PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Each density is transcribed with the digits its source publishes (Aluminum Association, ASM Handbook, CDA, CRC Handbook and manufacturer datasheets), at 20 °C, and converted with exact factors. For plastics, rubber and wood the value is the typical grade and the range across grades is shown.

METALS

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Steel 4130	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 4140	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 4340	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 52100	Alloy steel	**7.81**	7,810	0.2822	487.6	ASM Handbook, Vol. 1 (steels)
Steel 6150	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
Steel 8620	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 9840	Alloy steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Aluminum 1100	Aluminum	**2.71**	2,710	0.0979	169.2	Aluminum Association, Aluminum Standards and Data
Aluminum 2011	Aluminum	**2.83**	2,830	0.1022	176.7	Aluminum Association, Aluminum Standards and Data
Aluminum 2014	Aluminum	**2.80**	2,800	0.1012	174.8	Aluminum Association, Aluminum Standards and Data
Aluminum 2024	Aluminum	**2.78**	2,780	0.1004	173.5	Aluminum Association, Aluminum Standards and Data
Aluminum 3003	Aluminum	**2.73**	2,730	0.0986	170.4	Aluminum Association, Aluminum Standards and Data
Aluminum 5052	Aluminum	**2.68**	2,680	0.0968	167.3	Aluminum Association, Aluminum Standards and Data
Aluminum 5083	Aluminum	**2.66**	2,660	0.0961	166.1	Aluminum Association, Aluminum Standards and Data

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Aluminum 5086	Aluminum	**2.66**	2,660	0.0961	166.1	Aluminum Association, Aluminum Standards and Data
Aluminum 6061-T6	Aluminum	**2.70**	2,700	0.0975	168.6	Aluminum Association, Aluminum Standards and Data
Aluminum 6063	Aluminum	**2.70**	2,700	0.0975	168.6	Aluminum Association, Aluminum Standards and Data
Aluminum 6082	Aluminum	**2.70**	2,700	0.0975	168.6	Aluminum Association, Aluminum Standards and Data
Aluminum 6262 (free-machining)	Aluminum	**2.72**	2,720	0.0983	169.8	Aluminum Association, Aluminum Standards and Data
Aluminum 7050	Aluminum	**2.83**	2,830	0.1022	176.7	Aluminum Association, Aluminum Standards and Data
Aluminum 7075-T6	Aluminum	**2.81**	2,810	0.1015	175.4	Aluminum Association, Aluminum Standards and Data
Architectural Bronze (C385)	Brass	**8.470**	8,470	0.306	528.8	Copper Development Association (CDA): 0.306 lb/in³
Brass (C360)	Brass	**8.498**	8,498	0.307	530.5	Copper Development Association (CDA): 0.307 lb/in³
Cartridge Brass (C260)	Brass	**8.525**	8,525	0.308	532.2	Copper Development Association (CDA): 0.308 lb/in³
Naval Brass (C464)	Brass	**8.415**	8,415	0.304	525.3	Copper Development Association (CDA): 0.304 lb/in³
Red Brass (C230)	Brass	**8.747**	8,747	0.316	546.0	Copper Development Association (CDA): 0.316 lb/in³
Yellow Brass (C272)	Brass	**8.470**	8,470	0.306	528.8	Copper Development Association (CDA): 0.306 lb/in³
Bronze (C93200)	Bronze	**8.913**	8,913	0.322	556.4	Copper Development Association (CDA): 0.322 lb/in³
Bronze (C95400)	Bronze	**7.446**	7,446	0.269	464.8	Copper Development Association (CDA): 0.269 lb/in³
Free-cutting Phosphor Bronze (C544)	Bronze	**8.885**	8,885	0.321	554.7	Copper Development Association (CDA): 0.321 lb/in³

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
High-silicon Bronze (C655)	Bronze	**8.525**	8,525	0.308	532.2	Copper Development Association (CDA): 0.308 lb/in³
Nickel Aluminum Bronze (C630)	Bronze	**7.584**	7,584	0.274	473.5	Copper Development Association (CDA): 0.274 lb/in³
Phosphor Bronze (C510)	Bronze	**8.858**	8,858	0.320	553.0	Copper Development Association (CDA): 0.320 lb/in³
Standard Bronze (C84400)	Bronze	**8.691**	8,691	0.314	542.6	Copper Development Association (CDA): 0.314 lb/in³
Steel 1008	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (steels)
Steel 1010	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (steels)
Steel 1018	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 1020	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 1045	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 1095	Carbon steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
Steel 1117	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (steels)
Steel 1144	Carbon steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 1215	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel 12L14	Carbon steel	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (carbon and alloy steels)
Aluminum A356 (casting)	Cast aluminum	**2.68**	2,680	0.0968	167.3	ASM Handbook, Vol. 2 (nonferrous alloys)
Aluminum A380 (die casting)	Cast aluminum	**2.71**	2,710	0.0979	169.2	ASM Handbook, Vol. 2 (nonferrous alloys)
Aluminum MIC6 (cast plate)	Cast aluminum	**2.70**	2,700	0.0975	168.6	Arconic (Alcoa), MIC6 plate datasheet

