

IMPERIAL-METRIC CONVERSION

TENSILE STRENGTH

TO CONVERT FROM	TO	MULTIPLY BY
kgf/mm ²	N/mm ² or MPa	9.80665
kgf/mm ²	ksi	1.422335
N/mm ² or MPa	kgf/mm ²	0.0101972
N/mm ² or MPa	ksi	0.145038
ksi	kgf/mm ²	0.703069
ksi	N/mm ² or MPa	6.894752

Tensile strength and yield stress are measured in metric and Imperial as a force per unit area. The most common are:

- Pound per square inch (psi)
- Kilopounds per square inch (ksi)
- kilograms force per square millimeter (kgf/mm²)
- Newtons per square millimeter (N/mm²), also known as a MegaPascal (MPa)

LENGTH AND AREA

1 inch = 25.4 mm exactly	1 mm = 0.03937 inch
1 microinch = 0.0254 microns	1 micron = 39.3701 microinch
1 foot = 0.3048 meter	1 meter = 3.28084 feet
1 yard = 0.9144 meter	1 meter = 1.09361 yards
1 mile = 1.609344 kilometers	1 kilometer = 0.62137 mile
1 square inch = 645.16 square millimeters	1 square millimeter = 0.00155 square inch
1 square foot = 0.092903 square meter	1 square meter = 10.7639 square feet
1 square yard = 0.836127 square meter	1 square meter = 1.19599 square yards
1 square mile = 2.58999 square kilometers	1 square kilometer = 0.38610 square mile

MASS

1 lb. = 16 oz. = 453.59237 g (exactly)	1 gram = 0.035274 ounce
1 pound = 0.45359237 kilogram (exactly)	1 kilogram = 2.204622 pounds

VOLUME

1 cubic inch = 16.3871 cubic centimeters	1 cubic centimeter = 0.0610124 cubic inch
1 cubic foot = 0.028317 cubic meter	1 cubic meter = 35.31467 cubic feet
1 cubic yard = 0.764555 cubic meter	1 cubic meter = 1.30795 cubic yards

MEASURE OF CAPACITY

1 fluid ounce = 28.413 milliliters	1 milliliter = 0.0351951 fluid ounces
1 US pint = 0.832681 Imperial pint	1 Imperial pint = 1.20094 US pints
1 US gallon = 0.832681 Imperial gallon	1 Imperial gallon = 1.20094 US gallon
1 US pint = 0.47318 liter	1 liter = 2.11336 US pint
1 US gallon = 3.78541 liters	1 liter = 0.26417 US gallon
1 Imperial pint = 0.56826 liter	1 liter = 1.75978 Imperial pint
1 Imperial gallon = 4.54609 liters	1 liter = 0.219969 Imperial gallon

PRESSURE

1 pound/sq. inch = 0.068948 Bar	1 Bar = 14.5038 pound/sq. inch
1 atmosphere (standard) = 1.013250 Bar	1 Bar = 0.9869232 atmosphere (standard)

ADDITIONAL CONVERSION FACTORS

1 nautical mile = 1.852 kilometers	1 kilometer = 0.539957 nautical miles
1 knot = 1.85318 kilometer per hour	1 kilometer per hour = 0.539613 knots
1 acre = 0.404686 hectare	1 hectare = 2.47105 acres
1 ohm circular-mil per foot = 1.662426 x 10 ⁻⁹ ohm meter	1 ohm meter = 6. 01531 x 10 ⁻⁸ ohm circular-mil per foot
1 pound/cubic inch = 2.767990 x 10 ⁻⁴ kg/m ³	1 kg/m ³ = 3.6127 x 10 ⁻⁵ pound/cubic inch
1 Btu-in/ft ² hr°F = 1.730735 W/m.K	1 W/m.K = 0.5777892 Btu-in/ft ² hr°F
1 horsepower = 745.7 watts	1 watt = 0.001341 horsepower