

H28E-00 Polypropylene Homopolymer

H28E-00 is an antistated, controlled rheology polypropylene homopolymer designed for injection molding applications that require improved impact characteristics. It meets the requirements of the U.S. Food and Drug Administration as specified in 21CFR 177.1520.

Typical Properties¹

	Values		ASTM Method
	English Units	SI Units	
Resin			
Density	—	0.9086 g/cc	D792
Melt Flow Rate 230°C/2.16 kg	—	28 g/10 min	D1238
Injection Molded Samples			
Tensile Strength (2 in/min)			D638
@ Yield	4,990 psi	34.4 MPa	
@ Break	2,190 psi	15.1 MPa	
Elongation (2 in/min)			D638
@ Yield	11.5 %	11.5 %	
@ Break	291 %	291 %	
Flexural Modulus			D790A
1% Secant	194,700 psi	1,342 MPa	
Notched Izod Impact Strength			D256
@ 23 C	0.55 ft-lbf/in	2.91 kJ/m ²	
Hardness			D2240
Rockwell R	95.7	95.7	
Deflection Temperature			D648
@ 66 psi (455 kPa)	197 F	91.8 C	
Gloss at 60 ° angle	91.3	91.3	D2457

¹ Typical properties will vary and are not to be used for specifications.

Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. As conditions of use may vary and are beyond the control of INEOS Olefins & Polymers USA, no representations or warranty, express or implied, are made with respect to the accuracy, reliability, or completeness of this information. This information in no way modifies, amends, enlarges, or creates any specification or warranty, and ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. INEOS Olefins & Polymers USA shall not be responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices, or from hazards inherent in the nature of the product and/or material, nor for toxicological effects or Industrial Hygiene associated with particular use of any product described herein. This information relates only to the specific product and/or material designated and may not be valid for such product and/or material used in combination with any other product and/or material or in any process, unless otherwise specified. This information shall not be construed as a recommendation for any use that may infringe any patent, trademark, or the like, or as an endorsement of any material, equipment, service, or other item not supplied by INEOS Olefins & Polymers USA.

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.



H28E-00 Polypropylene Homopolymer

Regulatory Information

The product and uses described herein may require global product registrations and notifications for chemical inventory listings, or for use in food contact or medical devices. For further information, please refer to the Regulatory Position Statement (RPS) online at www.ineos-op.com, or call + 1-800-527-5419.

Health and Safety Information

The product described herein may require precautions in handling and use because of toxicity, flammability, or other consideration. The Material Safety Data Sheet (MSDS) contains the available product health and safety information for this material and can be found at www.ineos-op.com. Before using any material, a customer is advised to consult the MSDS for the product under consideration for use.

The Material Safety Data Sheet for this product contains shipping descriptions and should be consulted, before transportation, as a reference in determining the proper shipping description. If the material shipped by INEOS O&P is altered or modified, different shipping descriptions may apply and the MSDS of the original material should not be used.

For additional information, samples, pricing and availability, please contact:

INEOS Olefins & Polymers, USA

Marina View Building
2600 South Shore Boulevard
Suite 500
League City, Texas 77573
Phone: +1 281 535 6600
Fax: +1 281 535 6764
Customer Service: +1 800 527 5419
Tech Service: +1 800 338 0489
www.ineos-op.com

Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. As conditions of use may vary and are beyond the control of INEOS Olefins & Polymers USA, no representations or warranty, express or implied, are made with respect to the accuracy, reliability, or completeness of this information. This information in no way modifies, amends, enlarges, or creates any specification or warranty, and ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. INEOS Olefins & Polymers USA shall not be responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices, or from hazards inherent in the nature of the product and/or material, nor for toxicological effects or Industrial Hygiene associated with particular use of any product described herein. This information relates only to the specific product and/or material designated and may not be valid for such product and/or material used in combination with any other product and/or material or in any process, unless otherwise specified. This information shall not be construed as a recommendation for any use that may infringe any patent, trademark, or the like, or as an endorsement of any material, equipment, service, or other item not supplied by INEOS Olefins & Polymers USA.