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Ductile iron 65-45-12	Cast iron	**7.10 (7.1-7.2)**	7,100	0.2565	443.2	ASM Handbook, Vol. 1 (cast irons)
Gray cast iron class 30	Cast iron	**7.15 (7-7.3)**	7,150	0.2583	446.4	ASM Handbook, Vol. 1 (cast irons)
Beryllium Copper (C172)	Copper	**8.249**	8,249	0.298	514.9	Copper Development Association (CDA): 0.298 lb/in³
Copper (C110)	Copper	**8.885**	8,885	0.321	554.7	Copper Development Association (CDA): 0.321 lb/in³
Copper (C18200)	Copper	**8.885**	8,885	0.321	554.7	Copper Development Association (CDA): 0.321 lb/in³
Oxygen-free Copper (C101)	Copper	**8.941**	8,941	0.323	558.1	Copper Development Association (CDA): 0.323 lb/in³
Tellurium Copper (C14500)	Copper	**8.941**	8,941	0.323	558.1	Copper Development Association (CDA): 0.323 lb/in³
Magnesium AZ31B	Magnesium	**1.77**	1,770	0.0639	110.5	ASM Handbook, Vol. 2 (magnesium)
Hastelloy C-276	Nickel alloys	**8.89**	8,890	0.3212	555.0	Haynes International datasheet
Inconel 625	Nickel alloys	**8.44**	8,440	0.3049	526.9	Special Metals Corporation datasheet
Inconel 718	Nickel alloys	**8.19**	8,190	0.2959	511.3	Special Metals Corporation datasheet
Invar 36	Nickel alloys	**8.05**	8,050	0.2908	502.5	Carpenter Technology datasheet
Kovar	Nickel alloys	**8.36**	8,360	0.3020	521.9	Carpenter Technology datasheet
Monel 400	Nickel alloys	**8.80**	8,800	0.3179	549.4	Special Metals Corporation datasheet
Nickel 200 / 201	Nickel alloys	**8.89**	8,890	0.3212	555.0	Special Metals Corporation datasheet
Lead	Pure metal	**11.3**	11,300	0.4082	705.4	CRC Handbook of Chemistry and Physics (elements, 20 °C)

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Pure aluminum	Pure metal	**2.70**	2,700	0.0975	168.6	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure copper	Pure metal	**8.96**	8,960	0.3237	559.4	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure iron	Pure metal	**7.87**	7,870	0.2843	491.3	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure magnesium	Pure metal	**1.74**	1,740	0.0629	108.6	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure nickel	Pure metal	**8.90**	8,900	0.3215	555.6	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure titanium	Pure metal	**4.51**	4,510	0.1629	281.6	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure zinc	Pure metal	**7.14**	7,140	0.2579	445.7	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Tin	Pure metal	**7.26**	7,260	0.2623	453.2	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Molybdenum	Refractory and hard metal	**10.2**	10,200	0.3685	636.8	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Pure Tungsten	Refractory and hard metal	**19.25**	19,250	0.6955	1201.7	ASM Handbook, Vol. 2 (pure metals)
Tungsten heavy alloy (90 % W)	Refractory and hard metal	**17.0 (16.85-17.25)**	17,000	0.6142	1061.3	ASTM B777 class 1
Duplex Stainless Steel 2205	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 15-5 PH	Stainless steel	**7.80**	7,800	0.2818	486.9	Carpenter Technology datasheet
Stainless Steel 17-4 PH	Stainless steel	**7.78**	7,780	0.2811	485.7	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 301	Stainless steel	**8.03**	8,030	0.2901	501.3	ASM Handbook, Vol. 1 (steels)

