

Industrial Plastics

Technical Data Sheet

Acrylic, acetal, polycarbonate, nylon, PVC, Teflon®, UHMW, phenolic plastic, polyethylene, nylatron, rubber, etc.



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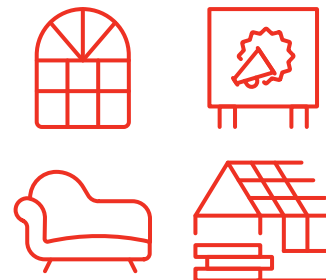
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Acrylic

Acrylic is a rigid, transparent, and lightweight plastic, known for its optical clarity, good weather resistance, and ease of fabrication. It is often used as a glass alternative in construction, signage, and interior design.

Recommended for

- **Glazing:** windows, screens, partitions
- **Signage:** signs, displays, light boxes
- **Furniture:** displays, guards, designer furnishings
- **Construction:** domes, roofs, indoor railings



Mechanical Properties

Typical Value

Tensile Strength	~8,000 to 11,000 psi
Hardness (Shore D)	~90
Impact Resistance	Medium
Chemical Resistance	Medium to good
Maximum Temperature	~+80 °C (176 °F)

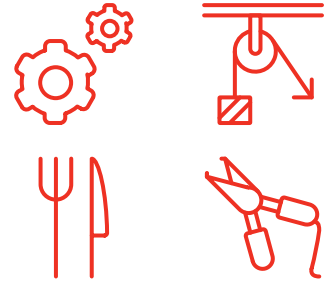
Available in extruded or cast versions, with options for transparent, colored, diffused, antistatic, or impact-resistant sheets.

Acetal (Delrin®)

Acetal is a semi-crystalline engineering plastic that is very rigid, with excellent dimensional stability and good wear resistance. It is especially used for precision mechanical parts. The trade name Delrin® is one of the most well-known.

Recommended for

- **Precision machined parts:** gears, pinions, wheels
- **Mechanical / industrial:** bushings, slides, rollers
- **Food industry:** non-absorbing parts, clean surfaces
- **Electromechanical:** moving components, spacers



Mechanical Properties

Typical Value

Tensile Strength	~9,000 to 11,000 psi
Hardness (Shore D)	~90–100
Impact Resistance	Good
Chemical Resistance	Good
Maximum Temperature	~+105 °C (221 °F)

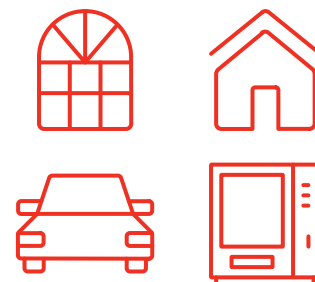
Available in homopolymer (Delrin®) or copolymer versions, with reinforced, UV-stabilized, or food-grade options.

Polycarbonate

Polycarbonate is a transparent plastic, resistant to impact and heat. It combines rigidity, lightness, and safety, making it an alternative to glass in high-impact environments.

Recommended for

- **Safety glazing:** bullet-resistant, anti-vandal windows
- **Construction:** translucent roofs, skylights
- **Automotive:** headlights, recreational vehicle windshields
- **Industry:** machine guards, covers, screens



Mechanical Properties

Typical Value

Tensile Strength	~9,000 psi
Hardness (Shore D)	~75
Impact Resistance	Exceptional
Chemical Resistance	Medium
Maximum Temperature	~+115 °C (239 °F)

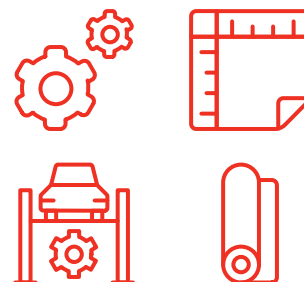
Also available in UV-resistant, anti-static, bullet-resistant (Lexan®), or food-grade versions.

Nylon

Nylon is a versatile engineering plastic valued for its mechanical strength, rigidity, and ability to withstand moving loads. It is often used as a replacement for metal parts thanks to its light weight, wear resistance, and good dimensional stability.

Recommended for

- **Mechanical parts:** gears, pulleys, wheels, bushings
- **Handling:** slides, guides, spacers
- **Automotive / machinery:** supports, rotating parts
- **Industrial:** rollers, shims, machined components



Mechanical Properties

Typical Value

Tensile Strength

~10,000 psi

Hardness (Shore D)

~110

Impact Resistance

High

Chemical Resistance

Good

Maximum Temperature

~+100 °C (212 °F)

Available in variants such as Nylon 6, 6/6, molded, extruded, MoS₂-filled (self-lubricating), or food-grade stabilized.

Rigid PVC

Rigid PVC is a durable, cost-effective, and easy-to-machine plastic. It provides good chemical and weather resistance while maintaining structural stability. It is widely used in construction, electrical, plumbing, and signage applications.