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

2600 South Shore Boulevard, Ste. 500
League City, TX 77573
Tel: 281-535-6600
www.ineos-op.com

INEOS
Olefins & Polymers USA



H28E-00

CAS # 9003-07-0

Regulatory Position Statement

Food Contact Clearances

January 2019

US FDA Compliance (21 CFR 2019)

Under 21 CFR 177.1520(c) 1.1a, this resin may be safely used in articles or components of articles intended for use in contact with food. All adjuvants used in the manufacture of this resin are cleared for use in 21 CFR 170-189 by specific citation, generally recognized as safe (GRAS), prior sanctioned or under a specific Food Contact Notification (FCN). No further restrictions apply to the finished polymer.

EU Food Contact Compliance – Commission Regulation (EU) No 10/2011

As dispatched from our plant, the monomers and additives of this INEOS product meet the relevant requirements of Commission Regulation (EU) No 10/2011 as amended under the Framework Regulation EU 1935/2004. Please send an email to Product Stewardship* if you need an EU Declaration of Compliance.

Health Canada, Health Products and Food Branch “No Objection” Letter

A Letter of No Objection (LONO) under File Number KS11060207 is available for this product. Further restrictions may apply. Please contact Product Stewardship for details.

China’s Hygienic Standards for Uses of Additives in Food Containers and Packaging Materials (GB 4806-2016 and GB 9685-2016)

As dispatched from our plant, this product meets relevant requirements laid down in GB 4806-2016 and GB 9685-2016. As the conversion process can affect migration, only the converter can guarantee to the food packager that any limit is not exceeded.

MERCOSUR

Please be advised that the monomers and additive(s) used in this product conform to the requirements and listings of MERCOSUR/ GMC/RES N° 02/12 and RES N° 32/07.

Regulations/Directives Applicable to End Use Articles

This product conforms to the substance limits and prohibition requirements of the following:

- **EU Cosmetic Regulation (EC) No 1223/2009**
- **Consumer Product Safety Improvement Act (CPSIA) of 2008/Lead and Phthalates in Toys**
- **EU Safety of Toys EN 71-3:2013**
- **RoHS 2, Directive 2011/65/EU, as amended by 2015/863/EU**
- **WEEE EU 2012/19/EU**

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

2600 South Shore Boulevard
Suite 500
League City, TX 77573
Tel: 281-535-6600
www.ineos.com

INEOS
Olefins & Polymers USA

H28E-00

CAS # 9003-07-0

Regulatory Position Statement

U.S. Pharmacopeial Convention (USP)

This resin has not been tested under the criteria specified in the United States Pharmacopoeia, nor that specified by ISO 10993 for biological testing of materials. This resin is not intentionally formulated with aluminum, arsenic, cadmium, lead, mercury, cobalt, nickel, chromium, titanium, vanadium, zinc, and/or zirconium. We do not test for ingredients not intentionally added. Please contact us for additive information if needed for USP 661.2 testing.

European Pharmacopoeia

All additives in this product are listed as approved in European Pharmacopoeia 3.1.3, "Polyolefins".

CONEG/EU Directive 94/62/EC/Heavy Metals

The regulated metals – lead, mercury, cadmium, and hexavalent chromium – are not intentionally added during the manufacturing process. Testing for heavy metals – cadmium, chromium, lead and mercury - resulted in a total for all metals detected of < 2 ppm, compared to the CONEG requirement of < 100 ppm. The result for incidental lead concentration was less than the detection limit of 0.1 ppm.

Other Regulations/Directives

California Proposition 65

No substance listed on California's Proposition 65 chemicals listing, known to the State of California to cause cancer or reproductive toxicity, is intentionally added in the manufacture of this product.

Canada (WHMIS, Toxic Substances and Chemical Management Plan)

None of the chemicals on WHMIS, Canada's *Prohibition of Certain Toxic Substances* list or the Canadian Chemical Management Plan are intentionally added as raw materials to this product.

EU Commission Regulation (EC) No 1895/2005

This Regulation does not apply to our product because our products are not manufactured with any of the following substances:

- (a) 2,2-bis(4-hydroxyphenyl)propane bis(2,3-epoxypropyl) ether, hereinafter referred to as 'BADGE' (CAS No 001675-54-3), and some of its derivatives;
- (b) bis(hydroxyphenyl)methane bis(2,3-epoxypropyl)ethers, hereinafter referred to as 'BFDGE' (CAS No 039817-09-9);
- (c) other novolac glycidyl ethers, hereinafter referred to as 'NOGE'.

