

EASTLON PET CB-602 (CLEAR)

PHYSICAL PROPERTY DATA SHEET

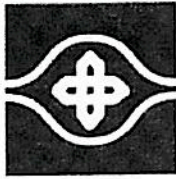
Product Name : EASTLON PET CB-602
 Chemical Name : Poly (Ethylene Terephthalate - Isophthalate)
 Formula : $(\text{OCOC}_6\text{H}_4\text{COOCH}_2\text{CH}_2)_n$
 Manufacturer : FAR EASTERN NEW CENTURY CORPORATION
 33F No. 207 Sec 2 Tun Hwa S. RD Taipei Taiwan
 TEL: 886-2-27338000 FAX : 886-2-27368304
 Version : DEC 2013

Property, Units	Test Method	Value
Density, g/cm ³	ASTM-D-1505	1.40
Bulk Density, lb/ft ³ (kg/m ³)	ASTM-D-1895	49 (785) 54 (870)
Poured		
Vibrated		
Melt Density, @285°C, g/cm ³	-	1.2
Molecular Number average (Mn)	-	28,000
Molecular Weight average (Mw)	-	42,000
Intrinsic viscosity *	ASTM-D-4603	0.80 ± 0.02
Crystallinity, %	-	> 45
Crystalline Peak Melting Point, °C	ASTM-D-3418	250 ± 5
Heat of Fusion, cal/g (j/kg)	DSC	14 (58 * 10 ³)
Thermal Conductivity, Cal/cm°C. S(W/m.k)	ASTM-D-177	6.5*10 ⁻⁴ (0.27)
Acetaldehyde, ppm	Celanese-Method	< 1.0
Diethylene Glycol, % by wt.	-	1.3 ± 0.2
Pellets Weight, g/100 grains	-	1.5 ± 0.2

* Eastlon PET CB-602 is a condensation polymer produced from pure terephthalic acid (PTA), isoterephthalic acid (IPA) and ethylene glycol (EG) using a continuous polymerization.

* Packing : 1,100 or 1,050kgs in PP woven bag with PE interlining.
20bags in one 20 feet container.

* Properties reported here are typical of average lots.
FENCC makes no representation that the material in any particular shipment will conform exactly to the values given.



NAN YA PLASTICS CORPORATION, AMERICA SOUTH CAROLINA PLANT

140 E BEULAH ROAD, LAKE CITY, SOUTH CAROLINA
P.O. BOX 939, LAKE CITY, SC 29560
TEL 843-389-7800 FAX 843-389-6894

Tairilin Chip General Specifications

Specification: CNGFA080
Description: A-grade Bottle Resin
Lot No: AA20

Property	Unit	General Specification	Test Method
A. IV (Intrinsic Viscosity)	dL/g	0.800 ± 0.02	NALC-QC-104
B. Color 1. L, Luminance 2. b, Yellowness		84.0 ± 3.0 -2.0 ± 3.0	NALC-QC-106
C. Melting Point	°C	246 ± 3	NALC-QC-115
D. Acetaldehyde Content	ppm	< 1.00	NALC-QC-410

1. Nan Ya PET resin complies with the U.S. FDA Code of Federal Regulations Title 21 part 177.1630 and EC Directive 2002/72/EC with respect to its use for food contact applications.

2. Typical drying conditions:
Maximum acceptable moisture level: 40ppm
Drying air temp: 160-180°C
Drying air dew point: < -40°C
Drying residence time: 4 - 6hours

3. Typical molding conditions:
Barrel temperatures: 275-285 °C

The conditions stated above are typical but not specific. Individual machine conditions will vary from machine to machine.



PET RESIN PQS MW

This resin targets the bottled water market but is also suitable for any product that needs superior clarity and gloss. Quality and stability allow molding in wide processing windows and designing lightweight containers. PQS MW is a copolymer resin formulated to provide extra clear containers with low acetaldehyde level and superior performance in the production of performs and bottles.

