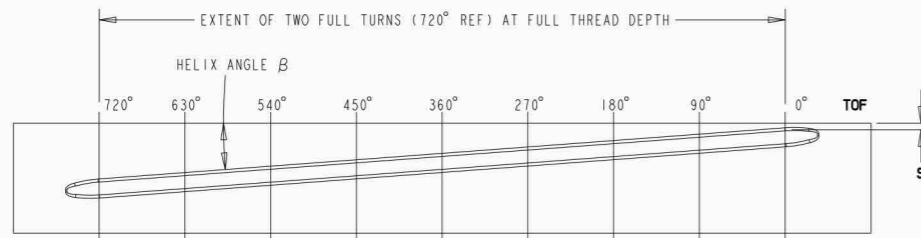
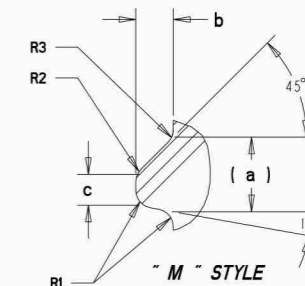
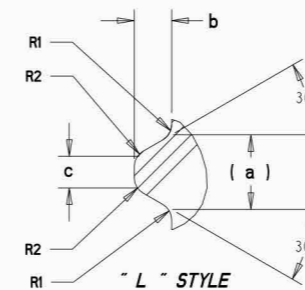
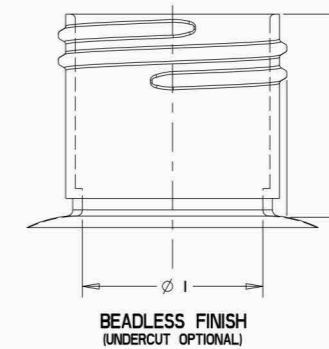
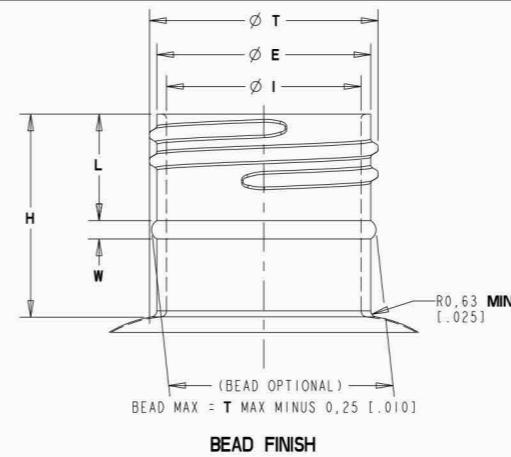
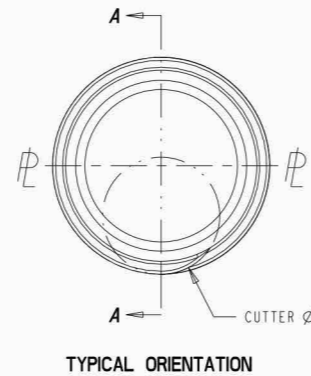
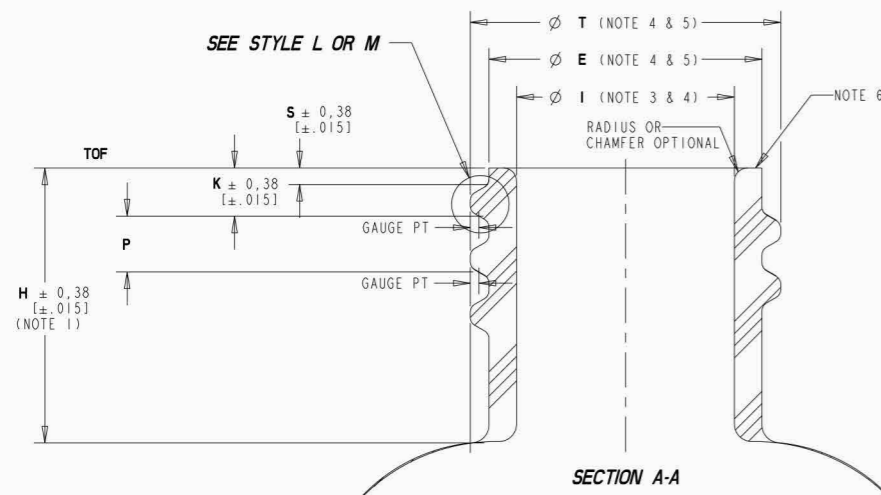


