crush, Creep, internal Bond Strength, Concora, Containment, Hardness and MD Shear to standard fluting mediums.
Common Applications	• Fruit & produce – field packing, wax replacement. • Produce. • Cold chain. • Bulk bins & heavy duty applications.

Fluting Medium (FM)



Grammage	100, 120, 135, 150, 165, 175, 185 g/m ²
Characteristics	• Standard fluting made from 100% recycled fibre (minimum 70% OCC).
Common Applications	• Shelf-ready packaging. • Ambient or dry conditions. • Single-use. • FMCG. • Online sales. • Resellers.

Relative Strength Comparison (g/m² dependent)



Opal Functional Coatings - Lightweight Grades

Accolade MG

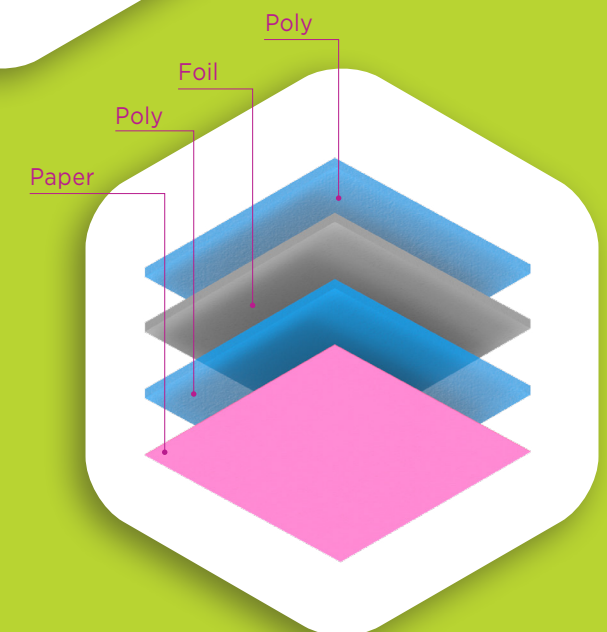
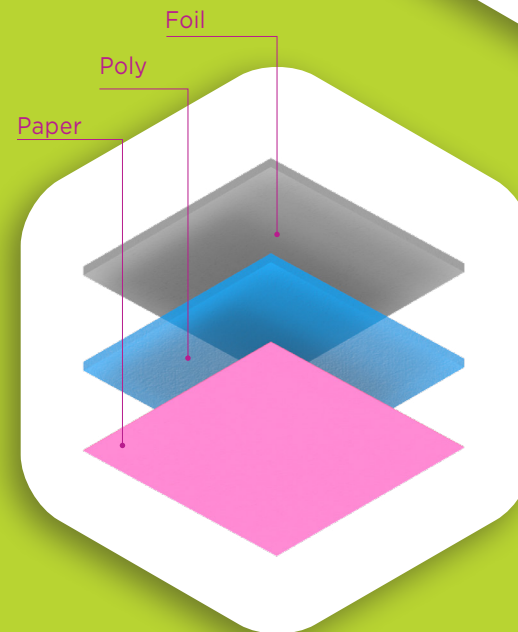
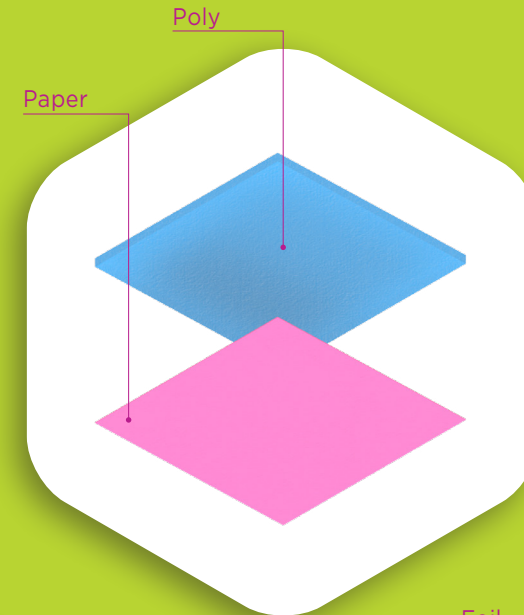
Brown Accolade MG

Primera MG

Primera CC

Chicken Foil

Hercules Wrap



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Accolade MG



Grammage

47, 53, 56, 65 g/m²

Characteristics

- Opal MG bleached lightweight kraft coated on the reverse side with polyethylene.
- Machine glaze bleached print surface.
- Poly coating for sealability & moisture barrier.

