

Acrylonitrile Butadene Styrene

Processing ABS	Deg C
MOLD	40 - 80
MELT	220 - 260
MAX TEMP	280
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	HDPE, PMMA, PS
STRUCTURE	Amorphous
OPACITY	Clear to Opaque
PHYSICAL	Tough
SG	1.0
SHRINKAGE	0.4 to 0.8%
MELTING POINT	110
HDT	99-107
SERVICE TEMP	86

Description

ABS Acrylonitrile-butadiene-styrene is one of the most widely used engineering thermoplastic today. The product has excellent surface appearance, strength and stiffness, toughness and chemical resistance---as well as its processing ease and versatility.

ABS is often used for refrigerator door liners, interior automotive trim and housings for business machines, small appliances, telephones, and other consumer electronics.



Acrylonitrile Butadene Styrene Plating Grades

Processing ABS	Deg C
MOLD	40 - 80
MELT	250 - 275
MAX TEMP	275
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	HDPE, PMMA, PS
STRUCTURE	Amorphous
OPACITY	Transluscent to Opaque
PHYSICAL	Tough
SG	1.04
SHRINKAGE	0.4 to 0.8%
MELTING POINT	110
HDT	99-107
SERVICE TEMP	88

Description

ABS Acrylonitrile-butadiene-styrene is one of the most widely used engineering thermoplastic today. The product has excellent surface appearance, strength and stiffness, toughness and chemical resistance---as well as its processing ease and versatility.

Applications: ABS is often used for interior automotive trim and housings for business machines, small appliances, telephones, and other consumer electronics.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com High Heat ABS Grades:

High Heat Abs Grades

Processing ABS	Deg C
MOLD	40 - 80
MELT	240 - 280
MAX TEMP	280
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	HDPE, PMMA, PS
STRUCTURE	Amorphous
OPACITY	Opaque
PHYSICAL	Tough, Heat Resistant
SG	1.07
SHRINKAGE	0.4 to 0.8%
MELTING POINT	120
HDT	110-119
SERVICE TEMP	93

Description

ABS Acrylonitrile-butadiene-styrene is one of the most widely used engineering thermoplastic today. The product has excellent surface appearance, strength and stiffness, toughness and chemical resistance---as well as its processing ease and versatility.

ABS is often used for interior automotive trim and housings for business machines, small appliances, telephones, and other consumer electronics.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com GPS:

General Purpose Polystyrene

Processing GPPS	Deg C
MOLD	20 - 70
MELT	180 - 260
MAX TEMP	275
DRYING	70 - 70
INJECTION SPEED	Typically High
PURGE	GPPS
STRUCTURE	Amorphous
OPACITY	Transparent, high clarity
PHYSICAL	Brittle
SG	1.0
SHRINKAGE	0.4 to 0.7%
MELTING POINT	100
HDT	69-103
SERVICE TEMP	80

Description

General Purpose Polystyrene offers excellent clarrity, surface finish, low creep, good dimensional stability but is very brittle.

Applications include: Packaging, clear housings, toys and disposable items.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com HIPS:

High Impact Polystyrene

Processing HIPS	Deg C
MOLD	20 - 60
MELT	200 - 260
MAX TEMP	280
DRYING	60 - 75
INJECTION SPEED	Typically High
PURGE	GPPS
STRUCTURE	Amorphous
OPACITY	Transparent to Opaque
PHYSICAL	Tough
SG	1.03-1.06
SHRINKAGE	0.4 to 0.7%
MELTING POINT	95
HDT	75-90
SERVICE TEMP	70

Description

HIPS offers excellent processing, glossy surface finish, low creep, good dimensional stability and high impact strength.

Applications include: automotive interior, exterior, appliance housings & white goods.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com ASA:

Acrylate Styrene Acrylonitrile

Processing ASA	Deg C
MOLD	50 - 80
MELT	210 - 240
MAX TEMP	280
DRYING	80 - 85
INJECTION SPEED	Medium to High
PURGE	ASA
STRUCTURE	Amorphous
OPACITY	Opaque, UV Resistant
PHYSICAL	Tough
SG	1.08
SHRINKAGE	0.4 to 0.6%
MELTING POINT	105
HDT	95-100
SERVICE TEMP	100

Description

ASA is a two-phase thermoplastic material combining styrene-acrylonitrile copolymer and acrylic rubber. It has excellent weather resistance, so it is the best choice for outdoor applications.