FINISH REV	DATE	DESCRIPTION	BY
000	76/07/04	ORIGINAL SP415 SPECIFICATION	JM
001	99/03/10	SPECIFICATION CONVERTED TO STANDARDIZED FORMAT	JM



THREAD DEVELOPMENT SHOWN FROM OUTSIDE OF FINISH
 - A MINIMUM OF TWO FULL TURNS (720°) OF FULL DEPTH THREAD SHALL BE MAINTAINED
 - RIGHT HAND THREAD

L STYLE GENERAL PURPOSE THREAD (Plastic or Metal Closures)					
THDS/IN	(a)	b	c	R1	R2
6	2,39 [0.094]	1,19 [0.047]	1,02 [0.040]	0,50 [0.020]	0,50 [0.020]
8	2,13 [0.084]	1,07 [0.042]	0,91 [0.036]	0,50 [0.020]	0,50 [0.020]
12	1,14 [0.045]	0,75 [0.030]	0,28 [0.011]	0,38 [0.015]	0,13 [0.005]

M STYLE MODIFIED BUTTRESS THREAD (Plastic Closures)						
THDS/IN	(a)	b	c	R1	R2	R3
6	2,39 [0.094]	1,19 [0.047]	0,99 [0.039]	0,25 [0.010]	0,75 [0.030]	0,75 [0.030]
8	2,13 [0.084]	1,07 [0.042]	0,89 [0.035]	0,25 [0.010]	0,75 [0.030]	0,75 [0.030]
12	1,30 [0.051]	0,75 [0.030]	0,41 [0.016]	0,25 [0.010]	0,20 [0.008]	0,50 [0.020]

- NOTES:
- DIMENSION H IS MEASURED FROM THE TOP OF FINISH [TOF] TO THE POINT WHERE DIAMETER T, EXTENDED PARALLEL TO THE CENTERLINE, INTERSECTS THE SHOULDER.
 - CONTOUR OF BEAD, UNDERCUT OR SHOULDER IS OPTIONAL. IF BEAD IS USED, BEAD DIA. AND L MIN MUST BE MAINTAINED.
 - UNLESS OTHERWISE SPECIFIED, I MIN APPLIES TO THE FULL LENGTH OF THE OPENING.
 - CONCENTRICITY OF I MIN WITH RESPECT TO DIAMETERS T AND E IS NOT INCLUDED. I MIN IS SPECIFIED FOR FILLER TUBE ONLY.
 - T AND E DIMENSIONS ARE THE AVERAGE OF TWO MEASUREMENTS TAKEN 90° APART. THE LIMITS OF OVALITY WILL BE DETERMINED BY THE CONTAINER SUPPLIER AND CONTAINER CUSTOMER, AS NECESSARY.
 - CONSIDERATION MUST BE GIVEN TO THE TOP OF FINISH WIDTH FOR THE SEALING SYSTEM BEING USED.
 - FINISH TO BE SPECIFIED AS FOLLOWS: THREAD STYLE, FINISH IDENTIFICATION AND DRAWING NUMBER. EXAMPLE: M28SP415
 - REFER TO DRAWING #1168216 FOR VOLUNTARY STANDARD PET FINISH DIMENSION NOMENCLATURE.

