

TECHNICAL SPECIFICATION ST-GQ-CPL14-GB

Description: Coextruded bi-coloured polypropylene corrugated sheet. The grey side is made of recycled polypropylene, the white side is made of mat white virgin polypropylene.

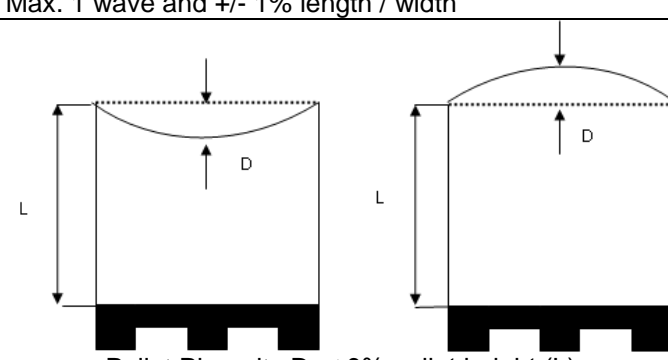
Main application: Printing, and any application for which transparency effects have to be avoided (i.e. for outdoor use).

Basic component: Copolymer polypropylene (C₃H₆)n(C₂H₄)m

Standard colours: White code BI050 on side suitable for printing; grey on the other side.

STANDARD FLUTE – Rib distance 3.5 mm								
Length (mm)		600-6000						
Width (mm)		450-2000						
Thickness (mm)		2,0	2,5	3,0	3,5	4,0	4,5	5,0
Density (g/m ²)	Min	280	400	400	600	700	850	900
	Max	400	800	1200	1500	1500	1500	1500

SEMILARGA FLUTE – Rib distance 4.5 mm								
Length (mm)		600-6000						
Width (mm)		400-2050						
Thickness (mm)		3,5	4,0	4,5	5,0	6,0	7,0	8,0
Density (g/m ²)	Min	450	500	600	650	1000	1500	1500
	Max	600	800	800	1500	2000	2000	2000

Technical Features	Acceptance Criteria
Length (mm)	+/- 1%
Width (mm)	+/- 3 mm
Diagonals difference	< 0,5% up to max 10 mm
Thickness (mm)	+/- 0,1 mm
Density (g/m ²)	+/- 10% up to 1000 g/m ² +/- 5% more than 1000 g/m ²
Master opacity level	+/- 5% by comparison with sample reference
Sheet planarity	Max. 1 wave and +/- 1% length / width
Pallet planarity	 <p align="center">Pallet Planarity D: ≤ 3% pallet height (L)</p>
Appearance	Evaluation made by the quality control personnel in comparison with the sample of reference
Coefficient of thermal expansion	Value included between 100-200 μl°/C/m

Chemical features

Main component: Polypropylene Copolymer (PP)

CPL® sheets guarantees waterproof properties and chemical resistance against the majority of alkaline products, salts solutions, solvents and heavy mineral acids at temperatures lower than 60°C. They can be on the other side etched by heavy oxidative agents, nitric acid, hydrogen peroxide and chlorosulphonic acid. Waving can be caused by a prolonged aliphatic, aromatic and chlorinated hydrocarbons etching.

Standard Additives

- Antistatic Masterbatch, base PP.
- Colour Masterbatch, base LDPE.
- AntiUV Masterbatch, base LDPE upon request.

Possible treatments – on Customer’s request when asking for quotation

1) AntiUV treatment

Additivation available upon request, in case of outdoor applications.

In order to manage correctly the product design, Customer is pleased to notify our sales departments when submitting initial request for a material to be suitable for outdoor use and/or need withstand generic UV irradiation, providing the following information:

- Type of exposition of the finished article (direct sunlight / internal / outdoors);
- Minimum requested endurance (target time) in that environment.

The interaction of chemicals such as varnishes, solvents, printing inks and cleaning agents could jeopardise the UV endurance of the finished article. Please verify the compatibility with polypropylene.

Any outdoor use of polypropylene material is made at the Customer’s own risk unless the above minimum information has been notified in writing.

Karton will not be held liable for any fault/complaint arisen due to articles that have not been specifically designed and validated (by Karton or by the Customer) for being used outdoors and protected with specific anti-UV additivation, nor Karton will be held liable for any interactions between its own manufactured products and further treatments that are not under its own responsibility.

