

# QUALITY+ PERFORMANCE

ETP PRODUCT BROCHURE AMERICAS 2022



# ETP (ENGINEERING THERMOPLASTIC)

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# CYCOLAC™ RESIN ABS (ACRYLONITRILE BUTADIENE STYRENE)

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 220°C/10.0kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 3.2 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	BDT5510	14	НВ	293	92	Automotive interior & exterior, lighting	High heat resistance, low gloss
	BDT6500	3.3*	Not FR	186	93	Automotive interior & exterior, lighting	Low gloss
Injection	DL100	7	НВ	700	105	Appliances, automotive interior & exterior, lighting	High heat, high impact, low emissions
molding	DL100LG	10	Not FR	380	N/A	Automotive interior & exterior, lighting	Low gloss, high heat, high impact, low emissions
	DL200H	9	Not FR	620	118	Automotive interior, rear lighting housing, rear mirror housing; warm air blower	Medium impact, hydrostable, high heat
	EX39 (F)	4	НВ	464	91	Food contact, sheet extrusion	FDA compliant (F), high impact
Estavoira	EX58 (F)	4	НВ	432	91	Food contact, sheet extrusion	FDA compliant (F), high impact
Extrusion	EX75	9	НВ	421	94	Multi-purpose, sheet extrusion	High modulus
	EXABS01	4	НВ	411	93	Multi-purpose, sheet extrusion	Medium impact. Natural color, only
Injection	FR15 (U)	40	V-0 @ 1.49mm, 5VA @ 2.79mm	213	93	Electronic housing, switches, computer equipment	Balanced property, indoor UV properties (U), excellent moldability
molding	FR23	37	V-0 @ 2.31mm, 5VB @ 2.48mm	267	83	Electronic housing, switches, computer equipment	High flow, good properties/toughness, excellent moldability
Injection molding	FXS610SK	25	НВ	N/A	N/A	Appliances, electronics, outdoor	favorable balance of engineering properties, suitable for sparkle color effects
Entered to	GRM2600L	2.5	НВ	400	100	Refridgeration liner	FDA compliant, high impact, good chemical resistance. Blow moldable
Extrusion	GX3800F	4	НВ	432	93	Multi-purpose, sheet extrusion	FDA compliant, high impact

<sup>\*</sup> Melt flow rate, 230°C/3.8Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed

#### CYCOLAC™ RESIN ABS (ACRYLONITRILE BUTADIENE STYRENE)

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 220°C/10.0kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 3.2 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
Injection	HMG47MD	19	НВ	320	94	Healthcare, medical disposable, housing, handles, drain bases	Biocompatible (ISO10993), EtO and Gamma sterilizable, flow/impact balanced
molding	HMG94MD	11.7*	НВ	240	93	Healthcare, medical disposable, housing, handles, drain bases	Biocompatible (ISO10993), EtO and Gamma sterilizable, high flow
	INP562	16	Not FR	22	97		Low flow powder SAN. FDA compliant
	INP563	47	Not FR	18	95	For color concentrates and alloys	Medium flow powder SAN. FDA compliant
	INP564	78	Not FR	14	95		High flow powder SAN. FDA compliant
	INP572	16	Not FR	46	95		Low flow SAN pellets. FDA compliant
	INP576	78	Not FR	21	98		Medium flow SAN pellets. FDA compliant
	INP581	98	Not FR	23	97		High flow SAN pellets. FDA compliant
	INP630	21	Not FR	19	110		High heat AMSAN pellets
	INPBMAT	0	Not FR	18	94	Compounding	Provides excellent gloss reduction, compatible with various polymers such as PVC and ABS
	MG29	8	НВ	455	94	Construction, outdoor, electronics	Super high impact, low temperature toughness
	MG34LG	24	НВ	245	82**	Automotive	Low gloss, excellent flow
	MG37EPX	22	НВ	250	88	Automotive front grill, name plate, decoration strip; Bathroom accessory	General purpose easy plating
	MG38 (F) (N) (U)	14	НВ	370	95	Appliances, outdoor, lighting	High impact, toughness/rigidity, FDA compliant (F), NSF compliant (N), improved UV performance (U)
Injection molding	MG47 (F) (N) (U)	18	НВ	320	94	Home appliance, Toy, Business equipment	General purpose, medium impact, balanced flow, FDA compliant (F), NSF compliant (N)
	MG94 (U)	11.7*	НВ	240	95	Large size and thin wall applications	High flow, high impact
	MGABS01	3.7*	НВ	347	97	Outdoor, recreational vehicles	High impact, high gloss
	MGABS02	18	НВ	293	96	Appliances, electrical/electronics	General purpose, excellent flow/impact
	X11	10	НВ	300	99	Automotive	High heat resistance, high gloss, excellent flow/impact balance