Common Applications

- Flexible packaging.
- Food sachets & wraps; powder, oats, sugar, salt, ice cream wraps, etc.

Brown Accolade MG



Grammage

45 g/m²

Characteristics

- Opal MG natural brown lightweight kraft coated on the reverse side with polyethylene.
- Machine glaze natural/brown print surface.
- Poly coating for sealability & moisture barrier.

Common Applications

- Flexible packaging.
- Food sachets; powder, oats, sugar, salt, etc.

Primera MG



Grammage

91 g/m²

Characteristics

- Opal MG bleached kraft paper laminated to aluminium foil and coated with heat-sealable polymer.
- Machine glazed bleached paper as print surface.
- Heat sealable sachet laminate requiring oxygen and moisture barrier properties.

Common Applications

- Flexible packaging.
- Premium, food grade approved sachets for dry, wet, oily & alcohol-based products.

Primera CC



Grammage

104 g/m²

Characteristics

- Imported bleached clay coated paper laminated to aluminium foil and coated with heat-sealable polymer.
- Clay coated paper with superior print surface.
- Heat sealable sachet laminate requiring oxygen and moisture barrier properties.

Common Applications

- Flexible packaging.
- Premium, food grade approved sachets for dry, wet, oily & alcohol-based products.

Chicken Foil



Grammage

64 g/m²

Characteristics

- Opal MG bleached kraft paper laminated to aluminium foil using polyethylene.
- Machine glaze bleach print surface.
- Thermal Barrier.

Common Applications

- Flexible packaging.
- Take away bags for BBQ chicken or other take away foods.
- Insulating medium in various industrial applications.

Hercules Wrap



Grammage

88 g/m²

Characteristics

- Opal offset paper coated with polyethylene.
- High whiteness, good opacity, stiffness and an excellent surface for printing.
- Moisture barrier.

Common Applications

- Ream and folio wrapper.

Opal Functional Coatings - Heavyweight Grades

Corrugate

Brown Hydroshield (HS)
Recycled Brown Hydroshield (HS)
White Hydroshield (HS)
Recycled White Hydroshield (HS)
White Claycoated Hydroshield (HS)
Binshield
Reinforced Binshield
Surefresh
Photo Surefresh
Chillfresh
Meatshield
Polyfresh
White Oceanshield
Oceanshield
Bake In Board

Cartonboard

1-Side & 2-Side Met Pet Folding Cartonboard
1-Side & 2-Side Coated Folding Cartonboard
Coated Kraft

Industrial

Construction Tube Concrete Liner
Drum Liner
Tuffply (Composite Slip Sheet)
Pallet Shield
Grip Sheet
Mill Wrap

Sack Kraft Paper

Valving Kraft



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Corrugate

Brown Hydrosshield (HS)



Grammage

175, 192, 233 g/m²

Characteristics

- Opal MG brown lightweight kraft laminated to an Opal kraft liner using a polyethylene tie layer.
- Brown print surface.
- Moisture barrier.
- 100% fibre from sustainable sources.
- High all-round performance in high humidity conditions.
- Creep performance; withstands fluctuations in temperature and humidity.
- Heavy duty.
- Long life cycle.
- Recyclable

Common Applications

- Used as either inside or outside liner (or both) of a corrugated box/tray to protect the fluting medium from moisture ingress, maintaining box strength & product integrity.
- Typically used for products in cold chain and/or high humidity environments (e.g., bananas, mangoes, avocado).