Recommended for

- **Construction:** panels, partitions, housings, conduits
- **Electrical:** ducts, cabinets, protective enclosures
- **Signage:** indoor/outdoor panels, displays
- **Industrial:** tanks, linings, chemical applications



Mechanical Properties

Typical Value

Tensile Strength	~7,000 psi
Hardness (Shore D)	~112
Impact Resistance	Medium
Chemical Resistance	Excellent
Maximum Temperature	~+60 °C (140 °F)

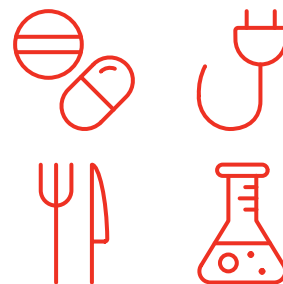
Available in standard gray, transparent, flame-retardant (94V-0 rated), chemical-grade (Corzan®), or food-grade versions.

Teflon® (PTFE)

Teflon® is a high-performance plastic known for its chemical resistance, extremely low friction, and excellent thermal stability. Inert, non-stick, and insulating, it is widely used in demanding environments.

Recommended for

- **Chemical / pharmaceutical:** seals, rings, gaskets
- **Electrical / electronics:** insulators, connectors, tubing
- **Food industry:** non-stick surfaces, bearings
- **Industrial:** components exposed to acids or solvents



Mechanical Properties

Typical Value

Tensile Strength

~1,500 to 4,000 psi

Hardness (Shore D)

~55–60

Impact Resistance

Medium

Chemical Resistance

Exceptional

Maximum Temperature

~+260 °C (500 °F)

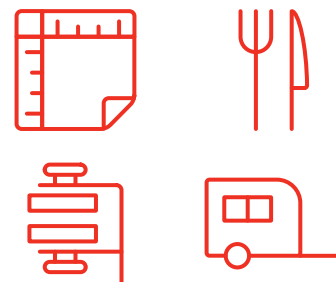
Also available with glass, carbon, bronze, or graphite fillers to improve wear resistance and dimensional stability.

UHMW

UHMW (Ultra-High Molecular Weight Polyethylene) is an engineering plastic known for its outstanding wear resistance, low friction, light weight, and high impact strength. It is widely used in material handling, food processing, and industrial applications.

Recommended for

- **Moving parts:** guides, slides, conveyors
- **Food industry:** indirect-contact parts, chutes
- **Mechanical:** wear-resistant parts, bushings
- **Transport:** trailer components, rails, blocks



Mechanical Properties

Typical Value

Tensile Strength	~3,000 to 3,500 psi
Hardness (Shore D)	~65–70
Impact Resistance	Very high
Chemical Resistance	Excellent
Maximum Temperature	~+82 °C (180 °F)

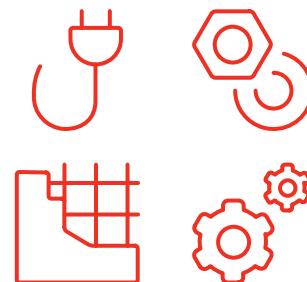
Also available in food-grade, high-temperature, black antistatic, or high-slip grades.

Phenolic Plastic

Phenolic plastic is a thermoset material that is very rigid, heat-resistant, solvent-resistant, and wear-resistant. It is often chosen for its dimensional stability and excellent insulating properties.

Recommended for

- **Electrical:** insulating plates, supports, terminals
- **Mechanical:** jigs, spacers, wear rings
- **Industrial:** machined components, structural supports
- **Tooling:** trays, panels, heat-exposed parts



Mechanical Properties

Typical Value

Tensile Strength	~7,000 to 12,000 psi
Hardness (Shore D)	~105–115
Impact Resistance	Medium to good
Chemical Resistance	Good
Maximum Temperature	~+150 °C (302 °F)

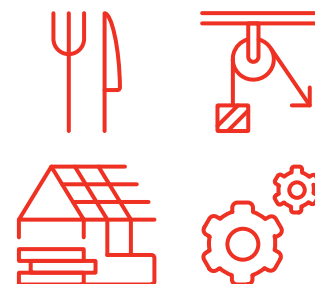
Available in grades C, CE, L, LE, G10, G11, depending on the reinforcement (cotton, paper, or fiberglass).

Polyethylene (HDPE)

High-Density Polyethylene (HDPE) is a lightweight, durable, and cost-effective plastic with excellent resistance to moisture and chemicals. Easy to machine, it is used in food processing, packaging, and construction.

