PETG rolls
Carolear BLS80 ECO BLUE TINTED
Product Datasheet

Caroclear BLS80 Eco...
Version 6 08/04/2020

Description
Caroclear BLS80 is part of CaroGreen range made of Glycol Polyethylene Terephthalate (PETG). It is a copolymer used extensively in the packaging industry. An easier grade to thermoform compared to APET with not crystallisation issue. It has excellent clarity, coupled with the stiffness similar to Polycarbonate. It also has good gas permeation properties. Caroclear BLS 80 Eco is designed for industrial trays applications. It is a cost effective, environmentally friendly alternative to PVC more ecological and cost effective. BLS 80 Eco includes recycled PETG material. It allows more complex thermoforming shapes and is less demanding than BLS 30 ECO. Its strong points: Very good chemical resistance easy to cut with no angels hairs left.

Applications
Industrial trays

Key Features

Certification/Approvals
The following approvals are available
ISO 9001:2015 and BRC IoP standards
RoHS: European Regulation 2015/863/EC

Printing
It is not designed for printing. Please contact our sales department if printing is required.

Thermoforming
Excellent thermoforming ability that allows complex shapes or high speed without any risk of crystallisation.

Conversion
It can be welded on itself using Thermal, High Frequency or Ultrasonic methods.
It can be glued with hot melt or solvent based adhesives.

Physical properties

Properties	Unit	Standard	Method	Value
Density	g/cm^3	ISO 1183	-	1.27
Izod (Notched) Impact Strength	kJ/m^2	ISO 180	1U at 23°C	6.2
Tensile Strength	MPa	ISO 527	50 mm/min	40 - 50
Elongation at Break	%	ISO 527	50 mm/min	100-130
Modulus of Elasticity	MPa	ISO 527	50 mm/min	2000 -2200
Vicat Softening Point	°C	ISO 306	A120/oil	82
Water Vapour Transmission Rate	g/m^2/24 h	ASTM	F1249	7
Permeability CO2	cm^3.mm/24.m^2.atm	ASTM	D1434	49
Permeability O2	cm^3.mm/24.m^2.atm	ASTM	D1434	10

Product Availability

Colour
Transparent, slightly blue tinted.

Finish
Natural gloss. May contain some particulates.

Thickness
0.3 mm to 1.5 mm.

Roll Size Specifications

Gauge	Width	
	Minimum	Maximum
0.30 mm	300 mm	660 mm
0.31 to 0.80 mm	300 mm	680 mm
0.81 mm to 1.2 mm	300 mm	725 mm
1.5 mm	650 mm	730 mm

Minimum order size 10 tonnes

Available Options
AB External

Alternative Solutions
BLS 40 when a clear tint without any blue is required.

Carolex SAS

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Additional Information

General Description

PET is a thermoplastic polyester (not to be confused with unsaturated polyesters mainly used for composite structures: boats, car body parts...)

Polyester resins are extremely sensitive to humidity, and combined with high temperature conditions (> 70 °C), the polymer chains are broken down by hydrolysis.

They are different types available and a brief description of each is given below:

PET (also known as PETP and PETE)

PET can be found in two molecular states:
- Amorphous (transparent with low heat resistance).
- Crystallised (opaque with high heat resistance).

APET
Amorphous PET: Has excellent transparency due to the lack crystallisation. Ideally temperature conditions should be kept below 80 °C to prevent crystallisation.

CPET
The foil is sold amorphous but crystallises (due to the presence of a nucleating agent) in the mould while thermoforming, which can be very difficult to control. The crystallisation gives the product high temperature resistance and high stiffness.

PETG
This is a copolyester (grafted with a second glycol) that has the advantage of being completely amorphous and never crystallises.

Thermoforming

To keep the clarity of APET, over heating the sheet must be avoided. Typical sheet temperature of 120 °C to 165 °C, for shortest time possible. Typical mould temperature is around 55 °C to 65 °C. Cold moulds will prevent the material from stretching uniformly.

Chemical Resistance

APET shows a good resistance to aqueous solutions of salts, acids and alkalis. It also has good resistance to most solvents, alcohols, fats and oils, although very limited resistance to ketones.

Manufacturing Tolerances

The tolerances below should only be used as a general guide, as embossing and temperature can have an influence.

SHEET GAUGE	Up to 0.20 mm	0.21 to .40 mm	0.41 to 1.00 mm	1.01 to 1.20 mm	1.21 to 1.50 mm
GAUGE	± 10 %	± 7 %	± 4 %	± 3 %	± 3 %
WIDTH	± 1 mm	± 1 mm	± 1 mm	± 1 mm	± 1 mm

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