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Surface Mining Water Diversion Design Manual

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Conversion Factors: English to International System (SI)*

Unit and Symbol	Multipliers	Unit and Symbol
Inches (in) -----	25.40	Millimeters (mm)
Inches (in) -----	2.540	Centimeters (cm)
Inches (in) -----	0.0254	Meters (m)
Feet (ft) -----	0.305	Meters (m)
Miles (mi) -----	1.61	Kilometers (km)
Yards (yd) -----	0.91	Meters (m)
Square inches (in^2) -----	6.45	Square centimeters (cm^2)
Square feet (ft^2) -----	0.093	Square meters (m^2)
Square yards (yd^2) -----	0.836	Square meters (m^2)
Acres (a) -----	4,047	Square meters (m^2)
Acres (a) -----	0.04047	Hectares (ha)
Square miles (mi^2) -----	2.59	Square kilometers (km^2)
Pint (pt) -----	0.4732	Liters (l)
Gallon (gal)- -----	3.785	Liters (l)
Cubic feet (ft^3) -----	0.0283	Cubic meters (m^3)
Acre-feet (a-ft) -----	1,233	Cubic meters (m^3)
Cubic inches (in^3) -----	16.4	Cubic centimeters (cm^3)
Cubic feet (ft^3) -----	0.028	Cubic meters (m^3)
Cubic yards (yd^3) -----	0.765	Cubic meters (m^3)
Ounce (oz) -----	28.35	Grams (g)
Pounds (lb) -----	0.4536	Kilograms (kg)
Tons (short (ts) -----	907.2	Kilograms (kg)
Tons (short) (ts) -----	0.9072	Metric tons (tm)
Pounds per square foot (lb/ft^2)	47.9	Newton per square meter (N/m^2)
Pounds per square inch (lb/in^2)	6.9	Kilonewtons per square meter (kN/m^2)
Gallons (gal) -----	3.8	Liter (l)
Acre-feet (a-ft) -----	1,233	Cubic meters (m^3)
Gallons per minute (gal/min) --	0.004	Cubic meters per minute (m^3/min)
Miles per hour (mi/h) -----	0.447	Meters per second (m/s)
Feet per second (ft/s) -----	0.3048	Meters per second (m/s)
Pounds per square foot (lb/ft^2)	0.4885	Grams per square centimeter (g/cm^2)
Tons (short) per square foot (ts/ ft^2)	0.9765	Kilograms per square centimeter (kg/cm^2)
Tons (short) per acre (ts/a) --	0.2241	Kilograms per square meter (kg/m^2)
Tons (short) per square mile (ts/ mi^2)	350.2	Kilograms per square kilometer (kg/km^2)
Pounds per cubic foot (lbs/ft^3)	16.02	Kilograms per cubic meter (kg/m^3)
Cubic feet per second (ft^3/s) -	0.0283	Cubic meters per second (m^3/s)
Cubic feet per second for one day ($ft^3/s-d$)	2,446	Cubic meters (m^3)

English Conversion Factors for Water Hydrology

Unit and Symbol	Multipliers	Unit and Symbol
Inches per hour (in/h) -----	1.008	Cubic feet per second (ft^3/s)
Inches per hour (in/h) -----	645.3	Cubic feet per second per square mile ($\text{ft}^3/\text{s}/\text{mi}^2$)
Surface inches (in) -----	0.0833	Acre-feet (a-ft)
Surface inches (in) -----	645.3	Cubic feet per second per hour ($\text{ft}^3/\text{s}/\text{h}$)
Surface inches (in) -----	26.89	Cubic feet per second per day ($\text{ft}^3/\text{s}/\text{d}$)
Square miles (mi^2) -----	640	Acres (a)
Acres (a) -----	43,560	Square feet (ft^2)
Square feet (ft^2) -----	144	Square inches (in^2)
Cubic feet per second-days ($\text{ft}^3/\text{s-d}$)	1.983	Acre-feet (a-ft)
Miles per hour (mi/h) -----	1.467	Feet per second (ft/s)

*Example: To convert from inches to millimeters multiply by 25.40.