Applications: ASA is used in outdoor applications that require long term color stability. Exterior siding, automotive side mirror housings, signage and marine applications are common uses for ASA.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com SAN:

Styrene Acrylonitrile

Processing SAN	Deg C
MOLD	40 - 80
MELT	220 - 260
MAX TEMP	280
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	SAN
STRUCTURE	Amorphous
OPACITY	Transparent
PHYSICAL	Brittle, UV High
SG	1.08
SHRINKAGE	0.3 to 0.7%
MELTING POINT	115
HDT	104-107
SERVICE TEMP	92

Description

SAN is a material that has excellent chemical resistance, high flexural strength, good appearance and colorability, low impact, and it is processed very easily. Additionally, the transparency of SAN makes it one of the few plastics that can be used in clear applications.

Applications: Housewares are a major market for SAN because of the resin's glass-like clarity, excellent chemical resistance and good heat resistance. Typical applications include dishwasher-safe containers, disposable lighters, brush bristles, auto gauge covers, cosmetic cases, medical syringes, reflectors, refrigerator doors, and battery cases.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com SBS:

Styrene Butadene Styrene

Processing SBS	Deg C
MOLD	40 - 80
MELT	190 - 210
MAX TEMP	250
DRYING	60 - 60
INJECTION SPEED	Typically High
PURGE	GPPS
STRUCTURE	Amorphous
OPACITY	Transparent, High Clarity
PHYSICAL	Tough
SG	1.02
SHRINKAGE	0.6 to 0.7%
MELTING POINT	85
HDT	70-78
SERVICE TEMP	67

Description

SBS offers high quality glass clear surface finish and high impact strength but can be notch sensitive.

Applications include: Glass replacement in medical applications, packaging and storage boxes.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PC**:

Polycarbonate	
Processing PC	Deg C
MOLD	80 - 120
MELT	280 - 320
MAX TEMP	320
DRYING	100 - 120
INJECTION SPEED	Typically High
PURGE	HDPE, PMMA, GPPS
STRUCTURE	Amorphous
OPACITY	Transparent
PHYSICAL	Very Tough
SG	1.21
SHRINKAGE	0.2 to 0.8%
MELTING POINT	220
HDT	100-138
SERVICE TEMP	120

Description

Polycarbonate is strong, stiff, hard, transparent and maintains its properties over a wide range of temperature and can be used in high temperature applications.

Applications include: automotive headlamps, glazing, electrical appliance housings, CD's, DVD's & medical applications.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com PC / ABS:

Polycarbonate / ABS

Processing PC-ABS	Deg C
MOLD	50 - 100
MELT	230 - 300
MAX TEMP	280
DRYING	90 - 110
INJECTION SPEED	Typically High
PURGE	HDPE, PMMA, PS
STRUCTURE	Amorphous
OPACITY	Opaque
PHYSICAL	Tough
SG	1.13
SHRINKAGE	0.6 to 0.8%
MELTING POINT	110
HDT	99-107
SERVICE TEMP	86

Description

PC / ABS is available in a range of engineering-grade blends that provide better mechanical performance than ABS and greater processing ease that PC. They have good aesthetics, being available in many colors and finishes, and are also paintable.

Applications include: Widely used in automobile instrument panels, wheel covers, snowmobiles, and cellular phones.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PMMA**:

PMMA Acrylic	
Processing Acrylic	Deg C
MOLD	40 - 90
MELT	240 - 280
MAX TEMP	280
DRYING	75 - 90
INJECTION SPEED	Medium
PURGE	
STRUCTURE	Amorphous
OPACITY	Clear to Opaque
PHYSICAL	Tough
SG	1.18
SHRINKAGE	0.4 to 0.7%
MELTING POINT	100
HDT	77-110
SERVICE TEMP	85

Description

PMMA offers excellent processing surface finish, low creep, good dimensional stability and high impact strength.

Applications include: automotive interior, exterior, appliance housings & white goods.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PES**:

Polyethersulphone

Processing PES	Deg C
MOLD	140 - 180
MELT	310 - 400
MAX TEMP	400
DRYING	135 - 150
INJECTION SPEED	Typically High
PURGE	HDPE
STRUCTURE	Amorphous
OPACITY	Transparent
PHYSICAL	Tough, Chem & Heat Resist
SG	1.37
SHRINKAGE	0.67 to 0.75%
MELTING POINT	230
HDT	204 - 214
SERVICE TEMP	190

Description

PES is typically expensive but its properties make it ideal for metal replacement stretching the boundries of polymer applications.