White Hydrosshield (HS)



Grammage

173, 206, 231, 275 g/m²

Characteristics

- Opal MG bleached lightweight kraft laminated to an Opal kraft liner using a white PE tie layer.
- White print surface for boxes.
- Moisture barrier.
- 100% fibre base liner from sustainable sources.
- High all round performance in high humidity conditions.
- Creep performance; withstands fluctuations in temperature and humidity.
- Heavy-duty.
- Long life cycle.
- Recyclable

Common Applications

- Used as either inside or outside liner (or both) of a corrugated box/tray to protect the fluting medium from moisture ingress, maintaining box strength & product integrity.
- Typically used for products in cold chain and/or high humidity environments (e.g., bananas, mangoes, avocado).

Recycled Brown Hydrosshield (HS)



Grammage

155 g/m²

Characteristics

- Opal MG brown lightweight kraft laminated to an Opal fluting medium using a polyethylene tie layer..
- 100% recycled in base liner
- Superior product cleanliness to other recycled competitors.
- High degree of colour uniformity, formation and printability.
- Recyclable

Common Applications

- Corrugated liners for medium moisture environment for F&P segment for light weighting heavier kraft boards.
- High moisture environment.
- Long life cartons.

Recycled White Hydrosshield (HS)



Grammage

153, 177, 188 g/m²

Characteristics

- Recycled liners laminated to bleach bag kraft with white PE barrier.
- 100% recycled in base liner. Minimum 70% OCC. No household raw material used.
- Superior product cleanliness to other recycled competitors.
- High degree of colour uniformity, formation and printability.
- Recyclable

Common Applications

- Alternatives to imported recycled white liners in F&P industrial cartons for printable lids.
- High moisture environment.
- Long life cartons.

White Clay Coat Hydrosshield (HS)



Grammage 181, 214 g/m²

- Characteristics**
- Imported bleached clay coat paper laminated to an Opal kraft liner using a white polyethylene tie layer.
 - Clay coated paper with superior print surface.
 - Moisture barrier.
 - Recyclable

- Common Applications**
- Used as outside liner of a corrugated box/ tray to protect the fluting medium from moisture ingress, maintaining box strength & product integrity.
 - Typically used for products in cold chain and/or high humidity environments (e.g., bananas, mangoes, avocado).

Binshield



Grammage 346 g/m²

- Characteristics**
- Two Opal kraft liners laminated together using a polyethylene tie layer.
 - Moisture barrier.
 - High strength.
 - Bulk product containment.
 - Recyclable

- Common Applications**
- Used as inside & outside liner of heavy-duty multi-walled bulk bins for large and/or heavy produce (e.g. melons, pumpkins, etc.).

Reinforced Binshield



Grammage 377 g/m²

- Characteristics**
- A layer of polypropylene weave sandwiched between an Opal natural sack kraft and an Opal kraft liner using polypropylene tie layers.
 - Moisture barrier.
 - High tear resistance.
 - High strength.
 - Bulk product containment.

- Common Applications**
- Liners used in heavy-duty multi-walled bulk bins for large, heavy and/or spiky produce (e.g. pineapples).

Surefresh



Grammage 177 (Black), 195 (White), 223 (Blue) g/m²

- Characteristics**
- Clear polyester film laminated to an Opal kraft liner utilising a coloured polyethylene blend tie layer.
 - Colours used: black, white, blue (Other colours available on request.)
 - High gloss, High moisture barrier.
 - Scuff & puncture resistant.
 - Recyclable

- Common Applications**
- Liners used in heavy duty multi-walled bulk bins for large/heavy/spiky produce (e.g. pineapples).
 - Liner used as one or more plies of a corrugated box/tray to protect the fluting medium from moisture ingress, maintaining box strength & product integrity.
 - Typically used for products that may have excess water on them after being packed (e.g. beans, broccoli, grapes, seafood).
 - EPS/Wax replacement.

