

METRIC UNITS/ SI UNITS

- The metric system, using SI units, is required because your readership is international and SI units are used throughout the world.
- Basic units: * meter (length) * kilogram (mass) * second (time) * Ampere (electric current) * degrees Celsius (temperature) * (luminous intensity)
- New units that have been introduced : * Newton (N) = Force * Pascal (Pa) = Pressure
- It is equal to a Newton per square meter and corresponds to the familiar pounds per square inch (psi): 1 psi = 6.89 kilopascal.

➤ The following are some of the common conversion factors for SI SI Unit conversions

| Quantity or Test | Value in Trade or Customary Unit | X | Conversion Factor | = | Value in SI Unit | Symbol |
|---|------------------------------------|---|-------------------|---|---------------------------|-----------------------|
| Area | square inches | | 6.45 | | square centimeters | cm ² |
| | square feet | | 0.0929 | | square meters | m ² |
| | square yards | | 0.836 | | square meters | m ² |
| | acres | | 0.405 | | hectares | ha |
| Basis Weight* or Substance (500-sheet ream) or Grammage* when expressed in g/m ² | lb (17x22-500) | | 3.760 | | grams per square meter | g/m ² |
| | lb (24x36-500) | | 1.627 | | grams per square meter | g/m ² |
| | lb (25x38-500) | | 1.480 | | grams per square meter | g/m ² |
| | lb (25x40-500) | | 1.406 | | grams per square meter | g/m ² |
| Breaking Length | pounds per 1000 sq ft (Paperboard) | | 4.882 | | grams per square meter | g/m ² |
| | meters | | 0.001 | | kilometers | km |
| Burst Index | g/cm ² | | 0.0981 | | kilopascals | KPa.m ² /g |
| | g/m ² | | | | grams per square meter | g/m ² |
| Bursting Strength | pounds per square inch | | 6.89 | | kilopascals | kPa |
| Caliper | mils | | 0.0254 | | millimeters | mm |
| Concora Crush | pounds | | 4.45 | | newtons | N |
| Edge Crush | pounds per inch | | 0.175 | | kilonewtons per meter | kN/m |
| Energy | British thermal units (Btu) | | 1055 | | joules | J |
| Flat Crush | pounds per square inch | | 6.89 | | kilopascals | kPa |
| Force | kilograms | | 9.81 | | newtons | N |
| | pounds | | 4.45 | | newtons | N |
| | angstroms | | 0.1 | | nanometers | nm |
| Length | microns | | 1 | | micrometers | μm |
| | mils | | 0.0254 | | millimeters | mm |
| | feet | | 0.305 | | meters | m |
| | tons (2000 lbs.) | | 0.907 | | metric tons | t |
| Mass | pounds | | 0.454 | | kilograms | kg |
| | ounces (avd p) | | 28.3 | | grams | g |
| | ounces per gallon | | 7.49 | | kilograms per cubic meter | kg/m ³ |
| Mass per Unit Volume | pounds per cubic foot | | 1.60 | | kilograms per cubic meter | kg/m ³ |
| | foot pounds | | 1.36 | | joules | J |
| Puncture Resistance | pounds (for a 6" length) | | 0.0292 | | kilonewtons per meter | KN/m |
| Stiffness (Taber) | gram centimeters (Taber Units) | | 0.0981 | | millinewton meters | mN•m |
| | grams | | 9.81 | | millinewtons | mN |
| Tensile Breaking Load | pounds per inch | | 0.175 | | kilonewtons per meter | kN/m |
| | kilograms per 15 millimeters | | 0.654 | | kilonewtons per meter | kN/m |
| Volume, Fluid | ounces (US Fluid) | | 29.6 | | milliliters | mL |
| | gallons | | 3.79 | | liters | L |
| Volume, Solid | cubic inches | | 16.4 | | cubic centimeters | Cm ³ |
| | cubic feet | | 0.0283 | | cubic meters | m ³ |
| | cubic yards | | 0.765 | | cubic meters | m ³ |

* See TAPPI Technical Information Paper 0800.01 for additional SI Unit conversions

For Information on TAPPI's Style Guide, please visit -

http://www.tappi.org/content/pdf/standards/tip_guidelines_complete.pdf