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Stainless Steel 303	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 304	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 304L	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (steels)
Stainless Steel 316	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 316L	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (steels)
Stainless Steel 321	Stainless steel	**8.00**	8,000	0.2890	499.4	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 410	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 416	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 420	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 430	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (wrought stainless steels)
Stainless Steel 440C	Stainless steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (steels)
Cold-rolled steel (CRS)	Structural steel and plate	**7.87**	7,870	0.2843	491.3	ASM Handbook, Vol. 1 (steels)
Galvanized steel G90	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
Hot-rolled pickled and oiled steel (HRPO)	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
HSLA steel (A572 / A1011)	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Steel A36	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (carbon and alloy steels)
Steel A500 (structural tube)	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
Steel A514 (T-1)	Structural steel and plate	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (steels)
Titanium Grade 1	Titanium	**4.51**	4,510	0.1629	281.6	ASM Handbook, Vol. 2 (nonferrous alloys)
Titanium Grade 2	Titanium	**4.51**	4,510	0.1629	281.6	ASM Handbook, Vol. 2 (titanium and titanium alloys)
Titanium Grade 23 (Ti-6Al-4V ELI)	Titanium	**4.43**	4,430	0.1600	276.6	ASM Handbook, Vol. 2 (nonferrous alloys)
Titanium Grade 5 (Ti-6Al-4V)	Titanium	**4.43**	4,430	0.1600	276.6	ASM Handbook, Vol. 2 (titanium and titanium alloys)
Tool Steel A2	Tool steel	**7.86**	7,860	0.2840	490.7	ASM Handbook, Vol. 1 (tool steels)
Tool Steel D2	Tool steel	**7.70**	7,700	0.2782	480.7	ASM Handbook, Vol. 1 (tool steels)
Tool Steel H13	Tool steel	**7.80**	7,800	0.2818	486.9	ASM Handbook, Vol. 1 (tool steels)
Tool Steel M2	Tool steel	**8.16**	8,160	0.2948	509.4	ASM Handbook, Vol. 1 (tool steels)
Tool Steel O1	Tool steel	**7.81**	7,810	0.2822	487.6	ASM Handbook, Vol. 1 (tool steels)
Tool Steel P20	Tool steel	**7.85**	7,850	0.2836	490.1	ASM Handbook, Vol. 1 (tool steels)
Tool Steel S7	Tool steel	**7.83**	7,830	0.2829	488.8	ASM Handbook, Vol. 1 (tool steels)
Tool Steel W1	Tool steel	**7.84**	7,840	0.2832	489.4	ASM Handbook, Vol. 1 (tool steels)

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Zamak 3 (zinc)	Zinc	**6.60**	6,600	0.2384	412.0	ASTM B86 / ASM Handbook, Vol. 2
Zamak 5 (zinc)	Zinc	**6.60**	6,600	0.2384	412.0	ASM Handbook, Vol. 2 (nonferrous alloys)

PLASTICS

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
ABS (filament)	3D printing filament and powder	**1.04 (1.03-1.07)**	1,040	0.0376	64.9	Grade datasheet (ASTM D792)
ASA (filament)	3D printing filament and powder	**1.07**	1,070	0.0387	66.8	Grade datasheet (ASTM D792)
Carbon-fiber nylon (filament)	3D printing filament and powder	**1.19 (1.15-1.25)**	1,190	0.0430	74.3	Bambu Lab PAHT-CF / filament datasheets
Carbon-fiber PLA (filament)	3D printing filament and powder	**1.26 (1.22-1.3)**	1,260	0.0455	78.7	Filament datasheets (ISO 1183)
PETG (filament)	3D printing filament and powder	**1.27**	1,270	0.0459	79.3	Eastman Spectar (ASTM D792)
Photopolymer resin (SLA / DLP)	3D printing filament and powder	**1.17 (1.1-1.25)**	1,170	0.0423	73.0	Formlabs Standard Resin (cured)
PLA (filament)	3D printing filament and powder	**1.24**	1,240	0.0448	77.4	NatureWorks Ingeo (ASTM D792)
Sintered nylon 12 (SLS / MJF)	3D printing filament and powder	**0.95 (0.93-1.01)**	950	0.0343	59.3	HP 3D High Reusability PA 12 / EOS PA 2200