Photo Surefresh



Grammage 193, 227, 234 g/m²

- Characteristics**
- Customised, high quality reverse printed polyester film laminated to an Opal kraft liner or imported bleach kraft liner utilising a polyethylene blend tie layer.
 - High quality print.
 - High gloss.
 - High moisture barrier.
 - Scuff & puncture resistant.
 - Recyclable

- Common Applications**
- Used as outside liner of a corrugated box/tray to protect the fluting medium from moisture ingress, maintaining box strength & product integrity whilst providing the brand owner the ability to obtain a high impact finish via print.
 - Shelf-ready presentation.
 - Mangoes, avocados, berries, cherries, bananas, seafood, etc.
 - EPS/wax replacement.

Chillfresh



Grammage

188 g/m²

Characteristics

- Metallised polyester film laminated to an Opal kraft liner with polyethylene tie layer.
- Improved thermal barrier properties.
- High gloss.
- High moisture barrier.
- Scuff & puncture resistant.
- Recyclable

Common Applications

- EPS replacement.
- Seafood & meat boxes.
- Meal box delivery service.

Polyfresh



Grammage

180 (white or blue), 218 (clear) g/m²

Characteristics

- Opal kraft liner or imported bleached kraft liner extrusion coated with clear or coloured high-density polyethylene.
- Colours used: white, blue, clear; other colours available on request.
- Moisture barrier.
- Freezer release properties.
- Colour for food safety.
- Recyclable

Common Applications

- Inside liner of frozen meat/poultry boxes and lids (typically machine erect).

Meatshield



Grammage

153, 255 g/m²

Characteristics

- Clear polyester film laminated to an Opal kraft liner utilising a clear polyethylene blend tie layer.
- Moisture barrier.
- Freezer release properties.
- Recyclable

Common Applications

- Inside liner of bulk frozen meat boxes/lids (typically hand erect).

White Oceanshield



Grammage

252, 292 g/m²

Characteristics

- Opal kraft liner extrusion coated with white polyethylene.
- Other colours available on request.
- Water resistance.
- Maintain box integrity through wet/moist supply chain.
- Recyclable

Common Applications

- Various liner combinations for creation of solid fibre Hydro-Armour™ cartons.
- EPS/wax replacement.
- Trawler seafood pack.
- Hydro-cool produce packs.

Oceanshield



Grammage 539 g/m²

- Characteristics**
- Two Opal kraft Liners laminated together with a polyethylene tie layer.
 - Recyclable

- Common Applications**
- Various liner combinations for creation of solid fibre Hydro-Armour™ cartons.
 - EPS/wax replacement.
 - Trawler seafood pack.
 - Hydro-cool produce packs.

Bake-In-Board



Grammage 155 g/m²

- Characteristics**
- Opal kraft liner extrusion coated with white polypropylene.
 - Moisture and oil barrier with higher melt point.
 - Release properties.

- Common Applications**
- Inner liner for corrugated baking cartons and trays.

Cartonboard

1 & 2-Side Coated Folding Cartonboard



Grammage 350um-700um GC1 & GC2 boards

- Characteristics**
- Folding cartonboard, polyethylene coated on the non-print surface of the board or on both surfaces of the board.
 - Moisture and oil/grease barrier.
 - Recyclable

- Common Applications**
- Frozen and non-frozen food cartons.
 - Detergent powder cartons.

1 & 2-Side Met Pet Folding Cartonboard



Grammage 350um-450um GC1 & GC2 boards

- Characteristics**
- 1-side metallised polyester film laminated to non-print surface of folding carton board, or 2-side metallised polyester film laminated to both surfaces of folding carton board.

- Common Applications**
- Take-away container lids and food cartons.

Coated Kraft



Grammage 242, 280 g/m²

- Characteristics**
- Opal kraft liner extrusion coated with polyethylene.
 - Moisture and oil barrier.
 - Recyclable

- Common Applications**
- Solid fibre folding cartons; e.g. sandwich cartons, take away food cartons, etc.

Industrial

Industrial Construction Tube Concrete Liner



- Grammage** 570, 636 g/m²
- Characteristics**
- Two Opal kraft liners sandwiched between polyester film outer skins utilizing polyethylene tie layers.
 - Puncture resistant, stiff board with moisture barrier.
 - Smooth contact surface.
- Common Applications**
- Inside liner for concrete construction tubes.
 - Flat sheet liner for concrete form work.