PACKAGING APPLICATIONS

- . Still water
- . Beverages
- . Edible oil
- . Food packaging
- . Pharmaceuticals
- . Cosmetics
- . Household cleaning products

Product Specification

PARAMETER	UNIT	SPECIFICATION	TEST METHOD
Intrinsic Viscosity	dl/g	0.80 ± 0.2	ASTM D 4603
Color L*	—	Min. 87.5	HunterLab Colorimeter
Color b*	—	Max. 0	
Melting Point	°C	250	DSC
Acetaldehyde	ppm	Max. 1	GC
Fine Particles	ppm	Max. 100	Gravimetric

Commercial Office
 Av. José Souza Campos, 243 – 10ª floor
 ZIP: 13087-755 – Cambui
 Campinas/SP Phone: +55 19 3343.5200

Industrial Site
 Road PE 60, km 10 – Zona Industrial 3B,
 ZIP: 55590-000 - Suape
 Ipojuca/PE Phone: +55 81 3311.4500



PREFORMANCE[®] PET 1708CC

DESCRIPTION

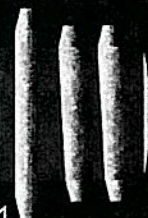
PREFORMANCE[®] PET 1708CC is a food grade PET copolymer that is suitable for a wide variety of beverage and juice containers as well as many other custom containers. It is engineered for heat-set applications and offers exceptional clarity and color. The low acetaldehyde content in the resin helps eliminate any impact on aroma and flavor.

PREFORMANCE[®] PET 1708CC resin is considered safe for food packaging applications based upon compliance with FDA Regulation 21 CFR Section 177.1630 and USP 661 specifications. 1708CC also has a Drug Master File registered with the FDA.

WARRANTY

Starpet Inc. warrants that its products will comply with the specifications and related regulatory compliance detailed in its publications. No other warranty, either expressed or implied regarding the suitability of the product for any particular purpose is made. The Buyers are expected to make their own determination about the safety, health, environmental protection and suitability of use for their intended purpose. No warranty is made of the merchantability or fitness of any product, and nothing herein waives any of the Seller's conditions of sale.

July 15, 2010



PREFORMANCE[®] PET 1708CC

SALES SPECIFICATION

Polyethylene Terephthalate (PET) Resin

Property	Value	Starpet Method
Intrinsic Viscosity (dl/g)	0.80 ± 0.02	QSWI 8.2.4.101
Color, CIE L* b*	85 ± 2.5 -1.0 ± 2.0	QSWI 8.2.4.104
Acetaldehyde (ppm)	≤ 1.0	QSWI 8.2.4.114
Bulk Density (lbs/ft ³)	56	QSWI 8.2.4.150
Dust (ppm)	≤ 300	QSWI 8.2.4.132
Moisture (wt. %)	≤ 0.25	QSWI 8.2.4.112
Contaminants/Black Specs	None	-----

Note

Please note that PET is hygroscopic and the moisture content can go up from the reported value during storage and transit. Also, please note that the dust value is as packed.

July 15, 2010

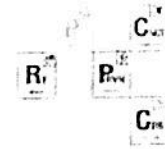
台南紡織公司太子廠
TAINAN SPINNING CO., LTD. TAITZ PLANT

瓶片酯粒規格表

Specification of bottle chip

批號 BT280 規格 A級
Lot No Article

No	檢驗項目	管制界線	備註
1	特性黏度 (IV)	0.80±0.02	
2	羧基(meq/kg) (-COOH)	< 35	
3	b值 (b value)	-2.0±2.0	
4	熔點(°C) (M. P)	246.5±3.0	
5	乙醛(ppm) (AA)	< 1	
6	粒重(g/100粒) (g/100 chips)	1.6±0.2	
7	L值 (L value)	84±2	
8	含水率(%) (Water Content)	< 0.4	



782895 Light Amber PET MB

Product Information

Physical Properties

Carrier Resin

Type	PET
I.V.	.84

Concentrate

Specific Gravity	1.43	
Colorant	24%	(nominal)

Regulatory Status

Due to the wide range of applications for this product regulatory information cannot be covered adequately in a technical datasheet.
Please contact Regulatory.Global@ampacet.com for regulatory information.

Comments

The amount of masterbatch depends on the performance requirements of the final application. This product is primarily designed for blow molding applications.