<sup>\*</sup> Melt flow rate, 230°C/3.8Kgf

<sup>\*\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed

## CYCOLOY™ RESIN PC/ABS

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 260°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	C1200HF	24*	НВ	587	112**	Automotive interior and exterior, lighting, consumer electronic, telecommunication	High heat, high impact, low temperature impact
	C2800	16	Eco FR V-2 @ 0.88mm, V-0 @ 1.47mm, 5VB @ 2.31mm	427	73**	Business equipment, monitors, enclosures	Non-chlorinated, non- brominated FR, general purpose
Injection molding	C2950	10	V-0 @ 1.49mm, 5VB @ 2.48mm	534	104	Appliances, lighting, electrical	High heat, standard grade
moloning	C2950HF	22	Eco FR V-2 @ 0.76mm, V-0 @ 1.49mm, 5VA @ 3.4mm, 5VB @ 2.48mm	453	101	Appliances, lighting, electrical	High heat, enhanced processability, non-chlorinated, non-brominated FR
	C2951	10	Eco FR V-0 @ 1.5mm, 5VA @ 3.0mm, 5VB @ 2.5mm	587	103	Electrical	Non-chlorinated, non- brominated FR, high heat resistance, excellent processability. Natural color not available
Extrusion	C3650	8.5*	Eco FR V-0 @ 1.5mm, 5VB @ 2.5mm	694	88**	Cable channels	Non-chlorinated, non- brominated FR, verified non- halogen by the DIN VDE 0472/815 standard, general purpose
	C6200	14.5	Eco FR V-1 @ 1.21mm, V-0 @ 1.47mm, 5VA @ 3.4mm, 5VB @ 2.0mm	534	87**	Appliances, construction, electrical, lighting	Non-chlorinated, non- brominated FR, balanced heat, flow and impact
	C6600	21.5	Eco FR V-2 @ 0.75mm, V-0 @ 1.5mm, 5VB @ 2.0mm	550	98	Document handling, consumer appliance	Nonbrominated, nonchlorinated FR, hydrostable, balanced flow and impact, good chemical resistance
Injection molding	CPV9711	12*	Not FR	546	99**	Plating and painting applications	Superior chrome plating, higher heat, excellent flow and impact performance.
	HC1104HF	17*	Not FR	583	106**	Medical equipment and device	Biocompatible (ISO10993), high heat, good flow and excellent impact
	HC1204HF	24*	НВ	580	112**	Medical equipment and device	Biocompatible (ISO10993), good flow, excellent impact including at low temperatures
	LG9000	17*	НВ	534	107**	Automotive interior	Low gloss
	MC1300	14*	НВ	534	99**	Automotive door handle, front grill, name plate, decoration strip; Bathroom accessory	Plating grade, excellent flow and impact

<sup>\*</sup> Melt flow rate, 260°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed

# CYCOLOY™ RESIN PC/ABS

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 260°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
Extrusion	MC8002	9*	Not FR	640	107**	Appliances, lighting, electrical	Low viscosity, high impact and ductile
	MC8100	N/A	Not FR	534	104**	PC/ABS extruded sheets/thermoforming	Extrusion and blow molding grade
Injection molding	XCY620	22*	Not FR	640	107**	Electrical, lighting	Hydrolytically stable
	XCY620S	22*	Not FR	640	108**	Automotive interior & exterior	Hydrolytically stable





<sup>\*</sup> Melt flow rate, 260°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed

# GELOY™ RESIN ASA (ACRYLIC STYRENE ACRYLONITRILE) AND PC/ASA

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 220°C/10.0kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648,1.82 MPa, 3.2 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	CR7500	6.3	НВ	400	90	Automotive, transportation, marine, sport leisure equipment	Excellent weatherability, optimum flow impact balance, auto spec
	CR7520	7	НВ	320	76	Automotive, transportation, marine, sport leisure equipment	Excellent weatherability, good flow, high impact, f2 rated (UL 746C). No natural color available
	CR8510	6.3	НВ	400	90	Automotive front grill, external rear mirror housing, rear light housing, center high mounting stop lamp, spoiler	High heat resistance, especially for automotive parts, fl rated (UL 746C)
Injection molding	HRA222F	13**	V-0 @ 2.0mm	385	N/A	Coffee machine, switch panel, telecom device	ASA/PC, non-brominated, non- chlorinated FR, f1 rated (UL 746C)
	XP4025	6.7	НВ	170	90*	Consumer appliances housing, transporation panel, automotive, outdoor device housing	ASA/PC, excellent weatherability
	XP4034	5	НВ	320	104*	Automotive external/inner rear mirror housing, roof rack trim, lift gate/decklid handle housing, license plate frame	ASA/PC, high heat resistance, excellent weatherability, f2 rated (UL 746C)
	XP4045LG	28***	Not FR	N/A	N/A	Automotive interior and exterior	ASA/PC, excellent weatherability, low gloss
	XP7550	14	Not FR	375	89	Appliances, automotive, outdoor	ASA/PC, excellent weatherability, high flow