Applications include: high temperature metal replacement, medical, automotive and electrical appliances.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PSU:**

Polysulphone	
Processing PSU	Deg C
MOLD	120 - 160
MELT	330 - 400
MAX TEMP	420
DRYING	135 - 150
INJECTION SPEED	Typically High
PURGE	HDPE
STRUCTURE	Amorphous
OPACITY	Transparent
PHYSICAL	Tough, Chem & Heat Resist
SG	1.37
SHRINKAGE	0.67 to 0.75%
MELTING POINT	200
HDT	176 - 182
SERVICE TEMP	170

Description

PSU is typically expensive but its properties make it ideal for metal replacement stretching the boundries of polymer applications.

Applications include: high temperature metal replacement, medical, automotive and electrical appliances.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com PUR:

Polyurethane	
Processing PUR, TPE	Deg C
MOLD	10 - 80
MELT	190 - 220
MAX TEMP	260
DRYING	65 - 90
INJECTION SPEED	High
PURGE	n/a
STRUCTURE	Amorphous
OPACITY	Opaque
PHYSICAL	Flexible & Tough
SG	1.1
SHRINKAGE	0.7 to 1.6%
MELTING POINT	160
HDT	n/a - n/a
SERVICE TEMP	60

Description

TPE's are a family of polymers that can be repeatedly stretched without premanently deforming the shape of the part. Unlike rubber-like elastomers, they do not require curing or vulcanization, as they are true thermoplastics.

Applications: Automotive, building and construction, soft touch grips and handles, caster treads and rollers.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com FPVC:

Flexible Poly Vinyl Chloride

Processing F-PVC	Deg C
MOLD	30 - 60
MELT	165 - 185
MAX TEMP	210
DRYING	80 - 90
INJECTION SPEED	Slow to Medium
PURGE	n/a
STRUCTURE	Amorphous
OPACITY	Clear to Opaque
PHYSICAL	Flexible
SG	1.3
SHRINKAGE	0.4 to 1.0%
MELTING POINT	85
HDT	n/a - n/a
SERVICE TEMP	60

Description

Flexible PVC is a soft flexible material ranging from transparent to opaque.

Applications: As a flexible it is used in wire and cable jacketing, pool liners, flooring, garden hoses, rainwear and boots, and medical tubing.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com RPVC:

Rigid Poly Vinyl Chloride

Processing R-PVC	Deg C
MOLD	30 - 60
MELT	140 - 200
MAX TEMP	210
DRYING	65 - 80
INJECTION SPEED	Slow to Medium
PURGE	n/a
STRUCTURE	Amorphous
OPACITY	Clear to Opaque
PHYSICAL	Tough
SG	1.45
SHRINKAGE	0.4 to 1.0%
MELTING POINT	85
HDT	66 - 89
SERVICE TEMP	67

Description

R-PVC is a versatile thermoplastic resin that has good chemical and heat resistance.

Applications: PVC is used in a broad rang of applications. As a rigid it is used most commonly in building and constructions. For exterior siding, windows, pipe fitting, sprinkler systems and office furniture edging.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PP**:

Polypropylene	
Processing PP	Deg C
MOLD	10 - 60
MELT	180 - 240
MAX TEMP	300
DRYING	70 - 90
INJECTION SPEED	Medium to High
PURGE	PP
STRUCTURE	Semi Crystalline
OPACITY	Clear to Opaque
PHYSICAL	Tough, Rigid
SG	0.85 - 0.95
SHRINKAGE	1.2 to 1.7%
MELTING POINT	100
HDT	71 - 115
SERVICE TEMP	85

Description

PP offers excellent processing, good surface finish and food contact approval.

Applications include: automotive interior, exterior, house hold and medical applications.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PPO**:

Polyphenylene Oxide

Processing PPO	Deg C
MOLD	60 - 100
MELT	220 - 300
MAX TEMP	300
DRYING	90 - 100
INJECTION SPEED	Typically High
PURGE	HDPE, PMMA, PS
STRUCTURE	Semi Crystalline
OPACITY	Opaque
PHYSICAL	Tough, Stable
SG	1.15
SHRINKAGE	0.6 to 1.4%
MELTING POINT	120
HDT	110 - 150
SERVICE TEMP	110

Description

PPO is resin. Its high glass-transition temperature and high melt point give it heat resistance. The material also has outstanding electrical properties and resistance to acids and bases.