2) Corona treatment

On the white side: Superficial tension ≥ 46 Dynes/cm (average duration 6 months). Please note that corona treatment naturally fades over time. We do recommend to store CPL® at temperatures included between 5°C and 30°C in order to maintain product features as long as possible. We recommend as a good practice to check and record corona treatment before printing process and report any anomalies to Karton technical departments. Whenever corona treatment should fade under 40 Dynes, we recommend to use a primer before processing CPL sheets. It is recommended to use inks that are dedicated to non absorbing materials. For UV – printing please ask to your ink supplier for specific technical advice.

Other processes available

• Trimming/Die cutting upon request

It is possible to trim/die cut the sheet at ambient temperature in order to improve tolerances on dimensions and/or to reduce the dimension itself.

Tolerances on dimensions guaranteed by trim/die cut will be within ± 1 mm and diagonals difference within ≤ 2 mm.

• Printing

- Flexographic print on line 1 colour on both side of the sheet. Max dimension 450 * 90 mm
- Printing out of line

Printing	Print centering	Colour centering
Positioned flexographic print, up to 5 colour (max dimensions of printing 2030*1300 mm)	± 4 mm	± 2 mm
Screen print	± 4 mm	$\pm 0,3$ mm
Digital print	± 4 mm	No overlapping

Karton would like to inform you that printing customization are water resistant in normal using conditions; safe uses can be considered i.e. advertisement vertical panels, fruit and vegetable boxes and other applications which imply only temporary contact with water. Water should be always allowed to drip and dry out prior to use. (Please see Storage instruction).

Under no circumstances our company will acknowledge claims or non conformities due to immersion of printed polypropylene articles since this is not a validated and foreseen application for our products.

Suggested product use

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- Storage at ambient temperature. Polypropylene can withstand peak temperatures included between -20°C < x < 120°C without damage.
- Working temperature range is included between : -20°C < T°C < +60°C.
- We do recommend to process CPL® sheets at temperatures included between 5°C and 30°C.
- Please allow CPL® to reach a uniform temperature of at least 15°C in each point prior to proceeding to any further processing.
- Whilst designing and converting finished articles please mind the above mentioned coefficient of linear expansion.

Regulatory Requirements

- Directive 94/62/CE and subsequent amendments
- Regulation 1907/2006/CE of 18th December 2006 (REACH).

Storage instruction

The product will be supplied with a standard packaging: wooden pallets, packed with shrinking film, strips and side corner protectors.

Please note that our standard packaging is not to be considered as "waterproof". The Customer can request specific and customized waterproof packaging (with quotation). This risk assessment remains a specific responsibility of the Customer.

Whenever material must be stored/used outdoors we do recommend to follow strictly the following advices:

- Strictly avoid stagnant water to stay over prints for prolonged time;
- Avoid storing outdoors material that is laying horizontally exposed to rainfall without adequate protection;
- Store the material vertically, in order to allow proper water drainage and dry out prior to safe use;
- Please remember always to protect the material with adequate waterproof protection such as PE film or similar.

Recyclability

Polypropylene sheets, as supplied by Karton S.p.A., are made up of a thermoplastic polyolefin 100% recyclable, via thermomechanical processes. The symbol associated to these products is 05 (PP), according to the dispositions of the Association of Plastic Industry (API).

**Technical basic supply conditions**

- Colour and flute type are specifications mutually agreed with the Customer through approval of a reference sample.
- Selling units: Sheets are intended to be sold in number of units. Possible requests in volume (Kg) are converted into pieces
- Please retain pallet label for traceability and product identification purposes.
- All the manufacturing operations and quality controls on the product are being performed at ambient temperature.

Please note that information in this document regards the product as commercialized by Karton Spa and consequently the Company cannot be held liable for any further treatment, handling or processing performed by the Customer. Please note that it is a responsibility of the end user to verify that the products are suitable for the intended use in compliance with applicable European Legislation and to verify that the products are fit for the intended technological use.

Design and validation of final articles, specific appropriateness for the end use, specific risk assessment and behaviour of this product after use and in specific conditions that are not described into this document, all must be considered intellectual property and specific responsibility of the Customer.

For further information and for any special requests:
please contact our sales office at number + 39 0434 788811.