<sup>\*</sup> HDT, 1.82 Mpa, 6.4mm, unannealed \*\* MVR, 260°C/2.16 Kg \*\*\* MVR, 260°C/5.0 Kg

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	101	7	НВ	907	137	Sheet, profile part, compounding	Low flow, heat stability
Extrusion	103 (R)	7	НВ	907	137	Sheet, profile part	Without sink mark in thicker thickness, UV stable for outdoor, internal mold release (R)
	104 (R)	7	НВ	907	137	Food contact, appliances	FDA compliant, internal mold release (R)
	121R	17.5	НВ	694	137	Automotive parts, consumer electronics	High flow, internal mold release for intricate parts
Injection molding	123R	17.5	НВ	694	137	Automotive parts, consumer electronics	UV-stabilized , high flow, internal mold release for intricate parts
	124R	17.5	НВ	694	137	Food contact, appliances, consumer electronics, personal care	FDA compliant, internal mold release
	131	3.5	НВ	907	137	Automotive parts electrical/electronic parts, sheet, profile part	Very low flow linear PC
Extrusion	133R	3.5	НВ	907	137	Construction, sheet, profile part	UV-stabilized, very low flow and internal mold release
	134R	3.5	НВ	907	137	Food contact, sheet, profile part	FDA compliant, very low flow and internal mold release
	141 (R)	10.5	НВ	801	137	Small appliance, telecom equipment, Automotive, consumer electronics	Internal mold release (R)
Injection molding	143R	10.5	НВ	801	137	Telecom equipment, consumer electronics, Audio, packaging	UV-stabilized , Internal mold release
	144R	10.5	НВ	801	137	Home appliance, food processor, toy, food disposable	FDA food contact compliant, internal mold release
Extrusion	153R	2.5	НВ	747	137	Outdoor, electronics	Very low flow, internal mold release, branched PC

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	191	8.5	НВ	747	137	Outdoor, lawn and gardening equipment, electronics	Improved chemical resistance, available only in opaque colors
	201R	7	V-2 @ 1.09mm, V-0 @ 5.99mm	907	137	Construction, military, electronics	Standard flow, internal mold release, f2 rated (UL 746C)
	203R	7	V-2 @ 0.75mm, V-0 @ 6.0mm	907	137	Appliances, construction, electronics, military	Standard flow, internal mold release, f1 rated (UL 746C)
	221R	17.5	V-2 @ 1.09mm, V-0 @ 5.99mm	694	137	Appliances, electronic displays, personal care	High flow, internal mold release, f2 rated (UL 746C)
	223R	17.5	V-2 @ 0.75mm, V-0 @ 5.99mm	694	137	Wireless communication, smart meter, Home appliance, Camera	UV-stabilized, high flow, internal mold release, fl rated (UL 746C)
	241R	10.5	V-2 @ 1.09mm, V-0 @ 5.99mm	801	137	Desktop, printer, wall plate, Router	Internal mold release, f2 rated (UL 746C)
Injection molding	243R	10.5	V-2 @ 0.75mm, V-0 @ 6.0mm	801	137	Wiring device, small appliance	UV-stabilized, internal mold release, f1 rated (UL 746C)
	3412ECR	7	Eco FR V-0 @ 1.5mm, 5VA @ 3.0mm	110	141*	Connector, electric housing	20%GF filled, non-brominated, non-chlorinated FR, UV resistance, internal mold release
	3412R	4.3	V-1 @ 1.47mm, V-0 @ 2.99mm, 5VA @ 2.99mm	106	148	Automotive parts, consumer electronics	20% GF filled, internal mold release
	3413HF	8	V-1 @ 1.47mm, V-0 @ 2.99mm	69	137**	Electrical/electronic parts	30% GF filled, internal mold release
	3413R	5	V-1 @ 1.47mm, V-0 @ 2.99mm	106	151	Outdoor, personal care	30% GF filled, internal mold release
	500R	7.5	V-0 @ 1.52mm, 5VA @ 3.04mm	106	146	Appliances, automotive, construction, electronics, military	10% GF filled, internal mold release, f2 rated (UL 746C)
	503R	7	V-0 @ 1.52mm, 5VA @ 2.99mm	106	146	Appliances, automotive, construction, electronics, military	10% GF filled, UV-stabilized, internal mold release, f1 rated (UL 746C)

