

## Alloy 5052

## Chemical Composition Limits

| ELEMENT  |      |      |      |      |      |      |    |      |      |       |
|----------|------|------|------|------|------|------|----|------|------|-------|
| WEIGHT % | Cu   | Mg   | Mn   | Si   | Fe   | Zn   | Ti | Cr   | Each | Total |
| MINIMUM  | -    | 2.20 | -    | -    | -    | -    | -  | 0.15 | -    | -     |
| MAXIMUM  | 0.10 | 2.80 | 0.10 | 0.25 | 0.40 | 0.10 | -  | 0.35 | 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 5052 | 13.2                                     | 1125-1200             | ALL    | 960                          | 35                              | 116          | 30                             |

## 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 <sup>3</sup> |
| 5052-O           | 28           | 13    | 25                          | 30                        | 47                     | 18                         | 16              | 10.2                  |
| 5052-H32         | 33           | 28    | 12                          | 18                        | 60                     | 20                         | 17              | 10.2                  |
| 5052-H34         | 38           | 31    | 10                          | 14                        | 68                     | 21                         | 18              | 10.2                  |
| 5052-H36         | 40           | 35    | 8                           | 10                        | 73                     | 23                         | 19              | 10.2                  |
| 5052-H38         | 42           | 37    | 7                           | 8                         | 77                     | 24                         | 20              | 10.2                  |

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. This data is intended only as a basis for comparing alloys and tempers and should not be specified as engineering requirements or used for design purposes.

