



# Alloy 2024 by Metals Trading Company

According to EU directives: 2000/53/CE (ELV) - 2011/65/EU (RoHS II)

Color code EU **ORANGE**

| PRODUCTION PROGRAM |   |   |   |
|--------------------|---|---|---|
| Unit:mm            |  |  |  |
| Drawn              | 10 ÷ 65   | 10 ÷ 36   | 20 ÷ 36   |
| Extruded           | 20 ÷ 120  | 20 ÷ 36   | 20 ÷ 36   |

Alloy 2024 has high mechanical properties and excellent resistance to fatigue. During machining, it creates quite long chips, therefore it is not well suited for automatic lathes. Alloy 2024 offers excellent toughness at moderately high strength levels. With good strength and fatigue resistance, and improved fracture toughness, the alloy is specified by the aerospace sector and the military. Also aluminum 2024 alloy is used in the manufacture of rivets, connectors, hydraulic valve and scientific instruments. Main applications: screws, bolts, nuts, threaded bars.

## CHEMICAL COMPOSITION

| Si    | Fe    | Cu      | Mn      | Mg      | Cr    | Ni | Zn    | Ti    | Pb | Bi | Other                | Al        |
|-------|-------|---------|---------|---------|-------|----|-------|-------|----|----|----------------------|-----------|
| ≤0.50 | ≤0.50 | 3.8+4.9 | 0.3+0.9 | 1.2+1.8 | ≤0.10 |    | ≤0.25 | ≤0.15 |    |    | Each 0.05 Total 0.15 | Remainder |

## PHYSICAL PROPERTIES

|  |   |        |
|--|---|--------|
| Density                                | $\frac{\text{Kg}}{\text{dm}^3}$           | 2.79   |
| Modules of elasticity                  | MPa                                       | 70.000 |
| Coefficient of thermal expansion       | $\frac{\times 10^{-6}}{^{\circ}\text{C}}$ | 23.1   |
| Thermal conductivity at 20°C           | $\frac{\text{W}}{\text{mk}}$              | 120    |
| Typical electrical resistivity at 20°C | $\frac{\Omega\text{mm}^2}{\text{m}}$      | 0.057  |

## MECHANICAL PROPERTIES

|                | Temper         | Diam mm   | Rm Mpa | Rp Mpa | A%  | HBW Typical |
|----------------|----------------|-----------|--------|--------|-----|-------------|
|                |                |           |        |        |     |             |
| Drawn          | T3             | 10<D≤50   | 425    | 290    | 9   | 120         |
|                | T351           | ≤80       | 425    | 310    | 8   | 120         |
|                | T6             | ≤80       | 425    | 315    | 5   | 125         |
|                | T651           | ≤80       | 425    | 315    | 4   | 125         |
|                | T8             | ≤80       | 455    | 400    | 4   | 130         |
| Extruded       | T851           | ≤80       | 455    | 400    | 2   | 130         |
|                | T3,T3510,T3511 | ≤50       | 450    | 310    | 8   | 120         |
|                | T3,T3510,T3511 | 50<D≤100  | 440    | 300    | 8   | 120         |
|                | T3,T3510,T3511 | 100<D≤200 | 420    | 280    | 8   | 120         |
|                | T3,T3510,T3511 | 200<D≤250 | 400    | 270    | 8   | 120         |
| T8,T8510,T8511 | ≤150           | 455       | 380    | 5      | 120 |             |

## PROPERTIES

|                                     | T3 |  |  |  |
|-------------------------------------|----|--|--|--|
| Mechinability                       |    |  |  |  |
| Protective anodizing                |    |  |  |  |
| Decoratice anodizing                |    |  |  |  |
| Hard anodizing                      |    |  |  |  |
| Resistance to atmospheric corrosion |    |  |  |  |
| Resistance to marine corrosion      |    |  |  |  |
| MIG-TIG weldability                 |    |  |  |  |
| At resistance weldability           |    |  |  |  |
| Brazing weldability                 |    |  |  |  |
| Plastic farmability when cold       |    |  |  |  |
| Plastic farmability when hot        |    |  |  |  |

Legend

|           |
|-----------|
| Excellent |
|-----------|

|      |
|------|
| Good |
|------|

|            |
|------------|
| Acceptable |
|------------|

|                 |
|-----------------|
| Not recommended |
|-----------------|

email: [office@mtc.co.rs](mailto:office@mtc.co.rs)

