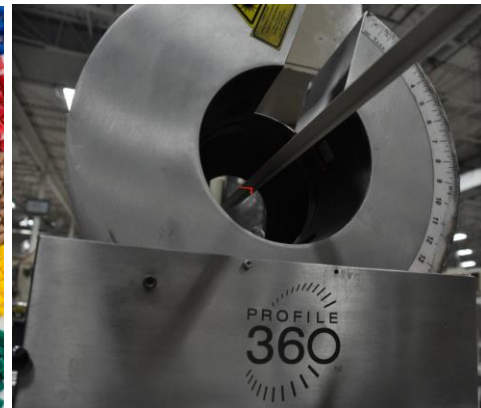


## MATERIAL DEFINITIONS

ABS	Acrylonitrile-Butadiene-Styrene	PVC	Poly Vinyl Chloride
ASA	Acrylic Styrene Acrylonitrile	SEBS	Styrene Ethylene Butylene Styrene
CPVC	Chlorinated Poly Vinyl Chloride	TPV	Thermoplastic Vulcanizate
PP	Polypropylene	TPA	Thermoplastic Alloy

## MATERIAL PROPERTY DEFINITIONS

Co-Extrudable	Bonding two or more dissimilar materials into one profile during the extrusion process.
Specific Gravity	Ratio which compares the density of material to the density of water. Determines part cost and weight. If the number is greater than 1.0 it is heavier than water and will sink.
Tensile Strength	Defines the pull strength of plastics. Units are pounds per square inch. The higher the number the stronger the plastic.
Flexural Modulus	Defines the bending stiffness of plastics. Units are pounds per square inch. The higher the number the stiffer the material.
C.O.E.	Coefficient of expansion. Defines how a material will expand or contract when subjected to temperature changes. The higher the number the more it will move or expand and contract.
H.D.T.	Heat deflection temperature. Defines the ability of the material to perform at elevated temperatures while supporting loads.
Notched Izod	Defines the impact strength of the material. It is temperature dependent. The higher the number the better the impact strength.
ASTM	American Standard Testing Methods



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# Material Selector



As a premiere custom plastic extruder, we specialize in providing high quality, precisely engineered, customer-specific plastic extrusion products. We serve medium to large sized OEMs in a variety of industries.

Together our engineering teams can create a custom plastic profile that improves your products' quality and performance.

- Design & Application Engineering (on-site)
- Custom Blended Materials
- In-House Tooling
- Quality - ISO 2001:2008
- Value Added Services

## Extruding the way to higher standards.

This information is to be used as a guide only. Customers are responsible to determine suitability of a material for a given application.

RIGID MATERIALS		Coextrudable	Weatherable	Specific Gravity	Tensile Strength	Flexural Modulus	C.O.E.	H.D.T.	Notched Izod	Comments
		with	Grade Available		(psi)	(psi)	(x10-5 / °F)	(°F @ 264 psi)	(ft-lb / in)	
				ASTM D792	ASTM D638	ASTM D790	ASTM D696	ASTM D648	ASTM D256	
A	Polypropylene	K,M,P,Q,S	Yes	0.90	3,900	160,000	6.6	122	No Break	Lightweight, excellent chemical resistance, affected by mineral spirits
B	PVC	C,E,G,H,J,L,N,O,R	Yes	1.46	6,010	422,000	3.6	163	18	Easy to process, excellent chemical and weathering resistance, excellent impact strength at room temp.
C	ABS	B,E,R	No	1.03	5,700	305,000	5.6	177	7.7	Excellent impact strength, good low temperature properties, poor weatherability
D	CPVC	D,J,L,N,O	Yes (black only)	1.50	7,700	327,000	4.0	199	5.4	Good high temperature performance, poor weatherability
E	ASA	B,C,D,F,G,J,L,N,R	Yes	1.06	6,000	255,000	5.4	175	6.0	Good high temperature performance, excellent weatherability, generally used as capping
F	Polycarbonate	E	Yes	1.19	9,500	340,000	3.8	270	14	Excellent impact strength, difficult to extrude, attacked by some chemicals
G	High Heat ABS	B,E	No	1.06	7,600	357,000	5.0	221	3.4	Excellent high temperature performance, poor weatherability
H	Acrylic	B,J,L	Yes	1.19	10,200	450,000	4.0	199	0.3	Excellent light transmission, excellent weatherability, poor impact strength
I	Polystyrene	K	No	1.04	3,600	320,000	4.5	202	2.3	High impact grade, low cost, poor weatherability, lower strength

FLEXIBLE MATERIALS		Coextrudable	Weatherable	Specific Gravity	Tensile Strength	Elongation	Tear Strength	Hardness	Compression Set	Comments
		with	Grade Available		(psi)	(%)	(lbs)		(%)	
				ASTM D792	ASTM D412 / D638	ASTM D412 / D638	ASTM D624 (die C)	ASTM D2240	ASTM D395	
J	Flexible PVC	B,D,E,H,R	Yes	1.32	1,400	400	160	64 shore A	56	Choice of durometers, plasticizer migration may cause stiffness, stiffens in cold temperatures
K	SEBS	A,I,P,Q,S	Yes	1.14	950	780	130	60 shore A	57	Good compression set, excellent low temperature properties, choice of durometers
L	Alcryn	B,D,E,H,P,R	Yes	1.20	1,200	350	156	72 shore A	39	Good low temperature properties, more expensive than flexible PVC, choice of durometers
M	TPV	A,P,Q,S	Yes	0.98	1,230	460	160	73 shore A	49	Good compression set, good low temperature properties, high surface friction, choice of durometers
N	Urethane	B,D,E,R	Yes	1.12	7,000	570	475	85 shore A	62	Excellent abrasion resistance and low temperature flexibility, weathering can cause color shift
O	Copolyester	B,D,R	No	1.20	6,400	560	900	55 shore D	NA	Excellent creep resistance, poor weatherability
P	TPA	A,K,L,M,Q,S	Yes	0.90	150	340	40	12 shore A	23	Excellent compression set, corner sealing ability

FILLED MATERIALS		Coextrudable	Weatherable	Specific Gravity	Tensile Strength	Flexural Modulus	C.O.E.	H.D.T.	Notched Izod	Comments
		with	Grade Available		(psi)	(psi)	(x10-5 / °F)	(°F @ 264 psi)	(ft-lbs / in)	
				ASTM D792	ASTM D638	ASTM D790	ASTM D696	ASTM D648	ASTM D256	
Q	Glass Filled PP (30%)	A,K,M,P	Yes	1.13	12,000	830,000	2.1	300	1.3	Good stiffness, low impact strength, excellent chemical resistance, textured finish
R	Mineral Filled PVC	B,C,E,J,L,N,O	Yes	1.51	6,500	700,000	2.1	165	2.0	Good stiffness and impact strength, smooth finish
S	Mineral Filled PP	A,K,M,P	Yes	1.10	4,000	450,000	2.6	149	3.4	Good stiffness and impact strength, smooth finish, excellent chemical resistance