Applications: include automotive interior and exterior parts, business machines, medical equipment, telecommunications equipment, microwaveable packaging, appliances, and specialty uses.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com HDPE:

High Density Polyethylene

Processing HDPE	Deg C
MOLD	20 - 60
MELT	180 - 250
MAX TEMP	280
DRYING	80 - rarely
INJECTION SPEED	Medium to High
PURGE	HDPE
STRUCTURE	Crystalline
OPACITY	Translucent to Opaque
PHYSICAL	Tough, Waxy Surface
SG	0.97
SHRINKAGE	1.0 - 2.0%
MELTING POINT	100
HDT	60 - 90
SERVICE TEMP	84

Description

HDPE is generally easy to process, with higher molecular weight grades having stiffer flow properties.

Applications include: Containers, Storage, seals & closures.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com LDPE:

Low Density Polyethylene

Processing HDPE	Deg C
MOLD	20 - 60
MELT	180 - 220
MAX TEMP	280
DRYING	80 - rarely
INJECTION SPEED	Medium to High
PURGE	LDPE
STRUCTURE	Crystalline
OPACITY	Translucent
PHYSICAL	Flexible, Waxy Surface
SG	0.92
SHRINKAGE	2.0 - 3.0%
MELTING POINT	100
HDT	40 - 67
SERVICE TEMP	46

Description

LDPE is generally easy to process, over a wide range of conditions.

Applications include: Pipe couplings, Storage, seals & closures.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PA6**:

Nylon 6	
Processing PA6	Deg C
MOLD	80 - 90
MELT	230 - 280
MAX TEMP	320
DRYING	80 - 105
INJECTION SPEED	Typically High
PURGE	HDPE, PP
STRUCTURE	Crystalline
OPACITY	Translucent to Opaque
PHYSICAL	Very Tough
SG	1.12
SHRINKAGE	0.08 - 1.5%
MELTING POINT	220
HDT	185 - 191
SERVICE TEMP	100

Description

PA6 Nylon has outstanding properties, including high tensile strength and good resistance to creep, excellent abrasion, chemical and heat resistance, and a low coefficient of friction. The addition of fibers and fillers increases such properties as strength, stiffness, and decreasing moisture pickup.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PA66**:

Nylon 66	
Processing PA66	Deg C
MOLD	60 - 80
MELT	260 - 300
MAX TEMP	360
DRYING	75 - 90
INJECTION SPEED	Typically High
PURGE	HDPE, PP
STRUCTURE	Crystalline
OPACITY	Translucent to Opaque
PHYSICAL	Rigid Tough
SG	1.15
SHRINKAGE	1.0 - 2.0%
MELTING POINT	225
HDT	245
SERVICE TEMP	100

Description

PA66 Nylon has outstanding properties, including high tensile strength and good resistance to creep, excellent abrasion, chemical and heat resistance, and a low coefficient of friction.

The addition of fibers and fillers increases such properties as strength, stiffness, and decreasing moisture pickup. Fibre fillers will influence shrinkage in the direction of flow and often contribute to increased distortion.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PA11**:

Nylon 11	
Processing PA11	Deg C
MOLD	60 - 80
MELT	260 - 300
MAX TEMP	310
DRYING	75 - 80
INJECTION SPEED	Typically High
PURGE	HDPE, PP
STRUCTURE	Crystalline
OPACITY	Translucent to Opaque
PHYSICAL	Rigid Tough
SG	1.04
SHRINKAGE	1.2 - 1.5%
MELTING POINT	175
HDT	150
SERVICE TEMP	110

Description

PA11 Nylon has outstanding properties, including high tensile strength and good resistance to creep, excellent abrasion, chemical and heat resistance, and a low coefficient of friction. The addition of fibers and fillers increases such properties as strength, stiffness, and decreasing moisture pickup.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com PA12:

Nylon 12	
Processing PA12	Deg C
MOLD	40 - 100
MELT	230 - 300
MAX TEMP	310
DRYING	80 - 100
INJECTION SPEED	Typically High
PURGE	HDPE, PP
STRUCTURE	Crystalline
OPACITY	Translucent to Opaque
PHYSICAL	Rigid Tough
SG	1.02
SHRINKAGE	0.03 - 1.5%
MELTING POINT	175
HDT	145 - 150
SERVICE TEMP	78

Description

PA12 Nylon has outstanding properties, including high tensile strength and good resistance to creep, excellent abrasion, chemical and heat resistance, and a low coefficient of friction. The addition of fibers and fillers increases such properties as strength, stiffness, and decreasing moisture pickup.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PBT**:

Polybutylene Terephthalate (Polyester)

Processing PBT	Deg C
MOLD	40 - 80
MELT	240 - 260
MAX TEMP	290
DRYING	115 - 130
INJECTION SPEED	Medium to High
PURGE	HDPE
STRUCTURE	Crystalline
OPACITY	Opaque
PHYSICAL	Rigid Stable
SG	1.36
SHRINKAGE	1.5 - 2.0%
MELTING POINT	225
HDT	116 - 191
SERVICE TEMP	70

Description

PBT is a semicrystalline engineering-grade thermoplastic that is part of the polyester family of resins. It resists moisture and a range of chemicals, and can achieve relatively high levels of izod impact strength through the use of impact modifiers.