SP-415 FINISH FOR PLASTIC BOTTLES

mm	T (NOTE 4 & 5)	E (NOTE 4 & 5)	I (NOTE 3 & 4)	H ± 0,38 [±.015] (NOTE 1)	K ± 0,38 [±.015]		P	S ± 0,38 [±.015]	L (NOTE 2)	W (NOTE 2)	GAUGE PT	HELIX ANGLE β	CUTTER Ø	THD'S PER INCH
	MEAN	MEAN	MIN	MEAN	L STYLE	M STYLE	MEAN	MEAN	MIN	MAX				
13	12,90 ± 0,15 [1.508 ±.006]	11,38 ± 0,15 [1.448 ±.006]	5,54 [0.218]	11,48 [0.452]	1,85 [0.073]	2,16 [0.085]	2,11 [0.083]	0,94 [0.037]	7,77 [0.306]	1,14 [0.045]	0,38 [0.015]	3°11'	9,53 [0.375]	12
15	14,61 ± 0,15 [1.575 ±.006]	13,08 ± 0,15 [1.515 ±.006]	6,55 [0.258]	14,15 [0.557]	1,85 [0.073]	2,16 [0.085]	2,11 [0.083]	0,94 [0.037]	8,84 [0.348]	1,14 [0.045]	0,38 [0.015]	2°48'	9,53 [0.375]	12
18	17,68 ± 0,20 [1.696 ±.008]	15,54 ± 0,20 [1.612 ±.008]	8,26 [0.325]	15,67 [0.617]	2,74 [0.108]	2,97 [0.117]	3,18 [0.125]	0,94 [0.037]	10,90 [0.429]	2,13 [0.084]	0,50 [0.020]	3°30'	9,53 [0.375]	8
20	19,69 ± 0,20 [1.775 ±.008]	17,55 ± 0,20 [1.691 ±.008]	10,26 [0.404]	18,85 [0.742]	2,74 [0.108]	2,97 [0.117]	3,18 [0.125]	0,94 [0.037]	11,58 [0.456]	2,13 [0.084]	0,50 [0.020]	3°07'	9,53 [0.375]	8
22	21,69 ± 0,20 [1.854 ±.008]	19,56 ± 0,20 [1.770 ±.008]	12,27 [0.483]	21,26 [0.837]	2,74 [0.108]	2,97 [0.117]	3,18 [0.125]	0,94 [0.037]	13,87 [0.546]	2,13 [0.084]	0,50 [0.020]	2°49'	9,53 [0.375]	8
24	23,67 ± 0,20 [1.932 ±.008]	21,54 ± 0,20 [1.848 ±.008]	13,11 [0.516]	24,31 [0.957]	2,97 [0.117]	3,20 [0.126]	3,18 [0.125]	1,17 [0.046]	14,25 [0.561]	2,13 [0.084]	0,50 [0.020]	2°34'	9,53 [0.375]	8
28	27,38 ± 0,25 [1.078 ±.010]	24,99 ± 0,25 [1.984 ±.010]	15,60 [0.614]	27,48 [1.082]	3,23 [0.127]	3,45 [0.136]	4,24 [0.167]	1,17 [0.046]	16,64 [0.655]	2,39 [0.094]	0,60 [0.024]	2°57'	12,70 [0.500]	6
33	31,83 ± 0,30 [1.253 ±.012]	29,44 ± 0,30 [1.159 ±.012]	20,09 [0.791]	32,36 [1.274]	3,23 [0.127]	3,45 [0.136]	4,24 [0.167]	1,17 [0.046]	19,61 [0.772]	2,39 [0.094]	0,60 [0.024]	2°31'	12,70 [0.500]	6

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GENERAL TOLERANCES	DIMENSIONS SHOWN ARE FINISHED PLASTIC SIZES		DESCRIPTION	THIS DRAWING IS MAINTAINED BY 3PLASTICS INJECTION MOLDING SYSTEMS LTD. WEBSITE: WWW.3PLASTICS.COM CONTACT FOR SUPPORT: E-MAIL: sales@3plastics.com
	METRIC MILLIMETRES	[IMPERIAL] [INCHES]		
X,X	±0,3	[.XX ±0.01]	SP-415 VOLUNTARY STANDARD	FINISH No SP415
X,XX	±0,13	[.XXX ±0.005]		
X°	±2°		DWN J.MAY DATE 99/03/10	DRAWING No 1165381-1
X°X°	±0°15'			