Recommended for

- **Food industry:** countertops, chutes, non-contaminating parts
- **Material handling:** guides, wear pads, separators
- **Construction:** tanks, reservoirs, protective panels
- **Industrial:** spacers, shims, light machinery components



Mechanical Properties

Typical Value

Tensile Strength

~4,000 psi

Hardness (Shore D)

~60–65

Impact Resistance

High

Chemical Resistance

Excellent

Maximum Temperature

~+80 °C (176 °F)

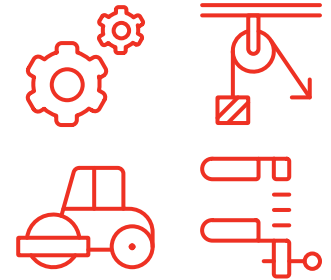
Available in extruded or molded grades, standard or food-safe, UV-stabilized black, or chemical-resistant options.

Nylatron

Nylatron is a modified nylon, typically filled with molybdenum disulfide (MoS_2), to enhance wear resistance, stiffness, and dimensional stability. It is designed for demanding mechanical applications and heavy-duty environments.

Recommended for

- **Power transmission:** gears, sprockets
- **Industrial machining:** pulleys, bushings, slides
- **Heavy machinery:** spacers, rails, moving parts
- **Repetitive applications:** continuous or high-load motion



Mechanical Properties

Typical Value

Tensile Strength	~11,000 psi
Hardness (Shore D)	~115
Impact Resistance	Good
Chemical Resistance	Good
Maximum Temperature	~+105 °C (221 °F)

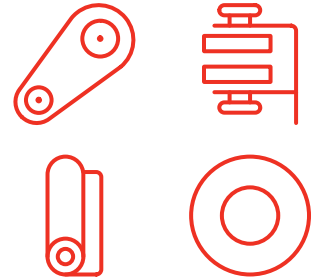
Modified nylon, often MoS_2 -filled for improved wear and friction performance. Available in several grades (NSF, GSM, etc.).

Rubber

Industrial rubber (often SBR or EPDM) is an elastic material valued for its sealing ability, shock absorption, grip, and vibration resistance.

Recommended for

- **Sealing:** gaskets, washers, strips, seals
- **Anti-vibration:** mounts, mats, industrial pads
- **Protection:** chutes, liners, coatings
- **Construction / mechanical:** stops, bushings, compensators



Mechanical Properties

Typical Value

Tensile Strength	~11,000 psi
Hardness (Shore D)	~115
Impact Resistance	Good
Chemical Resistance	Good
Maximum Temperature	~+105 °C (221 °F)

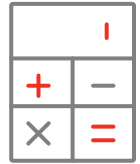
Available in various grades: neoprene, nitrile (NBR), EPDM, silicone, Viton®, natural rubber (NR), depending on the required resistance.

Conversion Table



Fractions	Decimals	Millimetres
1/64	0.156	0.3969
1/32	0.313	0.7938
	0.394	1
3/64	0.469	1.1906
1/16	0.625	1.5875
5/64	0.781	1.9844
	0.787	2
3/32	0.938	2.3812
7/64	0.1094	2.7781
	0.1181	3
1/8	0.125	3.175
9/64	0.1406	3.5719
5/32	0.1563	3.9688
	0.1575	4
11/64	0.1719	4.3656
3/16	0.1875	4.7625
	0.1969	5
13/64	0.2031	5.1594
7/32	0.2188	0.5563
15/64	0.2344	5.9531
	0.2362	6
1/4	0.25	6.35
17/64	0.2656	6.7469
	0.2756	7
9/32	0.2813	7.1438
19/64	0.2969	7.5406
5/16	0.3125	7.9375
	0.315	8
21/64	0.3281	8.3344
11/32	0.3438	8.7313
	0.3543	9
23/64	0.3594	9.1281
3/8	0.3750	9.525
25/64	0.3906	9.9219
	0.3937	10
13/32	0.4063	10.3188

Conversion Table (continued)



Fractions	Decimals	Millimetres
27/64	0.4219	10.7156
	0.4331	11
7/16	0.4375	11.1125
29/64	0.4531	11.5094
15/32	0.4688	11.9063
	0.4724	12
31/64	0.4844	12.3031
1/2	0.5	12.7
	0.5118	13
33/64	0.5156	13.0969
17/32	0.5313	13.4938
35/64	0.5469	13.8906
	0.5512	14
9/16	0.5625	14.2875
37/64	0.5781	14.6844
	0.5906	15
19/32	0.5938	15.0813
39/64	0.6094	15.4781
5/8	0.6250	15.875
	0.6299	16
41/64	0.6406	16.2719
21/32	0.6563	16.6688
	0.6693	17
43/64	0.6719	17.0656
11/16	0.6875	17.4625
45/64	0.7031	17.8594
	0.7087	18
23/32	0.7188	18.2563
47/64	0.7344	18.6531
	0.7480	19
3/4	0.75	19.05
49/64	0.7656	19.4469
25/32	0.7813	19.8438
	0.7874	20
51/64	0.7969	20.2406
13/16	0.8125	20.6375
	0.8268	21

Conversion Table (continued)



Fractions	Decimals	Millimetres
53/64	0.8281	21.0344
27/32	0.8438	21.4313
55/64	0.8594	21.8281
	0.8661	22
7/8	0.875	22.225
57/64	0.8906	22.6219
	0.9055	23
29/32	0.9032	23.0188
59/64	0.9219	23.4156
15/16	0.9375	23.8125
	0.9449	24
61/64	0.9531	24.2094
31/32	0.9688	24.6063
	0.9843	25
63/64	0.9844	25.0031
1	1	25.4

Round Bars



Standard lengths: 10' and 20'. Other lengths may be available, please contact your representative to review available options.