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

H28E-00

CAS # 9003-07-0

Regulatory Position Statement

RECYCLING

The recycling code shown to the right applies to the resin only. It may not apply to products manufactured from this resin. Recycling codes for finished articles must be determined by the manufacturer on a case by case basis.



GMP, FSMA and EU Commission Regulation (EC) No 2023/2006

INEOS O&P USA maintains an ISO 9001 system that corresponds to the requirements of FSMA and EC No 2023/2006 and addresses good manufacturing practice for materials intended to come into contact with food. US FDA regulations do not specifically address good manufacturing practices (GMP) for food contact materials. A copy of the current certificate is available online at [ISO Certificate.pdf](#).

REACH

Please refer to our REACH statement online at [REACH SVHCs](#) covering REACH registration issues, CoRAP and SVHCs.

GLOBAL INVENTORY STATUS

<i>Country</i>	<i>Inventory</i>	<i>Y/N</i>	<i>Country</i>	<i>Inventory</i>	<i>Y/N</i>
United States	TSCA This product has been verified with a status of "active" on the TSCA inventory prior to Feb 7, 2018.	Y	Japan	ENCS (METI) ISHL	Y
European Union	EINECS	Y	New Zealand	NZIoC	Y
China	IECSC	Y	Korea	KECI	Y
Canada	DSL	Y	Philippines	PICCS	Y
Australia	AICS	Y	Taiwan	NECI	Y

Drug Master File

Drug Master File(s)

This product is filed with the FDA in INEOS Drug Master File 3720. A letter of authorization for the FDA to access our file on your behalf is available upon request.

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

2600 South Shore Boulevard
Suite 500
League City, TX 77573
Tel: 281-535-6600
www.ineos.com

INEOS
Olefins & Polymers USA

H28E-00

CAS # 9003-07-0

Regulatory Position Statement

Substances of Concern to Our Customers

Based on knowledge of our raw materials and information from our suppliers, we can state that none of the substances of concern to our customers listed below are intentionally added to this product. We do not conduct routine analytical testing for the presence of these substances in our products.

Genetically Modified Organisms (GMO) Because of the multitude of crop sources used, our suppliers of plant-based additives are unable to certify that their products are 100% GMO-free.

• 3-MCPD (3-monochloropropane)	• Melamine
• Alkyphenols and Ethoxylates	• Methylisothiazolinone (MI / MIT) & Methylchlorisothiazolinone (MCI / CMIT)
• Allergens or allergen derivatives ¹	• Microbeads
• Animal Derived Material/TSE/BSE ²	• Nanoparticles
• Antimicrobial agents/Biocides/Fungicides/Pesticides (<i>Substances identified as such and used for such purpose</i>)	• N-Ethyl-toluenesulfonamide (Ortho/Para)
	• Nonylphenol ethoxylates (NPEs)
• Asbestos	• Organotin Compounds
• Azo dyes/ Colorants/Pigments	• Ozone Depleting Chemicals (ODCs)
• Azodicarbonamide	• PAHs (Polycyclic Aromatic Hydrocarbons)
• Benzophenones	• Parabens and PABA
• Benzoate Preservatives (BHA, TBHQ)	• Pentanoic acid
• Bisphenols (e.g., A, F, S)	• Perfluoroalkyl substituted phosphate ester acids
• Carboxymethylcellulose	• Perfluorinated and polyfluorinated compounds, including their acid, salts and precursors such as PFCs, PFAs and PFASs, PFNs, PFOs and PFOA and PFCAs
• CITES Appendix (I, II, III)	• Persistent Organic pollutants (POPs) EU No 757/2010 Annex I amending EC No 850/2004
• Conflict Minerals (columbite-tantalite (coltan, niobium, tantalum), cassiterite (tin), gold, and wolframite (tungsten) ³	• Phthalates ⁴ (e.g., BBP, BDP, DBP, DCP, DCHP, DEHP, DEP, DiBP, DiDP, DiNP, DMP, DnHP, DnOP, DiHP)
• Cocamide diethanolamide	• Photoinitiators (e.g., ITX)