Drum Liner



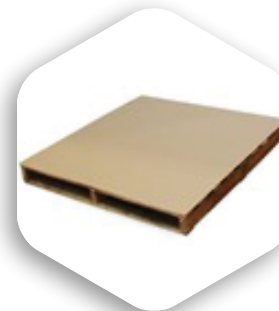
- Grammage** 192, 205 g/m²
- Characteristics**
- Polyester film laminated to Opal kraft liner using a grey polyethylene, or blue polyethylene extrusion coated onto an Opal kraft liner.
 - Puncture resistant and moisture barrier with grey polyester (drums stored externally).
 - Blue polyethylene moisture barrier (drums stored internally).
 - Recyclable
- Common Applications**
- Outside liner of convolute fibre drums.

Tuffply (Composite Slip Sheet)



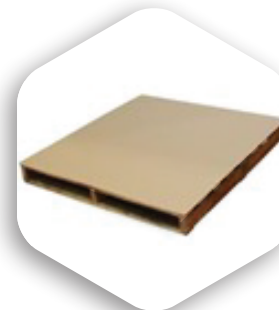
- Grammage** 335 g/m²
- Characteristics**
- Polypropylene weave material laminated to an Opal HP kraft liner with a polypropylene tie layer.
 - Excellent tear, tensile and burst strength.
 - Moisture barrier.
- Common Applications**
- Slip sheets for push-pull system.
 - Replace 100% plastic slip sheets.
 - Protective wrap.

Pallet Shield



- Grammage** 192, 233 g/m²
- Characteristics**
- Opal MG brown lightweight kraft laminated to an Opal kraft liner using a polyethylene blend.
 - Moisture barrier.
 - Recyclable
- Common Applications**
- Pallet sheets used to protect product from moisture ingress via pallet.

Grip Sheet



- Grammage** 120, 155, 282 g/m²
- Characteristics**
- Opal recycled and kraft papers, extrusion coated with grip polymer.
 - Moisture barrier with high COF.
 - Recyclable
- Common Applications**
- Pallet sheets with a grip surface to maintain shipper stability and prevent moisture ingress via pallet.

Mill Wrap



- Grammage** 238 g/m²
- Characteristics**
- Opal MG brown lightweight kraft laminated to an Opal kraft liner using a polyethylene tie layer.
 - Moisture barrier.
 - Recyclable
- Common Applications**
- Protective wrapping for paper reels.

Sack Kraft

Valving Kraft

**Grammage**

170, 210 g/m²

Characteristics

- Opal sack kraft paper extrusion coated with polyethylene.
- Sealable poly.

Common Applications

- Sonic and heat seal valves used in multi-wall paper valve bags.
- Typically used to fill food powders & cement.

Opal Australian Paper - Packaging & Industrial Paper Grades

Virgin Brown

AP Natural Kraft (APNK)
Australian Premium Kraft Sack (APSK)
Semi Extensible (SE)
SE High Porous (SEHP)
AP High Porous (APHP)
High Wet Strength Sack Kraft
APMIL MG Natural Kraft
APMIL MG Natural Insulation Base

Brown Part Recycled

APMIL MG Brown Bag Kraft
APMIL MG HWS Bag Kraft
MG Plus 70R

Virgin Bleached

APMIL MG Opaque Bleached Waxing Kraft
APMIL MG Opaque Bleached Bag Kraft
APMIL MG Bleach Laminating Kraft
APMIL MF Bleached Kraft
MF Bleached Sack Kraft
MF Bleached Bag Kraft SOS



Thinking packaging.
Discover Opal.

Opal.

Virgin Brown

AP Natural Kraft (APNK)



Machine	M1
Mill Sales Code	13154
Product Type	Flat Sack - Uncalendered
Nominal Fibre	Virgin Kraft Fibres
Grammage	65, 70, 75, 80, 85, 90, 100, 120 g/m ²
Characteristics	• Light brown colour. • Flat kraft - with traditional MD and CD stretch values. • Ideal for boutique bags.

