

Alloy 6063

Chemical Composition Limits

| WEIGHT % | ELEMENT | | | | | | | | | |
|----------|---------|------|------|------|------|------|------|------|------|-------|
| | Cu | Mg | Mn | Si | Fe | Zn | Ti | Cr | Each | Total |
| MINIMUM | 0.15 | 0.45 | - | 0.20 | - | - | - | - | - | - |
| MAXIMUM | 0.10 | 0.90 | 0.10 | 0.60 | 0.35 | 0.10 | 0.15 | 0.10 | 0.05 | 0.15 |

Typical Physical Properties

| | AVERAGE COEFFICIENT OF THERMAL EXPANSION | MELTING RANGE APPROX. | TEMPER | THERMAL CONDUCTIVITY AT 77°F | ELECTRICAL CONDUCTIVITY AT 68°F | | ELECTRICAL RESISTIVITY AT 68°F |
|------------|--|-----------------------|---------|------------------------------|---------------------------------|--------------|--------------------------------|
| | (68-212°F PER F) | °F | | ENGLISH UNITS | EQUAL VOLUME | EQUAL WEIGHT | OHM-CIR. MIL/FOOT |
| ALLOY 6063 | 13.1 | 1080-1205 | 0 | 1510 | 58 | 191 | 18 |
| | - | - | T1 | 1340 | 50 | 165 | 21 |
| | - | - | T5 | 1450 | 55 | 181 | 19 |
| | - | - | T6, T83 | 1390 | 53 | 175 | 20 |

Typical US Mechanical Properties

| ALLOY AND TEMPER | TENSION | | | | HARDNESS | SHEAR | FATIGUE | MODULUS |
|------------------|--------------|-------|-----------------------------|---------------------------|------------------------|----------------------------|-----------------|-----------------------|
| | STRENGTH KSI | | ELONGATION PERCENT IN 2 IN. | | BRINNELL NUMBER | ULTIMATE SHEARING STRENGTH | ENDURANCE LIMIT | MODULUS OF ELASTICITY |
| | ULTIMATE | YIELD | 1/16 IN. THICK SPECIMEN | 1/2 IN. DIAMETER SPECIMEN | 500 KG LOAD 10 MM BALL | KSI | KSI | KSI X 10 ³ |
| 6063 T5 | 27 | 21 | 12 | 25 | 60 | 17 | 10 | 10.0 |
| 6063 T6 | 35 | 31 | 12 | 17 | 73 | 22 | 10 | 10.0 |

The following typical properties are not guaranteed, since in most cases they are averages for various sizes, product forms and methods of manufacture and may not be exactly representative of any particular product or size. These data are intended only as a basis for comparing alloys and tempers and should not be specified as engineering requirements or used for design purposes.