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

H28E-00

CAS # 9003-07-0

Regulatory Position Statement

<ul style="list-style-type: none">• Decabromodiphenyl ether (Deca)	<ul style="list-style-type: none">• Polysorbate 80
<ul style="list-style-type: none">• Diethanolamine salts of mono- and bis-	
<ul style="list-style-type: none">• Dimethyl/Methyl Fumarate (DMF)	<ul style="list-style-type: none">• Polyhalogenated Organo Compounds (PCBs, PCT's and Ugilec)
<ul style="list-style-type: none">• Dioxins	<ul style="list-style-type: none">• PVC
<ul style="list-style-type: none">• Flame Retardants (e.g. Brominated, Halogenated, Phosphorous- or Nitrogen-based, Chlorinated, etc.)	<ul style="list-style-type: none">• Radioactive Substances
	<ul style="list-style-type: none">• REACH Annexes XIV and XVII
<ul style="list-style-type: none">• Formaldehyde	<ul style="list-style-type: none">• Red List (Living Future bldg. materials list)
<ul style="list-style-type: none">• Fragrances	<ul style="list-style-type: none">• Short Chain Chlorinated paraffins (SCCPs)
<ul style="list-style-type: none">• GADSL	<ul style="list-style-type: none">• Silica
<ul style="list-style-type: none">• Halogens (fluorine, chlorine, bromine, iodine, astatine)	<ul style="list-style-type: none">• Silicone
<ul style="list-style-type: none">• HAPs (Hazardous Air Pollutants) Section 112(b) of the US Clean Air Act	<ul style="list-style-type: none">• Solvents, residual solvents
<ul style="list-style-type: none">• Heavy Metals (As, Ba, Cd, Cr, Hg, Pb, Sb, Se)	<ul style="list-style-type: none">• State Lists – including Maine, Massachusetts, Minnesota, Vermont, Washington
<ul style="list-style-type: none">• International Council for Harmonisation (ICH) Q3D <i>Elemental Impurities</i>	
<ul style="list-style-type: none">• “Intelligent packaging” materials	<ul style="list-style-type: none">• SVHCs (<i>Please refer to our REACH statement online at www.ineos-op.com covering REACH registration issues, CoRAP and SVHCs.</i>)
<ul style="list-style-type: none">• IUCN Red List of Threatened Species	<ul style="list-style-type: none">• Triclosan (2,4,4'-trichloro-2'-hydroxy-diphenyl ether)
<ul style="list-style-type: none">• Jatropa Oil	
<ul style="list-style-type: none">• Latex	
<ul style="list-style-type: none">• Materials banned by Lacey Act of 1900	<ul style="list-style-type: none">• Tris (Nonylphenyl) phosphite (TNPP)

¹ from such things as pigments, fragrances, artificial sweeteners (e.g. aspartame), almonds, Brazil nuts, cashews, corn, hazelnuts, macadamia nuts, pecans, pine nuts, pistachios and walnuts; peanuts, lupine, soy/soybeans, peas, carmine/cochineal, milk, lecithin, eggs, fish, shellfish/crustacea or mollusks, tree nuts, celery, sesame seeds, mustard or mustard seeds, diacetyl, glutamites, glutamic acid, MSG or hydrolyzed vegetable proteins, nitrites or sulfites, or gluten from the grains of the following cereals: barley; oats; rye; triticale; or wheat

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

2600 South Shore Boulevard
Suite 500
League City, TX 77573
Tel: 281-535-6600
www.ineos.com

INEOS
Olefins & Polymers USA



H28E-00

CAS # 9003-07-0

Regulatory Position Statement

² No animal-derived products are intentionally used as components of, or in the manufacture of, this product.

³ INEOS O&P USA (INEOS O&P) is not a publicly traded company so is not subject to the SEC reporting requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

⁴ As with most polypropylene grades, including grades from other producers, this resin may contain trace levels of phthalates. If needed, please contact Product Stewardship for further information.

For further information, please see our website www.ineos-op.com or contact me in Product Stewardship:

As agent for INEOS O&P USA,



*Email: carolyn.ramsden@ineos.com

Phone: 281-535-6729

The information contained herein relates only to the specific product and/or material designated and may not be valid for such product and/or material used in combination with any other product and/or material or in any process, unless otherwise specified. This information in no way modifies, amends, enlarges, or creates any specification or warranty, and ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXCLUDED. The representations herein expressed are neither intended nor shall be construed as a definitive or comprehensive statement of all constituents sought. INEOS Olefins & Polymers USA shall not be responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices, or from hazards inherent in the nature of the product and/or material, nor for toxicological effects or Industrial Hygiene associated with particular use of any product described herein. Recipient hereby acknowledges and accepts its responsibility to determine and ensure all conditions, specifications, and regulatory requirements are met and the products fabricated from the specific product and/or material designated are acceptable for use in the intended application.