Applications: PBT can be used in highly stressed engineering parts in a wide variety of industrial zreas. Its high stiffness and strength combined with good heat aging performance and chemical resistance allows it to replace some metal parts in automotive applications.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com PET:

Polyethylene Terephthalate (Polyester)

Processing PET	Deg C
MOLD	20 - 120
MELT	280 - 310
MAX TEMP	340
DRYING	135 - 160
INJECTION SPEED	Medium to High
PURGE	HDPE, PS
STRUCTURE	Crystalline / Amorphous
OPACITY	Clear or Opaque
PHYSICAL	Rigid Stable
SG	1.34
SHRINKAGE	2.1 - 2.5%
MELTING POINT	250
HDT	70 - 80
SERVICE TEMP	74

Description

PET resin belongs to the thermoplastic polyester classs of plastics. Currently, the fastest growing use is for food, beverage, and non food packaging applications.

Applications: PET is used in beverage, food and other liquid containers; engineering applications, often in combination with glass fiber.

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com POM-H:

Polyoxymethylene Homo (Acetal)

Processing POM-H	Deg C
MOLD	50 - 110
MELT	190 - 210
MAX TEMP	240
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	HDPE
STRUCTURE	Crystalline
OPACITY	Opaque
PHYSICAL	Very Tough, Chemical Resistant
SG	1.43
SHRINKAGE	2.0 - 3.5%
MELTING POINT	175
HDT	160 - 168
SERVICE TEMP	120

Description

POM-H, Acetal is highly crystalline thermoplastic engineering resin that offers high mechanical properties and resists many chemicals. In particular, acetal is known for its high strength, creep resistance, resilience, surface hardness and lubricity, toughness, and excellent solvent and gasoline resistance. Additionally, it absorbs little water. There are two basic types of acetal resins: homo-polymer and copolymer.

Applications include: Bearings, gears, conveyor chains, and housings. Acetals are widely used in plumbing and irrigation because they resist scale build up, and have excellent thread strength. Automotive applications include, door handles, ventilation and cooling system parts, fuel system components, etc. See also POM - copolymer

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com POM-CO:

Polyoxymethylene / (Acetal)

Processing POM-CO	Deg C
MOLD	50 - 110
MELT	190 - 210
MAX TEMP	240
DRYING	80 - 90
INJECTION SPEED	Medium to High
PURGE	HDPE
STRUCTURE	Crystalline
OPACITY	Opaque
PHYSICAL	Very Tough, Chemical Resistant
SG	1.41
SHRINKAGE	2.0 - 3.5%
MELTING POINT	175
HDT	110 - 138
SERVICE TEMP	110

Description

POM, Acetal is highly crystalline thermoplastic engineering resin that offers high mechanical properties and resists many chemicals. In particular, acetal is known for its high strength, creep resistance, resilience, surface hardness and lubricity, toughness, and excellent solvent and gasoline resistance. Additionally, it absorbs little water. There are two basic types of acetal resins: homo-polymer and copolymer.

Applications include: Bearings, gears, conveyor chains, and housings. Acetals are widely used in plumbing and irrigation because they resist scale build up, and have excellent thread strength. Automotive applications include, door handles, ventilation and cooling system parts, fuel system components, etc. See also POM - H

Website: <u>http://www.xsplasticmould.com</u>, Email: sales@xsplasticmould.com **PPS**:

Polyphenylene Sulphide

Processing PPS	Deg C
MOLD	80 - 120
MELT	310 - 340
MAX TEMP	365
DRYING	130 - 150
INJECTION SPEED	Medium to High
PURGE	HDPE
STRUCTURE	Crystalline
OPACITY	Opaque
PHYSICAL	Heat Resistant
SG	1.5
SHRINKAGE	0.85 - 1.1%
MELTING POINT	290
HDT	204 - 240
SERVICE TEMP	110

Description

PPS offers excellent processing, surface finish, low creep, good dimensional stability and high impact strength.

Applications include: automotive interior, exterior, appliance housings & white goods.