Date of Issue: 5/11/2010

The information and recommendations contained in this document are based upon data collected by Ampacet and believed to be correct. However, no warranty of fitness for use or any other guarantees or warranty of any kind, express or implied, is made to the information contained herein, and Ampacet assumes no responsibility for the results of the use of products and processes described herein. No liability whatsoever shall attach to Ampacet for any infringement of the rights owned or controlled by a third party in intellectual, industrial or other property by reason of the application, processing or use of the aforementioned information or products by the buyer. This is an uncontrolled document.



Product Data Sheet

Product Reference: CC01055258P2
Production Description: TRSP. AMBER
Customer Reference:

Properties/Test Description	Reference	Unit	Target Value	Lower Tolerance	Upper Tolerance
Density, Weight Per Gallon (lbs/gal)	Internal	lbs/gallon	9.70	9.20	10.20
Dispersion press test	Internal		Pass/Fail		
Visual Opacity	Internal		Pass/Fail		
Color, Visual	Internal		Pass/Fail		
Bvisc, RV SPD #6 @ 20 RPM @ 72°F	Internal	cps	8000	5000	11000
D65 10 Deg LAV SI DE-CMC	Internal			.00	1.00

Lab Manager:

Date: 01/06/2017

It is our understanding that the above mentioned concentrate is used in an unaltered form, and within the appropriate processing options. The information submitted is based on our current knowledge and experience. In view of the many factors that may affect processing and application, this data does not relieve processors from the responsibility of carrying out their own tests and experiments, neither does it imply any legally binding assurance of certain properties or of suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislations are observed.



66N4452
Masterbatch / Color Concentrate
Technical Data Sheet
(Typical Properties)

Product Description: [Amber] masterbatch for PET beverage containers.
Suitable for one and two stage blow molding

Color Name:	Amber
Batch Number:	L0113020147
% Carrier Resin:	55 +/- 10%
Melting Point (DSC C°)**:	215°C +/- 7%
Dosing Rate (%):	0.45%
Pellet Size:	1/16" Strand-Cut Pellet
FDA Status (21 CFR):	Raw materials used in this formulation are listed in 21 CFR. See note*
Heavy Metals (CONEG):	This product was not formulated with Heavy Metal ingredients.

* A letter of compliance can be provided by Penn Color's Regulatory Department upon request. However, be advised it is the responsibility of the user of this product to ensure compliance with all regulations that may impact their final product.

**Test Method: Equilibrate 40°C, Ramp 10.0°C/min to 300°C, Gas: Nitrogen, Pan: Tzero aluminum

The performance of Penn Color's dispersions may vary due to the composition and applications of the final products in which they are used. It is therefore essential that they be thoroughly tested in their intended application prior to commercialization. Penn Color does not make any warranties with the respect to the merchantability or fitness for a particular purpose of any samples provided. Fitness for use must be determined and verified by the finished product formulator and will not be the liability of Penn Color. The sample which you requested is proprietary to, and contains confidential information of, Penn Color, and should not be analyzed or given to a third party for evaluation.

400 Old Dublin Pike
Doylestown, PA 18901
215.345.6550

2755 Bergey Road
Hatfield, PA 19440
215.997.2221

540 Hackett Mill Road
Ringgold, GA 30736
706.937.9200

30 Paul Kohner Place
Elmwood Park, NJ 07407
201.791.5100

1474 Putman Parkway
Milton, WI 53563

Smakterweg 31
5801 AE Venray
The Netherlands
+31.478.554000

Plot 808 C Dr. B.A. Road
Dadar, T.T.
Mumbai-400 014 India
+91.22.24140020

Holland Colours Americas Inc.

1501 Progress Drive
Richmond, IN 47374
Phone (765) 935-0329
Fax (765) 966-3376

TECHNICAL DATA SHEET

Holcoprill® Amber 175-20-36444

Product Description	Colorants/Additives in a non-polymeric carrier
Physical Form	Solid Bead
Melt Temperature	85-88°C
Specific Gravity	1.11-1.31 g/cm ³

