

Healthcare



Materials innovation for tomorrow's healthcare designs

Product guide

Performance properties - healthcare resins

Product family	Level of release additive			Data provided for	Healthcare considerations (D)				Physical properties (E)		
	None	Standard	Higher		RoHS compliant (H)	Biocompatible supported (I) Healthcare product (J)	Food contact		Lipid resistance	Light transmission ASTM D 1003	Specific gravity ASTM D 792
							FDA (K)	EU (K)			
	Grade / series								%		
Lexan* PC resins											
	HP1NREU		HP1REU	HP1REU	Yes	Yes	Yes	Yes		88	1.2
	HP2NREU	HP2EU	HP2REU	HP2REU	Yes	Yes	Yes	Yes		88	1.2
	HP3NREU		HP3REU	HP3REU	Yes	Yes	Yes	Yes		88	1.2
	HP4NREU	HP4EU	HP4REU	HP4REU	Yes	Yes	Yes	Yes		88	1.2
			HP6REU	HP6REU	Yes	Yes	Yes	Yes		88	1.2
			HP8REU	HP8REU	Yes	Yes	Yes	Yes		88	1.2
	HP9NREU		HP9REU	HP9REU	Yes	Yes	Yes	Yes		88	1.2
Lexan PC specialty clear resin											
Enhanced processing											
	HPX4EU		HPX8REU	HPX8R	Yes	Yes	Yes	Yes		82	1.19
High heat autoclavability											
		HP4504H		HP4504H	Yes	Yes	Yes	Pending		85	1.2
Cyclocoly* PC / ABS resin blends											
		HC1204HF		HC1204HF	Yes	Yes	Yes	Yes		opaque	1.15
Noryl* modified PPE resin blends											
			HNA055	HNA055	Yes	Yes	Yes	Yes	Yes	opaque	1.07
			HN731SE	HN731SE	Yes	Yes	Yes	Yes	Yes	opaque	1.06
Xylex* PC/polyester resin blends											
		HX7509HP		HX7509HP	Yes	Yes	Yes1	Yes			1.2
		HX7409HP		HX7409HP	Yes	Yes	Yes1	Yes	Yes	79	1.2
Xenoy* PC/polyester resin blends											
		HX5600HP		HX5600HP	Yes	Yes	Yes1	Yes		opaque	1.22
		HX6600HP		HX6600HP	Yes	Yes	Yes1	Yes		opaque	1.21
Valox* PBT and/or PET resins and blends											
		HX260HPR		HX260HPR	Yes	Yes	Yes1	Yes	Yes	opaque	1.31
		HX312C		HX312C	Yes	Yes	Yes1	Yes	Yes	opaque	1.31
	HX420HP			HX420HP	Yes	Yes	Yes1	Yes	Yes	opaque	1.53
	HX3061HP			HX3061HP	Yes	Yes	Yes1	Yes	Yes	opaque	1.31
	HX3091HP			HX3091HP	Yes	Yes	Yes1	Yes	Yes	opaque	1.31

Performance properties - standard resins

Product family	Grade / series	Healthcare considerations (D)						Physical properties (E)		
		No bromine/no chlorine flame retardant systems used in grade (F)	RoHS compliant (H)	UL 94 flame class ratings (G)	Biocompatible supported (I) Healthcare product (J)	Food contact		Light transmission ASTM D 1003	Specific gravity ASTM D 792	Melt flow rate ASTM D 1238
						FDA (K)	EU (K)			
								%		g/10 min
Cyclocoly PC / ABS blends										
	CX2244ME	Yes	Yes	VO-0.8mm; 5VB-1.5mm; 5VA-3.0mm	No	No	No	opaque	1.19	20
	CY6010	Yes	Yes	V1-1mm; VO-1.5 mm	No	No	No	opaque	1.18	34
	CY6110	Yes	Yes	VO-1.5mm; 5VB-2.5mm	No	No	No	opaque	1.18	
	CY6310	Yes	Yes	VO-1.5mm; 5VB-2.3mm; 5VA-2.9mm	No	No	No	opaque	1.16	20
	CY6414	Yes	Yes	VO-1.2mm; 5VB-2.5mm	No	No	No	opaque	1.18	
Valox PBT and/or PET resins and blends										
	357X	No	Yes		No	No	No	opaque	1.34	
LNP* Lubricomp* compounds										
	KL002(L)	Yes	Yes		No	(K)	Yes	opaque	1.46	
	KL004	Yes	Yes		No	(K)	Yes	opaque	1.5	
	KP004	Yes	Yes		No	(K)	Yes	opaque	1.48	
	W001	Yes	Yes		No	(K)	Yes	opaque	1.3	
	WL004	Yes	Yes		No	Yes	Yes	opaque	1.44	
LNP Stat-Loy* compounds										
	N3000	Yes	Yes		No	Yes	No	opaque	1.14	

1 FDA food contact with use limitations.

C Implant policy: SABIC Innovative Plastics does not support applications that remain implanted beyond 29 days.

D Healthcare considerations: the material may offer capability of attribute shown; please consult with a SABIC Innovative Plastics representative for additional information.

E Physical and mechanical properties: information presented in parenthesis () after data indicates that different test conditions were applied.

F No bromine, no chlorine flame-retardant systems used in grade formulation; however, final product assessment must include colorants (grade-color combination).

G UL 94 flame class rating: representative information from UL Yellow Card provided; see UL (www.ul.com) for full Yellow Card data set.

