

Aluminum Bronze and Nickel Aluminum Bronze

Aluminum bronzes and nickel aluminum bronzes contain between 3% and 12% aluminum which strengthens the alloy. They are best known for their high corrosion and oxidation resistance combined with exceptionally good mechanical properties. Aluminum bronze bearings are used in heavily loaded applications. Alloys such as C954 or C955 can be quenched and tempered to reach even higher strengths when necessary. Resistance to seawater corrosion is extremely high in nickel aluminum bronzes such as C955. Due to its resistance to corrosion, erosion, and cavitations, it is widely used for propellers and other marine hardware.

Typical uses:

- Gun mounting and slides
- Landing gear parts
- Pickling tank and mild alkali applications
- Marine engine and propellers
- Gears
- Cams
- Stripper nuts
- Slippers
- High temperature applications
- Mining machine parts
- Spur and low speed - heavily loaded worm gears
- Nuts
- Pumps
- Bushings
- Tank gun recoil mechanisms
- Valve guides and seats in aircraft engines
- Cable connectors
- Pole-line hardware
- Terminals
- Propeller hubs
- Blades and other parts including valves with sea water contact

Nominal Composition Chart Aluminum bronzes and nickel aluminum bronzes contain between 3% and 12% aluminum which strengthens the alloy. They are best known for their high corrosion and oxidation resistance combined with exceptionally good mechanical properties. Aluminum bronze bearings are used in heavily loaded applications. Alloys such as C954 or C955 can be quenched and tempered to reach even higher strengths when necessary. Resistance to seawater corrosion is extremely high in nickel aluminum bronzes such as C955. Due to its resistance to corrosion, erosion, and cavitation, it is widely used for propellers and other marine hardware.

| Aluminum Bronze as per ASTM | | | | | | | | | |
|--|--------------|-------------------|-----------------------|--------------------|-------------------------------------|-----------|-----------|-----------|-----------|
| Cross Index | | | | | Nominal Chemical Composition | | | | |
| CDA | Ingot | Former SAE | Former Federal | Former ASTM | Copper | Al | Fe | Ni | Mn |
| C95200 | 415A | 68A | 9A | 88 | 9 | 3 | --- | --- | --- |
| C95300 | 415B | 68B | G7 | 9B | 89 | 10 | 1 | --- | --- |
| C95300-HT | | G7-HT | --- | --- | --- | --- | --- | --- | --- |
| C95400 | 415C | --- | A-954 | 9C | 85 | 11 | 4 | --- | --- |
| C95400-HT | | --- | G5-HT | 9C-HT | --- | --- | --- | --- | --- |
| C95500 | 415D | --- | G3 | 9D | 81 | 11 | 4 | 4 | --- |
| C95500-HT | | --- | G3-HT | 9D-HT | --- | --- | --- | --- | --- |
| C95800 | --- | --- | --- | --- | 81 | 9 | 4 | 5 | 1 |
| C95900 | --- | --- | --- | --- | 82 | 13 | 4 | --- | 1 |
| | | | | | | | | | |
| | | | | | | | | | |
| <u>Any composition customised or modified as per client requirement also available.</u> | | | | | | | | | |