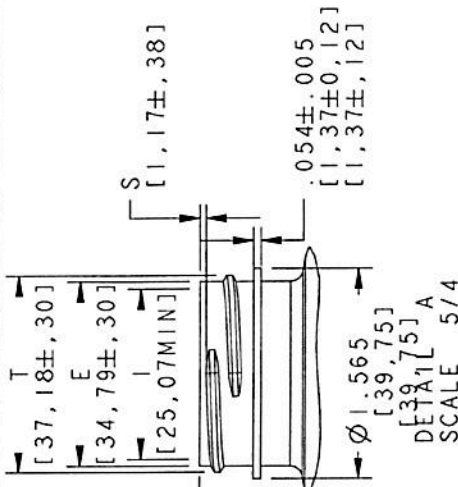
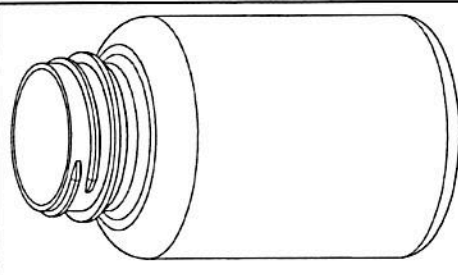


For additional information, refer to the MSDS and specifications for this product.

Holland Colours Americas Inc. does not control the conditions under which its products are used. Therefore we are not in a position to warrant that our customers' products are suitable for their intended use. Holland Colours Americas Inc. recommends that the customer perform their own tests to ensure acceptable performance.

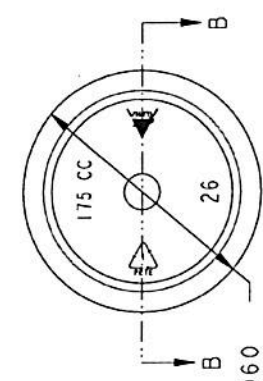
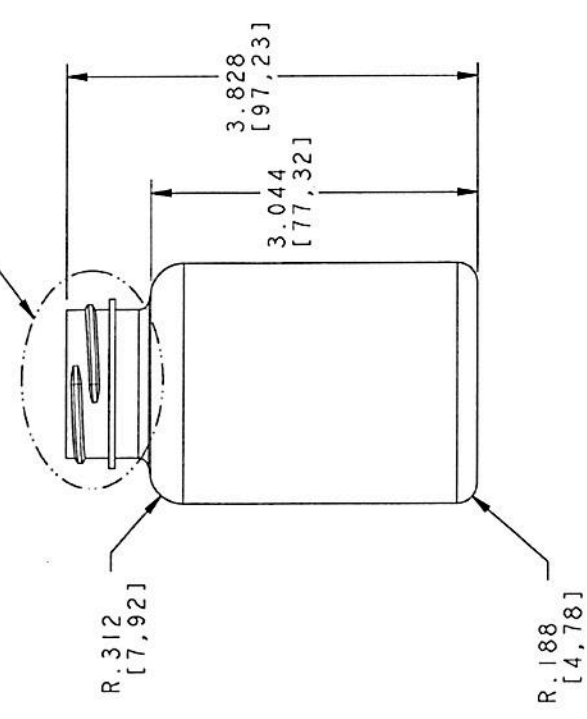
CONFIDENTIAL

Created on 1/15/2008



DEFINITION A
SCALE 5/4

SEE DETAIL A



SECTION B-B
SCALE 5/4

Neck Finish: L38SP400	DISCLAIMER: Alpha Packaging assumes no responsibility for form, fit and function of closures, accessories, and/or shelf life and compatibility of intended contents with this bottle.	
Alpha Packaging, Inc. Min. Thk	Color	Std. Pack
All measurements .012L.301 All Colors 24 Gms±3 420, Stack	All Colors 26 Gms±3 420, Stack	
[Metric] .012L.301 Heavy Gram		
Neck Dimensions:		
T = 1.464±.012		
E = 1.370±.012		
H = .403±.015		
I = .987 MIN		
S = .046±.015		
Overflow Capacity: 191 ml ± 6		
Revisions	A Add MSLLS-573710.sct B Add 28g-97713.sct	
Scale: 1/1	Drawn By: SCT	Part: 07-02-03
		Alpha Packaging, Inc. [PH] 427-4300-8000 424-772
		175cc, STRAIGHT SIDED, PET, WIDE STYLE, 38-400 CT
	Appraised By: SJ	Drawing No: 175538PET B
		Material: PET