

## 6061

Aluminum alloy 6061 is one of the most widely used alloys in the 6000 series. This standard structural alloy, one of the most versatile of the heat-treatable alloys, is popular for medium to high strength requirements and has good toughness characteristics. 6061 has excellent corrosion resistance to atmospheric conditions and good corrosion resistance to seawater. This alloy also offers good finishing characteristics and responds well to anodizing; however, where cosmetic appearance is critical, consider the use of alloy 6063.

## **Chemical Composition Limits**

| Alloy | <u>Si</u> | <u>Fe</u> | Cu       | <u>Mn</u> | Mg      | <u>Cr</u> | Zn   | <u>Ti</u> | Others Each | Others Total | Aluminum  |
|-------|-----------|-----------|----------|-----------|---------|-----------|------|-----------|-------------|--------------|-----------|
| 6061  |           | 0.7       | 0.15-0.4 | 0.15      | 0.8-1.2 | 0.04-     | 0.25 | 0.15      | 0.05        | 0.15         | Remainder |
|       |           |           |          |           |         |           |      |           |             |              |           |

|   | SPECIFIED DIAMETER                                   | AREA<br>sq. in. | TENSILE STRENGTH—ksi |      |       |      | ELONGATION <sup>②</sup>                        |  |  |  |
|---|--|-----------------|----------------------|------|-------|------|--|--|--|--|
| ALLOY AND TEMPER  | OR THICKNESS <sup>①</sup> OR MINIMUM DISTANCE ACROSS |                 | ULTIMATE             |      | YIELD |      | percent min. in<br>2 in.<br>or 4D <sup>③</sup> |  |  |  |
|   | FLATS<br>in.   |                 | min.                 | max. | min.  | max. | or 4D ©  |  |  |  |
| 6061  |  |                 |                      |      |       |      |  |  |  |  |
| 6061-O  | All  | All             |                      | 22.0 | • •   | 16.0 | 16   |  |  |  |
| 6061-T1   | Up thru 0.625  | All             | 26.0                 |      | 14.0  |      | 16   |  |  |  |
| 6061-T4, T4510 <sup>⑤</sup> ② and T4511 <sup>⑤</sup> ②      | All  | All             | 26.0                 |      | 16.0  |      | 16   |  |  |  |
| 6061-T42 <sup>④</sup> <sup>⑧</sup>                          | All  | All             | 26.0                 |      | 12.0  |      | 16   |  |  |  |
| 6061-T51  | Up thru 0.625  | All             | 35.0                 |      | 30.0  |      | 8  |  |  |  |
| 6061-T6, T62 <sup>④</sup> <sup>⑤</sup> , T6510 <sup>⑤</sup> | Up thru 0.249  | All             | 38.0                 |      | 35.0  |      | 8  |  |  |  |
| andT6511 <sup>⑤ ⑤</sup>                                     | 0.250 and over                                       | All             | 38.0                 |      | 35.0  |      | 10   |  |  |  |

Note: Limits shown are the latest at time of publishing from Aluminum Association.

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