Australian Premium Kraft Sack (APSK)



Machine	M1
Mill Sales Code	13142H
Product Type	Flat Sack - Uncalendered
Nominal Fibre	Virgin Kraft Fibre
Grammage	65, 70, 80, 90, 100, 110 g/m ²
Characteristics	• Dark brown colour. • Flat kraft - high CD TEA option for superior drop test performance. • Recommended for open mouth multiwall sacks.

Semi Extensible (SE)



Machine	M1
Mill Sales Code	13131H
Product Type	Semi Extensible - Uncalendered
Nominal Fibre	Virgin Kraft Fibres
Grammage	70, 75, 80, 85, 90, 100 g/m ²
Characteristics	• Dark brown colour. • MD stretch - 6.5%. • High levels of MD and CD Tensile Energy Absorption (TEA). • Suited for valve multiwall sacks. Note: Product is <u>not</u> high porous and sacks used for fine powders will require perforations for filling.

SE High Porous (SEHP)



Machine	M1
Mill Sales Code	13132H
Product Type	Semi Extensible - Uncalendered
Nominal Fibre	Virgin Kraft Fibre
Grammage	70, 80, 90 g/m ²
Characteristics	• Dark brown colour. • MD stretch - 6.5% with high porous. • High levels of MD and CD Tensile Energy Absorption (TEA). • High porosity eliminates the need for perforations on many sacks. • High porous improves plant hygiene (less dust).

AP High Porous (APHP)



Machine	M1
Mill Sales Code	13134H
Product Type	Extensible - Uncalendered
Nominal Fibre	Virgin Kraft Fibres
Grammage	70, 80, 90 g/m ²
Characteristics	• Dark brown colour. • MD stretch - 8% with high porous. • The elevated MD stretch raises MD and CD Tensile Energy Absorption (TEA) to our highest levels. • Two plies of 90gsm used for 50kg cement sacks when conditions allow. • High porous allows sacks to be filled at high speed without perforation and provides for a more dust free work environment.

High Wet Strength Sack Kraft



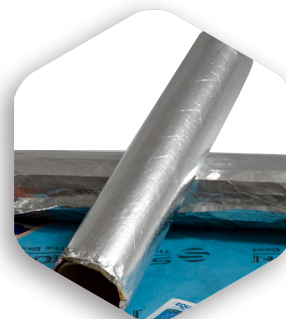
Machine	M2
Mill Sales Code	13241A
Product Type	Flat Sack - HWS - Uncalendered
Nominal Fibre	Virgin Kraft Fibres
Grammage	70, 80, 100 g/m ²
Characteristics	• Salmon colour. • Some gsm's limited availability. • Product retains 25% of it's dry burst when wet. • Ideal for potato multiwall sacks, or when conditions may be wet.

APMIL Natural MG Brown Kraft



Machine	M2
Mill Sales Code	12461
Product Type	Machine Glazed (MG) Virgin
Nominal Fibre	Virgin Kraft
Grammage	33, 35, 39, 44, 49, 57, 67, 85 g/m ²
Characteristics	• Light brown colour. • Suitable for all types of bags: flat, gasseted and self opening style (SOS). • Food contact suitable for dry, aqueous and fatty foods. • Glossy and smoother surface for improved printing and inklift.

APMIL Natural MG Insulation Base



Machine	M2
Mill Sales Code	17461
Product Type	Machine Glazed (MG) Virgin
Nominal Fibre	Virgin Kraft
Grammage	33, 39, 43/44, 49, 57, 67, 85 g/m ²
Characteristics	• Light brown colour. • Suitable for lamination to foil eg. Housing Insulation. • Food contact suitable for dry, aqueous and fatty foods. • Glossy and smoother surface for printing and ink lift.

Brown Part Recycled

APMIL MG Brown Bag Kraft



Machine	M2
Mill Sales Code	12467
Product Type	Machine Glazed (MG) Part Recycled
Nominal Fibre	~50 Recycled blend (can vary)
Grammage	35, 40, 45, 50, 60, 65, 70, 75, 80, 90, 100 g/m ²
Characteristics	• Brown colour. • Recycled content may vary. • Suitable for all styles of bags. • Low roughness on printed surface.