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
TPU 95A (flexible filament)	3D printing filament and powder	**1.20 (1.19-1.22)**	1,200	0.0434	74.9	BASF Elastollan / filament datasheets (ISO 1183)
FEP	Fluoropolymer	**2.15 (2.12-2.17)**	2,150	0.0777	134.2	Grade datasheet (ASTM D792)
PCTFE (Kel-F)	Fluoropolymer	**2.13 (2.1-2.17)**	2,130	0.0770	133.0	Grade datasheet (ASTM D792)
PTFE (Teflon)	Fluoropolymer	**2.16 (2.14-2.2)**	2,160	0.0780	134.8	Virgin PTFE (ASTM D792)
PVDF	Fluoropolymer	**1.78 (1.76-1.79)**	1,780	0.0643	111.1	Grade datasheet (ASTM D792)
PEEK	High-performance plastic	**1.30 (1.29-1.32)**	1,300	0.0470	81.2	Victrex PEEK 450G (ISO 1183)
PEEK 30% carbon-filled	High-performance plastic	**1.40**	1,400	0.0506	87.4	Victrex PEEK 450CA30 (ISO 1183)
PET	High-performance plastic	**1.38 (1.37-1.39)**	1,380	0.0499	86.2	Grade datasheet (ASTM D792)
Polyamide-imide (Torlon 4203)	High-performance plastic	**1.42**	1,420	0.0513	88.6	Solvay Torlon 4203 (ASTM D792)
Polyimide (Vespel SP-1)	High-performance plastic	**1.43**	1,430	0.0517	89.3	DuPont Vespel SP-1 (ASTM D792)
Polysulfone (PSU)	High-performance plastic	**1.24 (1.24-1.25)**	1,240	0.0448	77.4	Grade datasheet (ASTM D792)

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
PPS	High-performance plastic	**1.35 (1.34-1.36)**	1,350	0.0488	84.3	Grade datasheet (ASTM D792)
ULTEM (PEI)	High-performance plastic	**1.27 (1.27-1.28)**	1,270	0.0459	79.3	SABIC ULTEM 1000 (ASTM D792)
ABS	Thermoplastic	**1.05 (1.03-1.07)**	1,050	0.0379	65.5	ABS sheet and rod datasheets (ASTM D792)
Acetal (Delrin / POM)	Thermoplastic	**1.41 (1.41-1.42)**	1,410	0.0509	88.0	Copolymer 1.41 (stock rod); Delrin homopolymer 1.42 (ASTM D792)
Acrylic	Thermoplastic	**1.19 (1.18-1.19)**	1,190	0.0430	74.3	Cast PMMA (ASTM D792)
Cast polyurethane (90 Shore A)	Thermoplastic	**1.20 (1.1-1.25)**	1,200	0.0434	74.9	Cast urethane manufacturer datasheets
CPVC	Thermoplastic	**1.55 (1.5-1.57)**	1,550	0.0560	96.8	Grade datasheet (ASTM D792)
HDPE	Thermoplastic	**0.95 (0.94-0.97)**	950	0.0343	59.3	High-density polyethylene (ASTM D792)
High-impact polystyrene (HIPS)	Thermoplastic	**1.04**	1,040	0.0376	64.9	Grade datasheet (ASTM D792)
LDPE	Thermoplastic	**0.92 (0.91-0.93)**	920	0.0332	57.4	Grade datasheet (ASTM D792)
Nylamid (Cast Nylon 6)	Thermoplastic	**1.15 (1.15-1.16)**	1,150	0.0415	71.8	Cast nylon 6 (ASTM D792)

PREMSA INDUSTRIES

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Nylon 6/6	Thermoplastic	**1.14 (1.13-1.15)**	1,140	0.0412	71.2	Grade datasheet (ASTM D792)
Nylon 6/6 30% glass-filled	Thermoplastic	**1.37 (1.35-1.4)**	1,370	0.0495	85.5	Grade datasheet (ASTM D792)
PETG (sheet and rod)	Thermoplastic	**1.27**	1,270	0.0459	79.3	Eastman Spectar (ASTM D792)
Polycarbonate	Thermoplastic	**1.20 (1.2-1.22)**	1,200	0.0434	74.9	Unfilled polycarbonate (ASTM D792)
Polypropylene	Thermoplastic	**0.90 (0.9-0.91)**	900	0.0325	56.2	Polypropylene homopolymer (ASTM D792)
Polystyrene (PS)	Thermoplastic	**1.05 (1.04-1.05)**	1,050	0.0379	65.5	Grade datasheet (ASTM D792)
PVC	Thermoplastic	**1.41 (1.38-1.45)**	1,410	0.0509	88.0	Rigid PVC Type I (ASTM D792)
UHMW-PE	Thermoplastic	**0.93 (0.93-0.94)**	930	0.0336	58.1	Virgin UHMW (ASTM D792)