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	505R	7	Eco FR V-0 @ 1.5mm, 5VA @ 3.0mm, 5VB @ 1.0mm	107	136*	Connector, electric housing	10%GF filled, non-brominated, non-chlorinated FR, internal mold release
	915R	18	Eco FR V-2 @ 0.8mm, V-0 @ 1.1mm	747	123*	Document handling, electric housings	Good flow and mold release properties.
	920	14.5	V-0 @ 1.5mm	640	137	Appliances, electronic displays, personal care	Internal mold release, f1 rated (UL 746C)
	920A	14.5	V-2 @ 1.5mm, V-0 @ 3.0mm	640	137	Appliances, electronic displays, personal care	Internal mold release
	923A	14.5	V-2 @ 1.5mm, V-0 @ 3.0mm	640	137	Appliances, electronic displays, personal care	UV-stabilized, internal mold release, f1 rated (UL 746C)
	925	14	Eco FR V-2 @ 0.8mm, V-0 @ 1.1mm	801	137	Document handling, electric housings	Non-chlorinated, non- brominated FR, internal mold release, impact balance
Injection molding	925A	13	Eco FR V-2 @ 0.8mm, V-0 @ 3.0mm	801	126*	Document handling, electric housings	Non-chlorinated, non- brominated FR, internal mold release
	925AU	13	Eco FR V-2 @ 0.8mm, V-0 @ 3.0mm	801	126*	Document handling, electric housings	UV- stabilized, non- chlorinated, non-brominated FR, internal mold release, f1 rated (UL 746C)
	925U	14	Eco FR V-2 @ 0.8mm, V-0 @ 1.5mm	801	126*	Document handling, outdoor electric housings	UV- stabilized, non-Cl, non-Br FR, internal mold release, f1 rated (UL 746C) providing additional weathering capability
	940	10	V-0 @ 1.1mm	640	137	Appliances, automotive, construction, electronics	Internal mold release, f1 rated (UL 746C)
	940A	10	V-2 @ 1.5mm, V-0 @ 3.0mm	640	137	Appliances, automotive, construction, electronics	Internal mold release
	943	10	V-0 @ 1.47mm	640	137	Appliances, automotive, electrical vehicles, construction, electronics	UV-stabilized, internal mold release, f1 rated (UL 746C)
	943A	10	V-2 @ 1.5mm, V-0 @ 3.0mm	640	137	Appliances, automotive, electrical vehicles, construction, electronics	UV-stabilized, internal mold release, f1 rated (UL 746C)

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	945	10	Eco FR V-2 @ 0.8mm, V-0 @ 1.0mm, 5VA @ 3.0mm	801	126*	Adaptor, charger, battery enclosures	Non-chlorinated, non- brominated FR, internal mold release
	945AU	10	Eco FR V-2 @ 0.8mm, V-0 @ 3.0mm	801	126*	Document handling, electric housings	UV- stabilized, non-Cl, non-Br FR, internal mold release, f1 rated (UL 746C) providing additional weathering capability
	945U	10	Eco FR V-2 @ 0.8mm, V-0 @ 1.5mm	801	126*	Electrical housing	UV- stabilized, non-Cl, non-Br FR, internal mold release, f1 rated (UL 746C) providing additional weathering capability
Injection molding	950	7	V-0 @ 1.5mm, 5VA @ 3.0mm	640	137	Appliances, construction, electronics	Internal mold release, f1 rated (UL 746C)
	953A	7	V-2 @ 1.5mm, V-0 @ 3.0mm	640	137	Electrical vehicles, electronics	UV-stabilized, internal mold release, f1 rated (UL 746C)
	955	7	Eco FR V-2 @ 0.8mm, V-0 @ 1.5mm, 5VA @ 3.0mm	801	137	LED bulb	Non-chlorinated, non- brominated FR, internal mold release
	9915A	6.3	Eco FR V-0 @ 1.5mm	796	125*	Construction, electronics	UV-stabilized, non-chlorinated, non-brominated FR, internal mold release
	EM3110	20	НВ	640	126	Automotive parts	Impact resistant at -20°C, optimized flow and processability
	EX1332T	3	НВ	812	131*	Multi-wall sheet or profile extrusion applications	UV-stabilized, internal mold release
Extrusion	EX1632T	6	НВ	800	130*	Appliances, construction	UV-stabilized, internal mold release
	EX7631T	10.5	Not FR	77	116*	Co-extrusion/cap layers	Highly UV-stabilized, internal mold release, improved outdoor weathering
Injection	FL905	3.2	Eco FR V-0 @ 3.0mm, 5VA @ 6.0mm	520	140*	Package, electrical enclosures	5% glass fiber filled foamable polycarbonate, non- brominated, non-chlorinated FR
molding	FL910	N/A	V-0 @ 2.99mm, 5VA @ 2.99mm	854***	140	Package, electrical enclosures	10% glass fiber filled foamable polycarbonate, high flexural strength and modulus