APMIL MG HWS Bag Kraft



Machine	M2
Mill Sales Code	12567
Product Type	Machine Glazed (MG) Part Recycled
Nominal Fibre	~30-90 Recycled fibre blend (can vary)
Grammage	40, 45, 60 g/m ²
Characteristics	• Salmon colour. • Recycled content may vary. • Suitable for bags when conditions may become wet. • Low roughness on printed surface.

MG Plus 70R



Machine	M2
Mill Sales Code	12667
Product Type	Machine Glazed (MG) High Recycled
Nominal Fibre	70% Recycled, 30% Kraft Pine
Grammage	70, 80, 100 g/m ²
Characteristics	• Brown colour. • At least 70% recycled per batch. • Manufactured from post consumer recycled and plantation pine sources. • Low roughness on printed surface.

Virgin Bleached

APMIL MG Opaque Bleached Waxing Kraft (MG OBWK)



Machine	M2
Mill Sales Code	26463
Product Type	Machine Glazed (MG) White
Nominal Fibre	Virgin Kraft Fibres
Grammage	33, 37 g/m ²
Characteristics	• Brown colour. • Designated for waxing, MG OBWK. • Maintaining high opacity after waxing. • Glossy and smoother surface for printing and ink lift. • Manufactured OBA free.

APMIL MG Bleached Bag Kraft



Machine	M2
Mill Sales Code	28461
Product Type	Machine Glazed (MG) White
Nominal Fibre	Virgin Kraft Fibres
Grammage	33, 35, 37, 44, 49, 55, 67, 80 g/m ²
Characteristics	• White colour. • 67 and 80 grammage are not standard. • For all types of bags. • Food contact suitable for dry, aqueous and fatty foods. • Glossy and smoother surface for printing and ink lift. • Manufactured OBA free.

APMIL MG Bleach Laminating Kraft



Machine	M2
Mill Sales Code	27461
Product Type	Machine Glazed (MG) White
Nominal Fibre	Virgin Kraft Fibres
Grammage	33, 35, 37, 44, 49, 55 g/m ²
Characteristics	• White colour. • Food contact suitable for dry, aqueous and fatty foods. • Manufactured OBA free.

APMIL MF Bleached Kraft



Machine	M2
Mill Sales Code	22141
Product Type	MF Uncalendared - White
Nominal Fibre	Virgin Kraft Fibres
Grammage	70 g/m ²
Characteristics	• White colour. • Food contact suitable for dry, aqueous and fatty foods. • Manufactured OBA free.

MF Bleached Sack Kraft



Machine	M2
Mill Sales Code	23141
Product Type	MF Uncalendared - White
Nominal Fibre	Virgin Kraft Fibres
Grammage	70, 80, 90 g/m ²
Characteristics	• White colour. • Limited suitability for sacks. • 80 and 90 grammage are not standard. • Food contact suitable for dry, aqueous and fatty foods. • Manufactured OBA free.

MF Bleached Bag Kraft SOS



Machine	M3
Mill Sales Code	22220
Product Type	MF Calendared - White
Nominal Fibre	Virgin Kraft Fibres
Grammage	67, 80, 90, 100, 110 g/m ²
Characteristics	• White colour. • Optimised CD Tensile Energy Absorption (TEA) for enhanced butt drop performance. • Ideal for 1-3 kg bags. • Food contact suitable for dry, aqueous and fatty foods. • No added OBA, however, product <u>is not</u> OBA Free! • Calendered smooth for improved printability.

Contacts

Paper Product Technical & Product Development

For more detailed information, product specifications, technical support and product development enquiries, please contact the paper mill personnel below.

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Custom Grade Functional Coatings

Should you require specific performance properties, materials or outcomes that are not covered by our standard product range, Opal Functional Coatings welcomes the opportunity to discuss your enquiry further and where feasible provide a suitable solution that both parties agree on.

To discuss your requirements further, please reach out to one of the following contacts at functional coatings:

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