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

COMPOSITES

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Carbon fiber / epoxy (laminate)	Fiber composite	**1.55 (1.5-1.6)**	1,550	0.0560	96.8	Unidirectional laminate ~60 % fiber volume (Toray / Hexcel)
E-glass / epoxy (laminate)	Fiber composite	**1.90 (1.8-2)**	1,900	0.0686	118.6	Unidirectional laminate ~60 % fiber volume (manufacturer datasheets)
Canvas phenolic (CE / C)	Thermoset laminate	**1.36 (1.33-1.37)**	1,360	0.0491	84.9	NEMA LI 1 (grade CE)
G-10 / FR-4	Thermoset laminate	**1.85 (1.8-1.9)**	1,850	0.0668	115.5	Glass-epoxy laminate (NEMA LI 1)
G-11 (high-temperature glass epoxy)	Thermoset laminate	**1.85 (1.8-1.9)**	1,850	0.0668	115.5	NEMA LI 1 (grade G-11)
Paper phenolic (XX)	Thermoset laminate	**1.33 (1.3-1.36)**	1,330	0.0480	83.0	NEMA LI 1 (grade XX)

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

CERAMICS & GLASS

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Isostatic graphite	Carbide and graphite	**1.80 (1.75-1.92)**	1,800	0.0650	112.4	Toyo Tanso / SGL EDM grades
Tungsten carbide (6 % Co)	Carbide and graphite	**14.95 (14.85-15.05)**	14,950	0.5401	933.3	Kennametal / Sandvik 6 % cobalt grades
Borosilicate glass	Glass	**2.23**	2,230	0.0806	139.2	Corning 7740 (Pyrex) / Schott Borofloat 33
Alumina 96 %	Technical ceramic	**3.72**	3,720	0.1344	232.2	CoorsTek datasheet
Alumina 99.5 %	Technical ceramic	**3.89**	3,890	0.1405	242.8	CoorsTek datasheet
Macor (machinable glass-ceramic)	Technical ceramic	**2.52**	2,520	0.0910	157.3	Corning Macor datasheet
Silicon nitride	Technical ceramic	**3.25 (3.2-3.3)**	3,250	0.1174	202.9	CoorsTek datasheet
Sintered silicon carbide	Technical ceramic	**3.10 (3.05-3.15)**	3,100	0.1120	193.5	CoorsTek datasheet
Zirconia Y-TZP	Technical ceramic	**6.05 (6-6.1)**	6,050	0.2186	377.7	CoorsTek datasheet

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

RUBBER

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
EPDM	Rubber / elastomer	**1.15 (0.9-1.3)**	1,150	0.0415	71.8	Parker O-Ring Handbook, typical compounds (specific gravity)
Fluoroelastomer (FKM / Viton)	Rubber / elastomer	**1.85 (1.8-1.95)**	1,850	0.0668	115.5	Parker O-Ring Handbook, typical compounds (specific gravity)
Natural rubber (NR)	Rubber / elastomer	**0.93 (0.92-1)**	930	0.0336	58.1	Parker O-Ring Handbook, typical compounds (specific gravity)
Neoprene (CR)	Rubber / elastomer	**1.25 (1.2-1.35)**	1,250	0.0452	78.0	Parker O-Ring Handbook, typical compounds (specific gravity)
Nitrile (NBR / Buna-N)	Rubber / elastomer	**1.20 (1-1.3)**	1,200	0.0434	74.9	Parker O-Ring Handbook, typical compounds (specific gravity)
Polyurethane (AU / EU)	Rubber / elastomer	**1.20 (1.1-1.3)**	1,200	0.0434	74.9	Parker O-Ring Handbook, typical compounds (specific gravity)
Silicone (VMQ)	Rubber / elastomer	**1.20 (1.1-1.5)**	1,200	0.0434	74.9	Parker O-Ring Handbook, typical compounds (specific gravity)
Styrene-butadiene rubber (SBR)	Rubber / elastomer	**0.94 (0.93-1.1)**	940	0.0340	58.7	Parker O-Ring Handbook, typical compounds (specific gravity)

Material Density Chart

g/cm³, kg/m³, lb/in³ and lb/ft³ with the source of each value

REFERENCE

Material	Family	g/cm³	kg/m³	lb/in³	lb/ft³	Source
Air (20 °C, 1 atm)	Reference	**0.0012**	1	0.0000	0.1	CRC Handbook of Chemistry and Physics (elements, 20 °C)
Water (20 °C)	Reference	**0.998**	998	0.0361	62.3	CRC Handbook of Chemistry and Physics (elements, 20 °C)

1 lb/in³ = 27.679905 g/cm³ · 1 g/cm³ = 62.427961 lb/ft³ · kg/m³ = g/cm³ × 1,000. A value in parentheses is the published range across commercial grades.

HOW TO CITE THIS CHART (APA 7)

PREMSA Industries. (2026). *Material density chart.* Retrieved November 11, 2026, from https://premsaindustries.com/en/resources/material-density-chart