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	HF1110 (R)	25	V-2 @ 1.09mm	640	126*	Wireless device, game player, document handling machine	Excellent flow, internal mold release for thin wall parts (R)
	HF1130 (R)	25	V-2 @ 1.47mm	640	126**	Wireless device, game player, document handling machine	UV-stabilized, excellent flow, internal mold release for thin wall parts (R)
	HF1140	25	V-2 @ 1.09mm	640	137	Food contact	FDA compliant
	HF3510R	39	Not FR	690	124*	Automotive bezel	Easy processing, internal mold release
	HF4010SR	42	Not FR	690	124*	Automotive bezel	Superior release, high gloss, suitable for large parts and thin walls
	HP1HF	39	V-2 @ 3.0mm	687	125*	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO sterilizable, internal mold release, high flow
Injection molding	HP1R	25	V-2 @ 1.09mm	640	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO and Autoclave sterilizable, internal mold release
	HP2	17.5	НВ	694	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO and Autoclave sterilizable, internal mold release
	HP4R	10.5	Not FR	801	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO and Autoclave sterilizable, internal mold release
	HP6NR	7	НВ	907	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO and Autoclave sterilizable
	HPS1	25	Not FR	3204***	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO, Autoclave, E-Beam and Gamma sterilizable, internal mold release
	HPS2	17.5	Not FR	3204***	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO, Autoclave, E-Beam and Gamma sterilizable, internal mold release
Injection molding	HPS4	10.5	НВ	840	138	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO, Autoclave, E-Beam and Gamma sterilizable, internal mold release
	HPS6	7	Not FR	907	137	Healthcare, medical, pharmaceutical	Biocompatible (ISO10993 or USP Class VI), EtO, Autoclave, E-Beam and Gamma sterilizable, internal mold release

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	HFR1723	25	V-2 @ 1.2mm	640	126**	Compounding	UV-stabilized, internal mold release
	HFR1724	25	V-2 @ 1.1mm	640	126*	Compounding, food contact	FDA compliant, internal mold release
	IR2040	18	НВ	700	125*	Compounding	FDA compliant, internal mold release
	IR2240	10.5	НВ	800	137	Compounding	FDA compliant, internal mold release
Compounding	IR2840	7	НВ	850	137	Compounding	FDA compliant, internal mold release
	VR2020	18	НВ	700	137	Compounding	UV-stabilized, internal mold release, f1 rated (UL 746C)
	VR2220	12	НВ	800	138	Compounding	UV-stabilized, internal mold release, f1 rated (UL 746C)
	VR2820	7	НВ	900	124*	Compounding	UV-stabilized, internal mold release
	LS1	17.5	НВ	694	129**	Automotive Lens	UV-stabilized, AMECA certified, f1 rated (UL 746C), low viscosity
	LS2	11	НВ	801	132**	Automotive Lens	UV-stabilized, AMECA certified, f1 rated (UL 746C), medium viscosity
	LUX1619	7.5	НВ	640	129*	Light reflector, light shielding parts	High light reflectance, opaque
Injection molding	LUX2289	17	V-2 @ 1.5mm	648	124*	Light reflector, light shielding parts	High light reflectance, UV- stabilized, opaque
	ML1655R	10	V-0 @ 1.11mm	640	137	Construction, electronics	Internal mold release, f1 rated (UL 746C), available only in black color
	ML3729R	39	V-2 @ 0.75mm	686	124*	Wireless devices, game players & acessories, E&E,housings, furniture, office supplies, consumer electronics	UV-stabilized, internal mold release, easy processing

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 300°C/1.2kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	OQ2720	7.5	Not FR	907	132**	Ophthalmic or safety lens	UV-stabilized, standard flow
	OQ3420	10.5	Not FR	747	137	Ophthalmic lens	UV-stabilized, standard flow
Injection molding	OQ3820	7.4	Not FR	918	129*	Ophthalmic lens	UV-stabilized, standard flow
	OQ4320R	12.5	Not FR	747	137	Sunware lens	UV-stabilized, medium flow, internal mold release
Blow molding	PK2870	2.5	НВ	750	130*	5 gallon water bottle	High melt strength and impact resistance, FDA compliant, branched PC
Injection	XLS1110	40	Not FR	N/A	N/A	Automotive optical parts	UV-stabilized, very high transmission, AMECA listed for protected applications only
molding	XLS1210	21	Not FR	N/A	N/A	Automotive optical parts	UV-stabilized, very high transmission, AMECA listed for protected applications only