The name and logo INEOS are trademarks of the INEOS Group and its affiliated companies and businesses.

2600 South Shore Boulevard
Suite 500
League City, TX 77573
Tel: 281-535-6600
www.ineos.com

INEOS
Olefins & Polymers USA



MARVAL INDUSTRIES INC.

THERMOPLASTIC POLYMERS, CONCENTRATES AND COMPOUNDS

315 HOYT AVENUE • MAMARONECK, N.Y. 10543 • TEL. 914-381-2400 • FAX 914-381-2259 • www.marvalindustries.com

PRODUCT DATA SHEET

Product: 568616C

Description: White PP Concentrate

Form: Pellets

Letdown Ratio: 50:1

Base Resin Carrier: Polypropylene Homopolymer

Pigment Loading: 50 %

Melt Index Range: 12 – 28 g/10 min

FDA Compliance*: 21 CFR 177.1520 (c) 1.1a
21 CFR 178.2010
21 CFR 178.3297

*When used at levels not to exceed 32% of the final article.

The properties and suggested applications listed above are provided for informational purposes only. They do not imply a warranty of performance. The Customer is responsible for determining if the material is suitable for the application in the molded or extruded form.

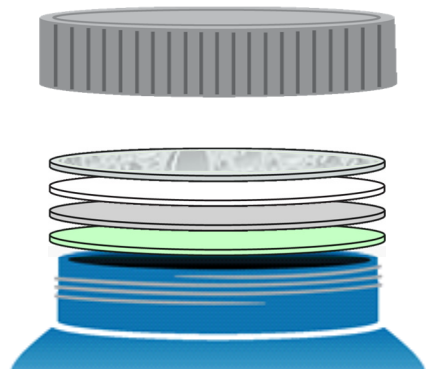
PRODUCT DATA SHEET

HS035/20F

- HS035/20F is a one-piece, polystyrene backed, induction heat seal with an ethylene vinyl acetate based sealant layer that gives a tamper evident bond to Polyethylene (PE), Polypropylene (PP), Polyester (PET), Polystyrene (PS), Vinyl (PVC) and glass containers.
- Available with standard or custom print.

Typical Product Attributes

Construction

		SI (µm)	US (Mils)
Polystyrene Foam		508,0	20.0
White Paper		71,1	2.8
Aluminum Foil		8,9	0.35
Heat Seal		38,1-76,2	1.5-3.0
Thickness Tolerance		± 10%	± 10%
Minimum Width		25,4 mm	1.0 in
Width Tolerance		± 1,6 mm	± 0.0625 in

Properties

Oxygen Transmission (O ₂ TR)	Essentially Zero
Water Vapor Transmission (WVTR)	Essentially Zero

