



DRAWING CHECKED SPECIFICALLY FOR:
 NECK FINISH
 WEIGHT
 CAPACITY
 MATERIAL
 SPECIAL REQUESTS
 PRODUCT DESIGN TO BE APPROVED BEFORE MOULD CAVITIES ARE MACHINED.
 APPROVED BY
 DATE

This drawing subject to standard industry tolerances S.P.I.

E1	CML	MAX DECO AREA ADDED	29/01/2019
D2	CML	F/L 177.4ml WAS 118.0ml	24/04/2018
D1	CML	DESCRIPTION 6oz Jar was 4oz Jar	24/04/2018
C2	CML	OFC 230.0ml WAS 193.6ml	24/04/2018
C1	CML	LABEL PANEL HEIGHT 1.450" WAS 1.144"	24/04/2018
B3	CML	OFC 193.6ml WAS 165ml	18/04/2018
B2	CML	LABEL PANEL HEIGHT 1.144" WAS 0.894"	18/04/2018
B1	CML	OVERALL HEIGHT 1.967" WAS 1.717"	18/04/2018
A3	CML	SHOULDER RADIUS 0.125" WAS 0.062"	17/04/2018
A2	CML	OVERALL HEIGHT 1.722 WAS 1.856	17/04/2018
A1	CML	BODY Ø3.038 WAS Ø2.875	17/04/2018
NO.	REV. BY	DESCRIPTION	DATE

NECK FINISH:		70mm CRC	GRAM WT.		21.8g±1.5
'T'	'E'	'H'	'S'	'I'	'W'
2.719±.017	2.625±.017	0.538±.015	.046±.015	2.476±.015	_____
69.06±0.43	66.68±0.43	13.67±0.38	1.17±0.38	62.88±0.38	_____
HELIX <:	1° 32'	T.P.I.:	6	CUTT. DIA.:	0.500

CAPACITY TO FILL LEVEL BEFORE DECORATING	(D2) 177.4ml±8.0
CAPACITY TO FILL LEVEL AFTER DECORATING	_____
OVERFLOW CAPACITY BEFORE DECORATING	(C2) (B3) 230.0ml±8.0
OVERFLOW CAPACITY AFTER DECORATING	_____

CONSOLIDATED BOTTLE CORPORATION
 77 UNION ST. TORONTO, ONTARIO CANADA M6N 3N2

DRAWN BY:	CML	DESC.	6oz JAR (D1)
SCALE:	1:1	DATE:	APR16/18
BOTTLE MAT'L:	PET	DRAWING NO.	40899-PE
CAD NAME:	40899-8	MOULD NO.	40933

(E1)



Laser+[®] C (S80NR)

polyethylene terephthalate resin

General

Laser+[®] C (S80NR) is a unique copolymer particularly suited for use in the custom PET container applications where clarity and neutral color are desired. It is a medium intrinsic viscosity (IV) product that gives the end user a strong clear bottle and offers excellent processing and consistency.

Product Description

Bi-orientation of Laser+[®] C (S80NR) by injection/stretch blow molding provides optimal barrier and mechanical properties, including excellent vacuum performance. It performs well in both single- and two-stage processes used in the manufacturing of PET containers.

Laser+[®] C (S80NR) offers excellent clarity and color, while maintaining good reheat characteristics for stretch blow molding. In addition, because it is a copolymer resin, it offers reduced crystallization rates and a wide processing window.

Sales Specification

Property	Value	Test Method
Intrinsic Viscosity	0.80 ± 0.02	CSC-ITR-2507
Color L* CIE	84 min	CSC-ITR-2510
Color b* CIE	1 max	
Acetaldehyde	1 ppm max	CSC-ITR-2019

Product Information

Certification

Laser+[®] C (S80NR) is ideally suited for food packaging applications and is considered in compliance with the Food and Drug Administration (FDA) Food Contact Notification (FCN) 1064, and Health Canada Health Products and Food Branch (HPFB) file KS 10081303 for PET polymers.

Typical Properties

Property	Value	Test Method
Moisture Content ¹	0.2% max	CSC-ITR-2511
Fines ¹ , +24 Mesh	0.10% max	CSC-ITR-2517
Pellet Size, nominal	62 ± 5 chips/g	CSC-ITR-2518
Crystallinity	>50%	CSC-ITR-2512
Shape	Spherical	
Melt Point, nominal	255°C max	CSC-ITR-2508
Bulk Density	54.3 lb / ft ³	DAK-QAR-SOP-0018

¹ As packaged

These values represent the anticipated performance data for these polyester resins and intermediates; they are not intended to be used as design data. We believe this information is the best currently available on the subject. It is offered as a possible helpful suggestion in the experimentation you may care to undertake along these lines. It is subject to revision as additional knowledge and experience is gained. Selenis Canada makes no guarantee of results and assumes no obligation or liability whatsoever in connection with this information. This publication is not a license to operate under, or intended to suggest infringement of, any existing patents.

CAUTION: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "Selenis Canada Medical Caution Statement".