<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* HDT, 1.82 Mpa, 6.4mm, unannealed \*\*\* Izod Impact, unnotched, 23°C

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	215HPR	N/A	Not FR	1602	154	Food contact	FDA compliant, internal mold release, unreinforced
	310	40	НВ	1602	154	Appliances, outdoor, electrical	Unreinforced, general purpose
	310SE0	8.6	V-0 @ 0.71mm, 5VA @ 3.0mm	40	162	Electrical industry, bobbins, components and appliance housings	Unreinforced, excellent chemical resistance
	311	N/A	Not FR	53	154	Appliances, electrical	Improved resistance to UV, medium viscosity
	325 (M)	30	НВ	53	154	Sprinklers and nozzles, pumps, door handle, tank covers, pens, pencils	Unreinforced, improved processing, f1 rated (UL 746C)
	337	11	Not FR	870	98	Automotive applications such as underhood power distribution boxes and covers	Unreinforced, low temperature impact
Injection Molding	357 (U)	8	V-0 @ 0.63mm, 5VA @ 3.0mm	534	138	Electrical applications such as bobbins, switches, and enclosures	PBT/PC, Impact modified, excellent chemical resistance, f2 rated (UL 746C), UV- stabilized (U)
	357M	N/A	V-0 @ 0.63mm, 5VA @ 3.0mm	530	137	Electrical applications such as bobbins, switches, and enclosures	PBT/PC, Impact modified, excellent chemical resistance, f2 rated (UL 746C),
	364	8	V-0 @ 1.47mm 5VA @ 2.99mm	747	N/A	This is a good candidate for outdoor applications in telecommunications enclosures	PBT/PC, unreinforced, impact modified flame retardant. It has excellent chemical resistance.
	365	8	V-0 @ 0.76mm	640	129	General purpose	PBT/PET, Chemical resistance, dimentional stability
	3706	19*	V-0 @ 1.5mm, 5VA @ 2.49mm	667	85**	Outdoor enclosures	PBT/PC, Unreinforced, excellent chemical resistance
	420	17	НВ	85	215	Appliance handles, spotlights, electric motors, connectors	30% GF, excellent strength, stiffness and dimensional stability, high heat resistance
	420HP	17	Not FR	85	215	Food contact	30% GF, FDA compliant

<sup>\*</sup> Melt flow rate, 266°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed \*\*\* Melt flow rate, 250°C/5.0 Kgf \*\*\*\* Melt flow rate, 250°C/1.2 Kgf

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	420SE0	35	V-2 @ 0.4mm, V-0 @ 0.71mm, 5VA @ 2.0mm	60	200**	Edge trimmers, food mixer motor stator and commutator, cooling fan	30% GF, excellent chemical resistance
	430	11.7	НВ	128	223	Connectors	33% GF, impact modified
	457	30	V-0 @ 0.71mm, 5VA @ 3.0mm	32	204	Electrical and appliances industries	6.5% GF, general purpose
	4031	30	НВ	100	205**	appliance handles, spotlights, electric motors	30% high strength GF, excellent strength, stiffness and heat resistance
	508 (R)	28	НВ	90	215	Appliance handles, spotlights, electric motors	PBT/PC, 30% GF, excellent mechanical and thermal performance, reduced warpage, f2 rated (UL 746C)
	553 (U)	20	V-0 @ 0.86mm, 5VA @ 2.3	85	204	appliance handles, spotlights, electric motors, and pump housings	PBT/PC, 30% GF, excellent chemical resistance, lower warpage, f1 rated (UL 746C), UV-stabilized (U)
Injection Molding	732E	N/A	НВ	101	215	Automotive	30% glass/mineral, excellent thermal performance, low shrinkage and warp, easy flow, high heat
	735	N/A	НВ	74	215	Motorized heating appliances, adaptor rings, oven grills	40% glass/mineral, excellent thermal performance, low shrink
	745	N/A	НВ	80	160	telephone ringer frames, card racks	PBT/PET, 30% mineral reinforced, improved toughness, low warpage
	771	8	V-2 @ 0.61mm, V-0 @ 0.76mm, 5VA @ 2.01mm	42	217	Electrical applications	35% mineral/glass filled, excellent chemical resistance, CTI of 0
	780	N/A	V-0 @ 0.81mm	53	210	Electrical applications, circuit, motor coil housings	40% mineral/glass filled, reduced blooming effect
	815	18	НВ	37	210	Hot air gun housing assemblies, industrial glue guns, appliance housings and handles	PBT/PET, 15% GF, high heat, excellent surface finish
	830	23	НВ	85	221	Hot air gun housing assemblies, industrial glue guns, appliance housings and handles	PBT/PET, 30% GF, high heat, excellent surface finish