H RoHS compliant: grade listed conforms to EU directive 2002/95/EC Restriction of Hazardous Substances (RoHS); final assessment must include colorants (grade-color combination).

I Biocompatibility: a representative lot of material evaluated based on ISO 10993 or USP VI protocol. Biocompatibility information available via Type I or Type II letter. Type I letter: issued for products that have been specifically tested for biocompatibility. Type II letter: issued when specific product has not been tested but similar products have been tested for biocompatibility.

Physical properties (E)			Mechanical properties (E)						
Melt flow rate	Melt volume rate	Mold shrinkage, flow, 3.2 mm	Tensile stress, yld	Tensile stress, brk	Tensile strain, yld	Tensile strain, brk	Flexural modulus	Izod impact, notched, 23°C	HDT unannealed
ASTM D 1238	ISO 1133	SABIC Method	ISO 527	ISO 527	ISO 527	ISO 527	ISO178	ISO 180/1A	ISO 75/Ae
g/10 min	cm3/10 min	%	MPa	MPa	%	%	MPa	kJ/m ²	°C
300°C/1.2 kgf	300°C/1.2 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
28	26	0.5-0.7	63	50	6	70	2300	12	121
22	21	0.5-0.7	63	65	6	100	2300	12	122
14	12	0.5-0.7	63	70	6	110	2300	12	125
10	9	0.5-0.7	62	68	7	130	2340	60	127
7	6	0.5-0.7	63	70	6	120	2300	65	127
4	3	0.5-0.7	60	65	7	120	2300	60	124
5	4	0.5-0.7	60	65	7	120	2300	60	124
300°C/1.2 kgf	300°C/1.2 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
35	33	0.4-0.8	59	56	5	119	2400	60	118 (Af)
10	9	0.4-0.8	57	61	6	125	2350	90	115 (Af)
3	3	0.7-0.8	65	65	7	7	2120	13	132 (Af)
260°C/5.0 kgf	260°C/5.0 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
24	22	0.5-0.7	55	45	5	100	2300	NB	102
300°C/5.0 kgf	280°C/5.0 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
7.2	8	0.5-0.8	61	57	4	13	2490	24	147 (Af)
			55	50	5	30	2200	15	115
265°C/2.16 kgf	265°C/2.16 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
12	11	0.4-0.6	60	63	6	135	2300	9	106
3	3	0.6-0.8	60	65	6	110	2180	15	111
250°C/5.0 kgf	250°C/5.0 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
11	10	0.7-1.1	50	55	5	100	2050	55	80 (Af)
11	10	1.2-1.6	44	37	4	100	1800	65	60 (Af)
250°C/2.16 kgf	250°C/2.16 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
	15		55	51	6	25	2300	5	50
35 (1.2kgf)	31 (1.2kgf)	0.9-1.6	58	30	6	25	2400	3	58
26	20	0.3-0.8	125 (5mm/min)	125 (5mm/min)	2 (5mm/min)	2 (5mm/min)	8500	45	200 (Af)
50	45	1.5-2.0	50	49	3	9	2200	4	49 (Af)
21	19	1.8-2.2	46	45	3	60	2150	5	50 (Af)

Physical properties (E)		Mechanical properties (E)						
Melt volume rate	Mold shrinkage, flow, 3.2 mm	Tensile stress, yld	Tensile stress, brk	Tensile strain, yld	Tensile strain, brk	Flexural modulus	Izod impact, notched, 23°C	HDT unannealed
ISO 1133	SABIC Method	ISO 527	ISO 527	ISO 527	ISO 527	ISO178	ISO 180/1A	ISO 75/Ae
cm3/10 min	%	MPa	MPa	%	%	MPa	kJ/m ²	°C
260°C/2.16 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
15	0.4-0.6	65	50	4	90	2500	40	93 (Af)
30	0.4-0.5	63	43	4	40	2650	10	73 (Af)
23	0.4-0.6	63	46	4	35	2440	45	88 (Af)
19	0.4-0.6	63	51	4	>50	2650	50	90 (Af)
13	0.4-0.8	66	67	6	>100	2470	52	116 (Af)
250°C/5.0 kgf		Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	Type I, 50 mm/min	1.3 mm/min, 50 mm span		1.82 MPa, 120*10*4, span=100 mm
8	0.9-1.8	50	40	5	30	2000	45	85
	2.2-3.2		45		>10	2000	5	99
	2.0-2.5	47	46	10	23	2600	4	98
	2.1-2.9	39		>15		1800	6	85
	1.3	45		3		2300	6	66
	0.9-1.4	41		12		2200	4	60
				5	123	1700	46	
								0.32/0.26
								Surface resistivity, ROA (IEC 60094)
								1.E+09-1.E+11

- J The SABIC Innovative Plastics "Healthcare product" policy
- Cyclocac* HM resins
 - Ultem* HU and HA resins
 - Cycloyl* HC resins
 - Valox* HX resins
 - Lexan* HP resins
 - Xenoy* HX resins
 - Noryl* HN resins
 - Xylex* HX resins
 - Biocompatibility assessed (according to ISO 10993 or USP Class VI)
 - Food contact compliance for most "healthcare products"

- FDA Druk Master File and / or Device Master File listing (Letter of Authorization provided as needed)
 - SABIC Innovative Plastics "healthcare products" are subject to formula lock and stringent management of change process (ask your SABIC Innovative Plastics representative for more details)
- K Food contact compliance may be contingent on the color package used in combination with the base resin. Please consult with a SABIC Innovative Plastics representative for additional information.

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