Laser+[®] C (S80NR)

polyethylene terephthalate resin

Material Drying

Proper drying of polyethylene terephthalate (PET) is essential to produce a high quality part (container, film, etc.) with optimum physical properties. PET is hygroscopic, meaning that when it is exposed to humid atmospheres, it will absorb moisture. In PET the moisture is not only on the surface but diffuses slowly through the whole pellet and is firmly held by molecular attraction. Before processing the PET, this moisture must be removed. Carefully controlled drying of all PET is an essential requirement for optimum processing performance and final product properties. If drying is not carried out properly, to the known requirements of the type of PET in use, then deficiencies in process and product will result. The deficiencies will be impossible to remedy by later process changes. These defects arise in the injection molding or extrusion processes because at PET melt temperature (250°-280° C) any water present causes hydrolytic degradation of the PET, almost instantaneously, with the resultant loss in intrinsic viscosity (IV). Significant drops in IV cause loss of process control and reductions in end product properties.

Drying of PET polymer involves the diffusion of absorbed moisture from the interior of the polymer chip to its surroundings and, subsequently the removal of moisture from the bulk of polymer chips. Moisture removal can be achieved by heating the polymer chip under dry air or vacuum. In an air drying system, heated dehumidified air flows up through a chip bed and returns to the dehumidifier. The key requirements for a reliable drying process are:

Drying temperature: The ACTUAL chip temperature should achieve between 300° and 340° F measured at the dryer exit.

Dehumidified air temperature: Correctly designed equipment should operate at temperatures up to 340° F measured on entry to the dryer hopper, with an absolute maximum of 370° F to prevent possible discoloration.

Dehumidified air dew point: This should not be allowed to rise above -34° F and should preferably be -40° F or lower, measure after the desiccant bed. Always check the correct regeneration temperatures are being used.

Dehumidified air flow through the chip bed: Most dryers operate at around 1 cfm of airflow per 1lb/hr of PET chip as a minimum requirement, with the airflow at the correct temperature and dew point.

Chip residence time (drying time): Selenis Canada recommends a chip residence time for Laser+[®] PET of not less than four hours and preferably six hours. This is the theoretical drying time, which is calculated by dividing dryer capacity in lbs. by throughput in lb./hr. Extended periods of high temperature can adversely affect the polymer processing conditions. In the event of a stoppage for an extended period, dry polymer can be stored in the dryer-hopper by reducing the air temperature to 240° F (or even lower).



11F, SM R&D CENTR, 78, MAGOKJUNGANG 8-RO, GANGSEO-KU, SEOUL, 07803, KOREA

TYPICAL PROPERTIES OF SSP RESIN (COPOLYMER)

GRADE NO: 874-C80

PROPERTY	UNIT	VALUE	TEST METHOD	
INTRINSIC VISCOSITY	dl/gr	0.80 ±0.02	CAPILLARY VISCOMETER	
MELTING POINT	°C	246.0 ±2.0	DSC	
CARBOXYL END GROUP	meq/kg	30 MAX	AUTO TITRATION	
ACETALDEHYDE	ppm	1.0 MAX	GAS CHROMATOGRAPH	
MOISTURE CONTENT	wt%	0.2 MAX	THERMAL ANALYZER	
DENSITY	gr/cm ³	1.39 ±0.01	PMI A.G.P	
COLOR	E	L	80.0 MIN	HUNTER Lab
		a	0.5 MAX	HUNTER Lab
		b	1.0 MAX	HUNTER Lab
% CRYSTALLINITY SOLID STATED	%	MINIMUM 50%		
WEIGHT OF CHIP	ea/gr	55.0 ±5.0		

※ APPLICATION :

1. BOTTLES FOR CSD, MINERAL WATER, EDIBLE OIL AND SPORT DRINKS
2. CONTAINERS FOR FOOD & HOUSEHOLD PRODUCTS
3. SHEET FOR THERMOFORMING & BLISTER PACKAGING

Kindly refer above our spec sheet for Grade no : 874-C80 and we confirm that the COA which we provided to customers are in line of our spec sheet data.

Best Regards,

TK CHEMICAL CORP.

H.G. Kim

H.G. KIM PRESIDENT & C.E.O



CLARIANT



TECHNICAL PRODUCT INFORMATION

NE94732090 PET 004.000% FDA BLACK*PET CONC*(VERSION 2)

General	Black Masterbatch colorant system designed for use in PET resins.	
Physical Form	Pellets	
Technical Information	Recommended Usage	4%
	Color, CMC 2:1	max 0.5 DE
	Color Strength	95% to 105%
	Filter Test, 800mesh screen 312gm into 1300gm letdown	max 0.2bar/gm pigment
	Pellet Size	1/8" Nominal
	Contamination	None(based on visual inspection)
Remarks	<p>A Certificate of Analysis will accompany each production lot.</p> <p>Customer use of any additives or regrind material may affect color, appearance and physical properties of the final product. Pre-testing is recommended.</p> <p>Regulatory status is available via separate documentation upon request.</p>	

Clariant Plastics & Coatings USA Inc.

85 Holden Industrial Drive
Holden, MA 01520
USA
Tel: 508-829-6321
Fax: 508-829-2118
www.clariant.masterbatches.com

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Clariant International Ltd



CLARIANT



Clariant Plastics & Coatings USA Inc.

85 Holden Industrial Drive
Holden, MA 01520
USA

Tel: 508-829-6321

Fax: 508-829-2118

www.clariant.masterbatches.com

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