<sup>\*</sup> Melt flow rate, 266°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed \*\*\* Melt flow rate, 250°C/5.0 Kgf \*\*\*\* Melt flow rate, 250°C/1.2 Kgf

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	855	32	V-0 @ 1.5mm	55	204	External housings, steam irons, appliance housings and lighting parts	PBT/PET, 15% GF, high heat, excellent surface finish and chemical resistance, improved surface appearance
	865	25	V-0 @ 1.8mm, 5VA @ 3.0mm	80	212	External housings, steam irons, appliance housings and lighting parts	PBT/PET, 30% GF, high heat, excellent surface finish and chemical resistance
	DR48		V-0 @ 0.9mm, 5VA @ 3.0mm	49	210	Lamp sockets, connectors, switches	17% GF, excellent chemical resistance
	DR51	43	НВ	53	210	Spotlights, appliance housings, handles, connectors	15% GF, excellent mechanical, thermal and electrical performance
	EF3512	6	V-0 @ 0.76mm	37	53**	Electrical applications	Wear and fatique resistant
	EH7020	5	Not FR	32	187	Automotive bezel applications	PBT/PET, Mineral filled, metallizable
	EH7020HF	68	Not FR	30	70**	Automotive bezel applications	PBT/PET, Mineral filled, metallizable, high flow
Injection Molding	HX215HP	80	Not FR	30	54**	Medical devices and pharmaceutical applications	Unreinforced, biocompatible (ISO10993 or USP Class VI), gamma, e-beam, EtO sterilizable, internal mold release
	НХ420НР	17	Not FR	85	215	Medical devices and pharmaceutical applications	Medium flow, 30% GF, biocompatible (ISO10993 or USP Class VI), gamma, e- beam, EtO sterilizable
	K3501	N/A	НВ	90	46**	Automotive underhood applications	Hydrollytically stable, heat stabilized, impact modified, USCAR-2 Class III humidity/heat performance
	K4530	N/A	Not FR	58	193**	Automotive connectors	15% GF, hydrolytically stable, high flow
	K4560	N/A	Not FR	96	200**	Automotive applications	30% GF, impact modified, high flow, hydrolytically stable
	SHF436HR	30	Not FR	92	214**	Electrical applications	30% GF, super high flow, hydrolytically resistant

<sup>\*</sup> Melt flow rate, 266°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed \*\*\* Melt flow rate, 250°C/5.0 Kgf \*\*\*\* Melt flow rate, 250°C/1.2 Kgf

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	V2000DM	35.4	Not FR	46	54**	Automotive lighting bezel	Unreinforced, directly metallizable, high flow
	V3900WX	11	V-0 @ 1.5mm, 5VA @ 3.0mm	800	119	Battery enclosure, electronic housing	PBT/PC, Unreinforced, UV- stabilized, weatherable, impact modified, excellent chemical resistance, f1 rated (UL 746C)
Injection Molding	V4860HR	17.8***	V-0 @ 0.8mm	90	221	Automotive, electrical	30% GF, impact modified, hydrolytically stable, excellent chemical resistance
	VAC3001	17****	НВ	59	47**	Flexible hinge applications	Unfilled PBT modified with elastomer
	VIC4311	19***	Not FR	137	205**	Automotive underhood applications such as ignition coil housings	30% GF, impact modified, excellent epoxy adhesion
	VX4920	8	НВ	80	N/A	Connectors and automotive industry	PBT/ASA, 20% GF, excellent mechanical properties



<sup>\*</sup> Melt flow rate, 266°C/5.0 Kgf \*\* HDT, 1.82 Mpa, 3.2mm, unannealed \*\*\* Melt flow rate, 250°C/5.0 Kgf \*\*\*\* Melt flow rate, 250°C/1.2 Kgf

