



| MATERIAL DESIGNATION | SPECIFICATION | | COMPOSITION | | | | | | | TOTAL IMPURITIES | PROPERTIES | | FABRICATION PROPERTIES | | | | | USES | |
|------------------------------|----------------|-----------------|-------------|-----------|-------------|------------|-------------|-------------|-------------|------------------|------------------|--------------|------------------------|------------|---------------|-----------|----------------------|-----------|--|
| | ORIGINAL | NEAR EQUIVALENT | Cu % | Zn % | Pb % | Sn % | Fe % | Mn % | Al % | | U.T.S. Min. Kgs. | ELONGATION % | COLD WORKING | HOT FORMED | MACHINABILITY | SOLDERING | BRAZING | | |
| 1 FREE CUTTING BRASS | BS 2874 / 09 | IS 319 / 74 | 55 to 59 | Remainder | 2.0 to 3.5 | | | 0.35 Max. | | | 0.7 Max. | 39 | 15 | POOR | FAIR | 90% | EXCELLENT | GOOD | Ashtame, Extrusion, Threaded, Bolt Hinges, Locks Bolts, Screws, Nuts, Bolts and Hardware. |
| | CZ 121 | Type - I | | | | | | | | | | | | | | | | | |
| 2 FREE CUTTING BRASS | BS 2874 / 09 | IS 319 / 74 | 60 to 63 | Remainder | 2.5 to 3.7 | | | 0.35 Max. | | | 0.5 Max. | 28 | 12 | POOR | FAIR | 90% | EXCELLENT | GOOD | Gears, Pistons, Automatic High Speed Screw Machine Parts. |
| | CZ 124 | Type - II | | | | | | | | | | | | | | | | | |
| 3 FORGING BRASS | IS 4932 / 08 | BS 2874 / 09 | 56.5 - 60 | Remainder | 1.5 to 2.0 | | | 0.30 Max. | | | 0.7 Max. | 40 | 20 | POOR | EXCELLENT | 80% | EXCELLENT | GOOD | Forgings and Pressing of all kinds of components requiring free cutting as well as forging properties |
| | CZ 122 | BS 218 / 03 | | | | | | | | | | | | | | | | | |
| 4 LEAD FREE BRASS | BS 2874 / 1608 | BS 1949 | 59 to 62 | Remainder | | | | | | | 0.30 Max. | 34 | 26 | | | 55% | | | A ductile alloy with good working properties excellent for bending and gunning, Rivets, Bolting, Steam Valves, Tubing for Heat Exchangers. |
| | CZ 109 | IS 4170 / 07 | | | | | | | | | | | | | | 40% | | | |
| | IS 4413 / 1983 | BS 2873 / 69 | 62 to 65 | Remainder | 0.5 Max. | | | 0.10 Max. | | | 0.60 Max. | | | | | | | | |
| | CZ 108 | Cu-Zn-37 | | | | | | | | | | | | | | | | | |
| 5 HIGH TENSILE BRASS RODS | BS 2874 | BS 250 | 56 to 60 | Remainder | 0.5 to 1.5 | 0.2 - 1.0 | 0.25 - 1.2 | 0.3 - 2.0 | 1.5 Max. | | 0.30 Max. | 55 | 12 | FAIR | GOOD | 30% | | | Bells, Clutch Discs, Pump Rods, Shafts, Valve Stems and Bolts, Working Rods and such other Components Requiring High Strength. |
| | CZ 115 | | | | | | | | | | | | | | | | | | |
| 6 HIGH TENSILE BRASS RODS | BS 2874 | BS 1001 | 56 to 60 | Remainder | 0.5 to 1.5 | 0.6 - 1.1 | 0.25 - 1.2 | 0.3 - 2.0 | 0.2 Max. | 0.5 Max. | | 47 | 10 | FAIR | GOOD | 30% | | | Forgings requiring High Tensile Strength and soldering property |
| | CZ 115 | | | | | | | | | | | | | | | | | | |
| 7 HIGH TENSILE BRASS RODS | IS 320 / 1982 | | | | | | | | | | | | | | | | | | |
| | Alloy - I | | 56 to 60 | Remainder | 0.2 to 1.5 | 0.2 - 1.0 | 0.2 to 1.25 | 0.25 to 2.0 | 0.2 Max. | 0.5 Max. | | 53 | 15 | FAIR | GOOD | 30% | SUITABLE | | |
| | Alloy - II | | 56 to 61 | Remainder | 0.5 to 1.5 | 1.0 Max. | 0.20 to 1.5 | 0.5 - 2.0 | 0.3 to 2.0 | 0.5 Max. | | 47 | 20 | FAIR | GOOD | 30% | LESS EASILY SOLDERED | | |
| | Alloy - III | | 57 to 60 | Remainder | 0.75 to 1.0 | 1.0 Max. | 0.25 to 1.0 | 0.1 - 0.2 | 0.5 - 2.0 | 0.5 Max. | | 53 | 15 | FAIR | GOOD | 30% | | | |
| 8 NAVAL BRASS | IS 291 / 1977 | BS 2872 | 61 to 64 | Remainder | 0.20 Max. | 1 to 1.5 | 0.10 Max. | | | | 0.20 Max. | 35 | 18 | FAIR | GOOD | 30% | EXCELLENT | EXCELLENT | Bells, Bolts, Marine Hardware, Nuts, Propeller Shafts, Rivets, Valve Stems, Working Rods, Condenser Plates. |
| | GRADE - I | CZ 112 | | | | | | | | | | | | | | | | | |
| | | BS 251 / 03 | | | | | | | | | | | | | | | | | |
| | IS 291 / 1977 | CZ 113 | 59 to 62 | Remainder | 0.5 to 1.0 | 0.5 to 1.0 | 0.10 Max. | | | | 0.20 Max. | 35 | 16 | FAIR | FAIR | 70 % | EXCELLENT | GOOD | Condenser plates, Piston Rods, Nuts, Bolts, Rivets and other Marine Mechanical Hardware not involving forging operation. |
| GRADE - II | BS 2874 | | | | | | | | | | | | | | | | | | |
| | BS 212 / 1963 | | | | | | | | | | | | | | | | | | |
| 9 RIVETING BRASS | IS 2704 / 1983 | | 62 - 65 | Remainder | 0.75 to 1.0 | | | 0.10 | | | 0.5 Max. | 35 | 20 | EXCELLENT | | 70% | | | Alloy with good machinability as well as bending and cold working properties. |
| 10 MOOFED FOR VALVES | | | 56 - 60 | Remainder | 1.5 Max. | | | 0.35 Max. | 0.75 - 1.33 | | 0.5 Max. | 42.5 | 25 | POOR | EXCELLENT | 80% | EXCELLENT | GOOD | L.P.G. & Other Gas Cylinder Valves, Pumps, Rods, Shafts, Valve Stems etc. |