Regulatory Compliance

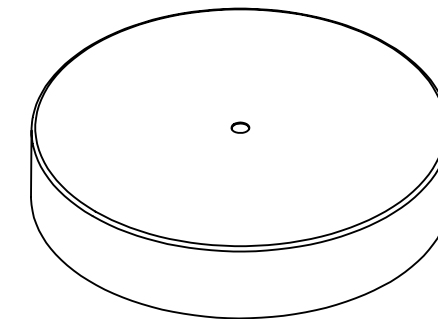
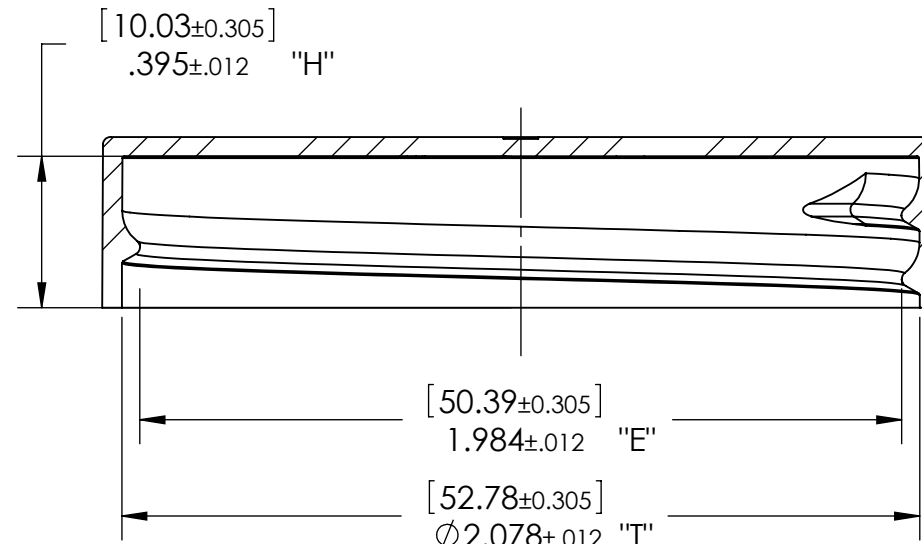
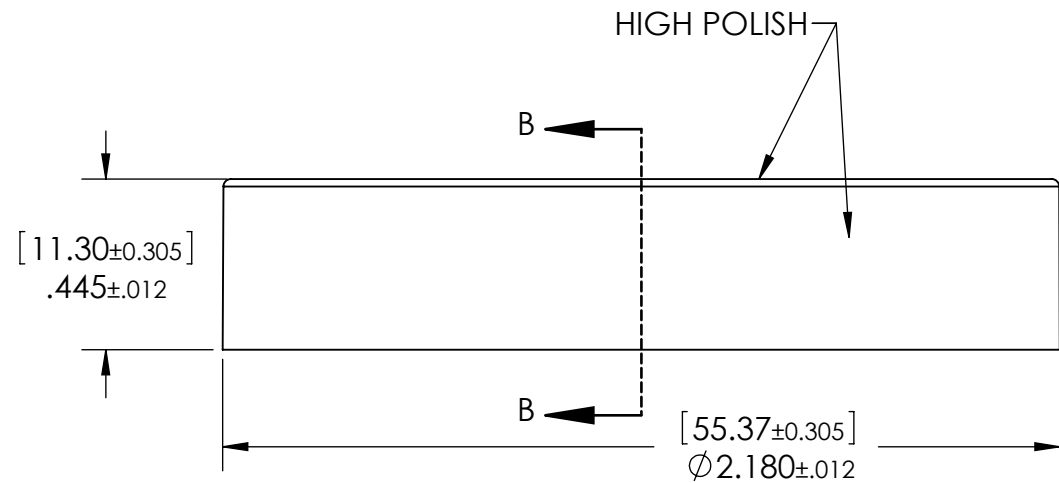
FDA Compliance	21 CFR 177.1640 Polystyrene and rubber-modified polystyrene. 21 CFR 177.1350 Ethylene-vinyl acetate copolymers. 21 CFR 177.1210 Closures with sealing gaskets for food containers. 21 CFR 176.180 Components of paper and paperboard in contact with dry foods. 21 CFR 176.170 Components of paper and paperboard in contact with aqueous and fatty foods.
Drug Master File (DMF)	002518
Other Compliances	USFDA Food Allergen Guidelines California Proposition 65 Labeling Requirements Limitations of Heavy Metals in Packaging per CONEG & EU 94/62/EC, Article 11
Safety Data Sheet (SDS) Statement	Safety Data Sheets (SDS) are not required for articles as defined in 29 CFR 1910.1200, the OSHA Hazard Communication Standard (HazCom). This product is an article as defined by HazCom and is not considered to be, or to contain, a hazardous chemical based on evaluations made by our company.

Please note that construction does not reflect adhesive or resin bonding layers, if present.