## XENOY™ RESIN PC/PBT

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/5.0kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	1102	6***	Not FR	800	110	Energy Absorbers, bumper beam, consumer electronics	Excellent low temperatue impact, chemical resistance to automotive fluids
	1103	13	НВ	747	87*	Energy Absorbers, bumper beam	Impact modified, excellent low temperatue impact and chemical resistance
	1731	9.6	НВ	667	115	Exterior components (door handles), CE wearables (athletic trackers)	UV-stabilized, impact/chemical resistance, excellent physical property retention
	1760E	15	Not FR	63	125*	Automotive exteriors	11% GF, impact/chemical resistance, excellent physical property retention
	5220U	16	НВ	710	107	Recreation and Agriculture equipment, Handset housing and accessory, Power tools, CE handset accessory, housing	Impact modified, chemical and UV resistance, low temperature ductility, f2 rated (UL 746C)
	5720 (U)	11.4	НВ	801	115	Recreational and Ag equipment, packaging	Outstanding low temperature impact and chemical resistance, UV stabilized (U)
	6370	24	НВ	170	204	Automotive and recreational vehicles	30% GF, impact modified/toughness
Injection molding	6620 (U)	21.9**	НВ	850	98	Gas tanks, Irrigation sprinklers, Packaging consumer electronics	Improved chemical resistance, impact modified, outstanding impact at low temperature, UV- stabilized (U)
	CL100 (S)	14	НВ	700	90*	Heavy trucks (body panels) shoe caps	Impact modified, chemical resistance, low temperature ductility, good paint adhesion
	HTX575	50**	Not FR	100	205*	E-coating, vehicle components, FEM & GOR, structures and grill shutters	
	HTX975	37**	Not FR	N/A	N/A	E-coating, vehicle components, FEM & GOR, structures and grill shutters	35% high strength glass fiber reinforced, excellent strength, stiffness and heat resistance
	X2300WX	35**	Not FR	640	110*	Recreational Vehicles	PC/PET, UV-stabilized, chemical resistance, dimensional stability/mechanical performance, improved paint adhesion
	X4820	10	НВ	700	98*	Body panels, window rails, door panels, power tool housings, door handles, medical device enclosures, EV electric vehicle components	7.5% mineral filled, low CTE, high modulus, high ductile, high chemical resistance, excellent impact, very low creep, excellent fatigue and dimensional stability

<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* Melt flow rate, 266°C/5.0 Kgf \*\*\* MVR, 250°C/2.16 Kg

## XENOY™ RESIN PC/PBT

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 250°C/5.0kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 6.4 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	X4850	4.5**	Not FR	180	101*	Body panels, window rails, door panels, power tool housings, door handles, medical device enclosures, EV electric vehicle components	12% mineral filled, low CTE, high modulus, high ductile, high chemical resistance, excellent impact, very low creep, excellent fatigue and dimensional stability
	X5300WX	28**	Not FR	747	N/A	Automotive and recreational vehicles	Chemical resistance and good mechanical performance, UV- stabilized, excellent weatherability
Injection molding	X5600WX	4.1	НВ	800	98*	Outdoor applications that require weatherability	UV-stabilized, chemical resistance, dimensional stability and mechanical performance, internal mold release
	X5630Q	20**	Not FR	N/A	N/A	Painted applications, body panels, spoilers, housings, door handles, spring-loaded applications, fuel filler doors, medical device enclosures, EV electric vehicle components.	PC/PET, 19% mineral filled, low CTE, high heat, dimensional stability, low shrinkage



<sup>\*</sup> HDT, 1.82 Mpa, 3.2mm, unannealed \*\* Melt flow rate, 266°C/5.0 Kgf \*\*\* MVR, 250°C/2.16 Kg

## XYLEX™ RESIN PC/POLYESTER

PROCESS	GRADE	MELT INDEX (g/10 min) (ASTM D 1238, 265°C/2.16kgf)	Flame retardancy (UL 94)	IZOD IMPACT (J/m) (ASTM D 256, notched, 23°C)	HDT (°C) (ASTM D 648, 0.45 MPa, 3.2 mm, unannealed)	TYPICAL APPLICATIONS	CHARACTERISTICS
	НХ7509НР	12	V-2 @ 0.75mm	854	119	Medical devices and pharmaceutical applications	Medium flow, chemical resistance, FDA compliant, biocompatible (ISO10993 or USP Class VI), EtO and gamma sterilizable, internal mold release
Injection molding	НХ8300НР	15	Not FR	1120	79	Medical devices and pharmaceutical applications	Medium flow, chemical resistance, FDA compliant, biocompatible (ISO10993 or USP Class VI), EtO sterilizable
	X7200	12	V-2 @ 1.0mm	900	96	Electrical/electronic applications	UV-stabilized, general purpose
	X7507	8	НВ	990	104*	Pool Spa	Chemical resistance vs pool cleaners, f1 rated (UL 746C)
	X8300	15	V-2 @ 3.0mm	1120	79	Personal consumer (safety, sunglasses), eye ware	High chemical resistance, low temperature processing
Blow molding / Extrusion	X8409AC	4	НВ	854	116	Power tools, others	High viscosity and melt strength, selective plating
Injection molding	X8619	18	НВ	N/A	N/A	Power tools, others	High chemical resistance





<sup>\*</sup> HDT, 1.82 MPa, 3.2mm, unannealed

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