UHMW and HDPE

Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/4	6.35	0.014
3/8	9.53	0.031
1/2	12.7	0.058
5/8	15.88	0.091
3/4	19.05	0.131
7/8	22.23	0.179
1	25.4	0.224
1 1/4	31.75	0.35
1 1/2	38.1	0.506
1 3/4	44.45	0.69
2	50.8	0.897
2 1/2	63.5	1.402
3	76.2	2.023
4	101.6	3.604
6	152.4	8.13

Acrylic, polycarbonate, nylon and Nylatron

Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/4	6.35	0.017
3/8	9.53	0.039
1/2	12.7	0.069
5/8	15.88	0.108
3/4	19.05	0.155
7/8	22.23	0.211
1	25.4	0.27
1 1/4	31.75	0.422
1 1/2	38.1	0.61
1 3/4	44.45	0.831
2	50.8	1.081
2 1/2	63.5	1.688
3	76.2	2.436
4	101.6	4.323
6	152.4	9.727

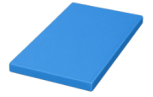
Round Bars (continued)



Acetal, rigid PVC, phenolic and rubber

Dimension (in)	Dimension (mm)	Weight (lb/ft)
1/4	6.35	0.02
3/8	9.53	0.045
1/2	12.7	0.08
5/8	15.88	0.125
3/4	19.05	0.18
7/8	22.23	0.245
1	25.4	0.314
1 1/4	31.75	0.491
1 1/2	38.1	0.707
1 3/4	44.45	0.963
2	50.8	1.257
2 1/2	63.5	1.963
3	76.2	2.827
4	101.6	5.027
6	152.4	11.314

Plates



Standard formats: 4'x8', 5'x10', and 5'x12'. Other formats may be available, please contact your representative to review available options.

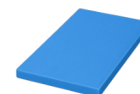
UHMW and HDPE

Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/4	3.17	0.139
3/16	4.76	0.208
1/4	6.35	0.272
3/8	9.52	0.408
1/2	12.7	0.544
5/8	15.88	0.68
3/4	19.05	0.816
1	25.4	1.088
1 1/4	31.75	1.36
1 1/2	38.1	1.632
2	50.8	2.176

Acrylic, polycarbonate, nylon and Nylatron

Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/4	3.17	0.176
3/16	4.76	0.265
1/4	6.35	0.353
3/8	9.52	0.53
1/2	12.7	0.706
5/8	15.88	0.883
3/4	19.05	1.059
1	25.4	1.412
1 1/4	31.75	1.765
1 1/2	38.1	2.118
2	50.8	2.824

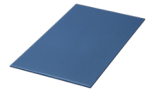
Plates (continued)



Acetal, rigid PVC, phenolic and rubber

Thickness (in)	Thickness (mm)	Weight (lb/ft²)
1/4	3.17	0.204
3/16	4.76	0.306
1/4	6.35	0.408
3/8	9.52	0.612
1/2	12.7	0.816
5/8	15.88	1.02
3/4	19.05	1.224
1	25.4	1.632
1 1/4	31.75	2.04
1 1/2	38.1	2.448
2	50.8	3.264

Sheets



Standard formats: 4'x8' and 5'x10'. Other formats may be available, please contact your representative to review available options.

UHMW and HDPE

Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
10	0.01	0.254	0.013
15	0.015	0.381	0.02
20	0.02	0.508	0.027
30	0.03	0.762	0.039
62	1/16	1.587	0.07
94	3/32	2.381	0.106

Acrylic, polycarbonate, nylon and Nylatron

Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
10	0.01	0.254	0.014
15	0.015	0.381	0.021
20	0.02	0.508	0.028
30	0.03	0.762	0.041
62	1/16	1.587	0.088
94	3/32	2.381	0.132

Acetal, rigid PVC, phenolic and rubber

Gauges	Thickness (in)	Thickness (mm)	Weight (lb/ft ²)
10	0.01	0.254	0.016
15	0.015	0.381	0.024
20	0.02	0.508	0.033
30	0.03	0.762	0.049
62	1/16	1.587	0.102
94	3/32	2.381	0.153