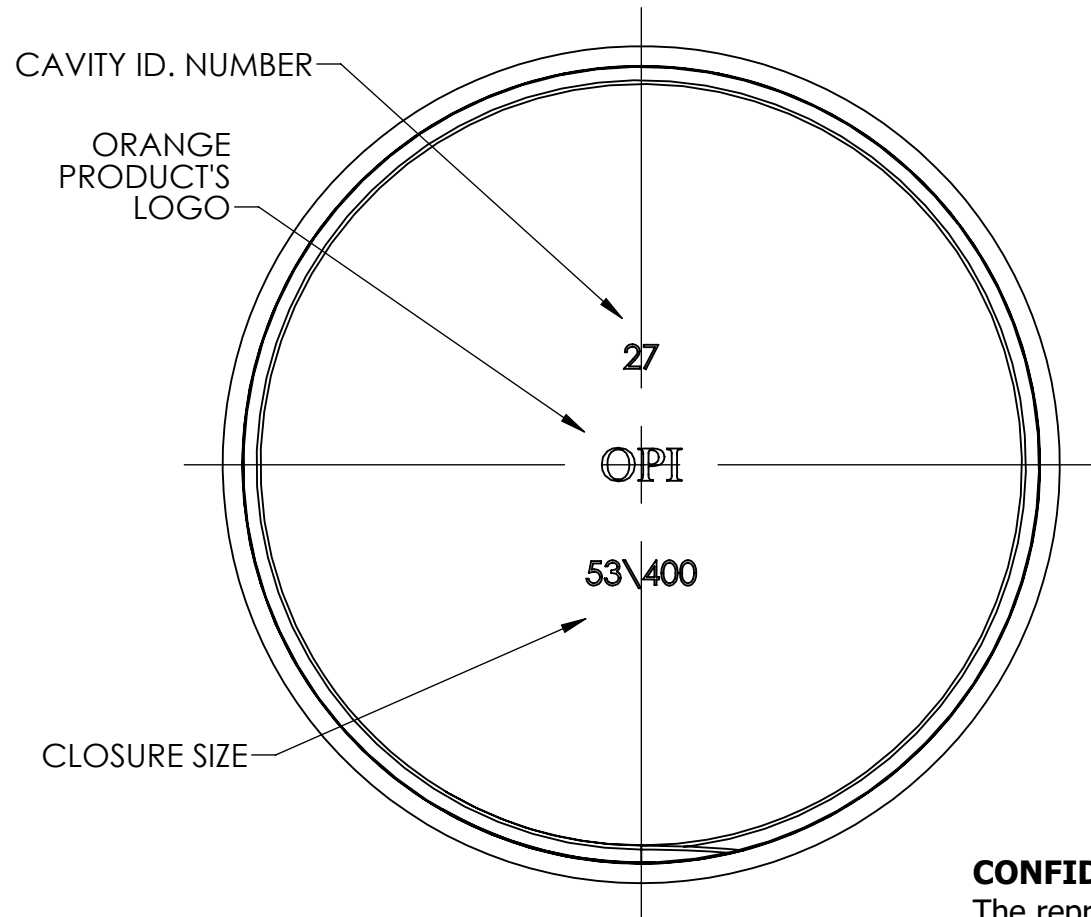
Revision Number: 3
Revised Date: 2018-05-29

DISCLAIMER: This information is believed to be accurate at the time of printing and is subject to change without notice. Providing this information does not convey any licenses under any patent rights or intellectual property rights of Tri-Seal or others. TRI-SEAL MAKES NO WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM RELIANCE ON IT. Tri-Seal's only warranties for this product are those written warranties as may be agreed to by Tri-Seal and its customers. TRI-SEAL SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

REVISIONS					
DATE	REV.	DESCRIPTION	AUTHOR	DRAWN BY	APPROVED



ISOMETRIC VIEW
ACTUAL SIZE



THREAD SPECIFICATIONS:
6 THREADS PER INCH, .1667" PITCH
FUUL DEPTH THREAD AT 380°

CONFIDENTIAL PROPERTY
The reproduction, use, or disclosure, in whole or in part, of the design, or details contained herein is prohibited without prior written consent of Orange Products, Inc.

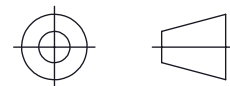
Part name:
53 mm CT CLOSURE SMOOTH WALL

Project name:
53 mm CT CLOSURE

Material:
POLYPROPYLENE

Weight:
5 ±.3 gr

All dimensions in inches. General tolerances according to DIN 16901.



<input type="checkbox"/> INF Issued for Information	<input type="checkbox"/> IFA Issued for Approval	<input type="checkbox"/> IFC Issued for Construction	<input type="checkbox"/> IFP Issued for Production
---	--	--	--

Scale	Size	Drawing number	Rev.	Date
2:1	B	16351PD-53mm	N/A	2/24/2017