Materials & Conversions

PLASTICS

Specific Name	Acronym or Abbreviation	Generic Name
Acrylonitrile butadiene styrene	ABS	Shatterproof thermoplastic composed of styrene and acrylic resin; ABS provides resilience, shiny appearance, and stable base for metal plating
Carbon blended polyamide		Polyamide blended with carbon for antistatic property
Carbon composite polyacetal		Polyacetal
Diallyl phthalate	DAP	Diallyl phthalate; a thermosetting resin
Ethylene Propylene Terpolymer	EPT	Ozone resistant plastic
Glass fiber reinforced diallyl phthalate	GFR DAP	Diallyl phthalate
Glass fiber reinforced polyamide	GFR PA	Polyamide
Glass fiber reinforced polybutylene terephthalate	GFR PBT	Polyester
Liquid crystal polymer	LCP	Liquid crystal polymer
Nitrile butadiene rubber	NBR	NBR; mainly used where oil-proof is required
Phenolic resin		Phenol plus aldehydes; used extensively as thermosetting plastic
Polyacetal		Polyacetal
Polyamide	PA	Nylon 6/6; Polyamide; always a nylon resin
Polybutylene terephthalate	PBT	Polyester
Polycarbonate	PC	Lexan; Polycarbonate; damaged by tricholoethylene solvent and so changes to polyamide
Polyethylene	PE	Polyethylene
Polyphenylene sulfide	PPS	Polyphenylene sulfide
Polyoxymethylene	POM	Polyoxymethylene
Polypropylene	PP	Polypropylene; more elastic than polycarbonate
Polyvinyl chloride	PVC	Polyvinyl chloride; loses pliability below 0°C (32°F)
Resin		Polymer
Silicone		Silicone

ELEMENTS

Ag	silver	**Cr**	chromium	**Pb**	lead
Al	aluminum	**Cu**	copper	**Sn**	tin
Au	gold	**Ni**	nickel	**Zn**	zinc

TEMPERATURE

Fahrenheit
Thermometric scale with fixed points marked 32°F for freezing point and 212°F for boiling of water.

Celsius
International thermometric scale with fixed points marked 0°C for freezing point and 100°C for boiling of water.

(Fahrenheit – 32) x .555 = Celsius

(Celsius x 1.8) + 32 = Fahrenheit

°C	°F	°C	°F
–40	–40	0	+32
–30	–22	+50	+122
–25	–13	+55	+131
–20	–4	+70	+158
–10	+14	+85	+185
		+100	+212

LINEAR DIMENSIONS

Formulas for Conversion

millimeter x .03937 = inch

inch x 25.4 = millimeter

Fraction	Inch	Millimeter	Fraction	Inch	Millimeter
	.100	2.54		.394	10.0
	.150	3.81	15/32	.469	11.9
	.197	5.0		.472	12.0
	.236	6..0	1/2	.500	12.7
1/4	.250	6.35			

FORCE

Formulas for Conversions

ounce•force	x	.2780139	=	newton
pound-force	x	4.4482220	=	newton
kilogram-force	x	9.8066500	=	newton
newton	x	.1019716	=	kilogram-force
newton	x	.2248089	=	pound-force
newton	x	3.5969420	=	ounce•force

TORQUE

Formulas for Conversions

kg/cm	x	2.2046 x .3937	=	lb/in
newton•meter	x	.7375621	=	pound-foot
newton•meter	x	.1019716	=	kilogram-meter
newton•meter	x	141.6119	=	ounce-inch
newton•meter	x	8.8507	=	pound-inch
pound-foot	x	1.355818	=	newton•meter

PLATING THICKNESS

Micron
One millionth of a meter; a micrometer

1 micron = 1 thousandth of 1 millimeter
1 micron ÷ .0254 = 39.37 millionths of an inch
Example: 3 microns ÷ .0254 = 118.11 millionths of an inch

WEIGHT

1 gram = .03527 ounce
1 kilogram = 35.27 ounces
1 kilogram = 2.2 pounds
1 ounce = 31.10348 grams
1 ounce = .03110348 kilogram
1 pound = .4539 kilogram