



## C93700 HIGH-LEADED TIN BRONZE

ASTM B152 ASTM B187

| UNS No. | Copper    | Tin      | Lead     | Zinc    | Nickel incl.<br>Cobalt | Iron     | Aluminum | Antimony | Sulfur   | Phosphorus | Silicon   |
|---------|-----------|----------|----------|---------|------------------------|----------|----------|----------|----------|------------|-----------|
| C93700  | 78.0-82.0 | 9.0-11.0 | 8.0-11.0 | 0.8 max | 0.50 max               | 0.70 max | .005     | 0.50 max | 0.08 max | 1.5 max    | 0.005 max |

C93700 High-Leaded Tin Bronze is also known as SAE 64 and 80-10-10 Bronze. The addition of tin increases the strength of alloy C93700. The lead found in CDA C93700 Tin Bronze acts as a natural lubricant and contributes to this alloys excellent machinability and good anti-friction properties. C93700 has reasonable corrosion resistance to seawater and brine and good overall wear resistance. C93700 Bronze is available as centrifugal cast, continuous cast and sand cast bar. CDA C93700 High-Leaded Tin Bronze is ideally suited for high speed, light duty applications, including crank shafts, washers, bushings, bearings, bearing plates and pump impellers.

### Fabrication Properties

|                                                    |                          |
|----------------------------------------------------|--------------------------|
| Density @ 68° F                                    | 0.320 lb/in <sup>3</sup> |
| Melting Range                                      | 1403-1705° F             |
| Casting Yield                                      | High                     |
| Electrical Conductivity % IACS at 68°F             | 10                       |
| Thermal Conductivity Btu/ sq ft/ ft hr/ °F at 68°F | 27.1                     |
| Specific Heat Capacity Btu/ lb /°F at 68°F         | 0.09                     |
| Modulus of Elasticity in Tension ksi               | 11000                    |
| Machinability rating (C36000= 100)                 | 80                       |
| Brazing                                            | Good                     |
| Soldering                                          | Good                     |
| Gas-shielded arc welding                           | Not recommended          |
| Oxy-acetylene welding                              | Not recommended          |
| Coated metal-arc welding                           | Not recommended          |

### Mechanical Properties

| Form             | Specification | Tensile, min<br>ksi (MPa) | Yield, max<br>ksi (MPa) | Elongation<br>in 2", % min |
|------------------|---------------|---------------------------|-------------------------|----------------------------|
| Centrifugal Cast | ASTM B271     | 30 (207)                  | 12 (83)                 | 15                         |
| Continuous Cast  | ASTM B505     | 35 (241)                  | 20 (138)                | 6                          |
| Sand Cast        | ASTM B584     | 30 (207)                  | 12 (83)                 | 15                         |

