

MATERIAL DESCRIPTION	STANDARD SPECIFICATIONS			COPPER Cu%	LEAD Pb%	TIN Sn%	IRON Fe%	ALUMINUM Al%	MANGANESE Mn%	OTHER ELEMENTS%	ZINC Zn%	NICKLE Ni%	PHYSICAL PROPERTIES		FABRICATION PROPERTIES					
	BS	IS											TENSILE STRENGTH Kg/mm2	ELONGATION % ON 5.65 OA	COLD WORK	HOT FORMED	MACHIN- ABILITY	BRAZING	FORGING	BENDING RIVETING
FREE CUTTING BRASS TYPE I	CZ121	319/89	CuZn39Pb3	56 to 60	2.0 to 3.5	-	0.35 Max	-	-	0.75 Max	Remn.	-	ANNEALED : 35 to 29 HALF HARD : 41 to 33 HARD : 56 to 50	ANNEALED : 12 to 22 HALF HARD : 41 to 17 HARD : - Upto 4	POOR	FAIR	100%	GOOD	-	-
FREE CUTTING BRASS TYPE II	CZ121	319/89	CuZn36Pb3	60 to 63	2.5 TO 3.7	-	0.35 Max	-	-	0.5 Max.	Remn.	-	ANNEALED : 34 to 28 HALF HARD : 40 to 32 HARD : 56 to 49	ANNEALED : 15 to 25 HALF HARD : 7 to 20 HARD : - Upto 4	POOR	FAIR	90%	GOOD	-	-
FREE CUTTING BRASS TYPE III	CZ124	319/89	CuZn36Pb2	60 to 63	0.5 to 1.5	-	0.20 Max	-	-	0.5 Max.	Remn.	-	ANNEALED : 30 to 25 HALF HARD : 36 to 26 HARD : 45 to 40	ANNEALED : 22 to 32 HALF HARD : 8 to 27 HARD : - Upto 4	FAIR	EXCELLENT	80%	EXCELLENT	-	-
FORGING BRASS	CZ122	218	CuZn40Pb2	56.5 to 60	0.6 to 2.0	-	0.30 Max.	-	-	0.7 Max.	Remn.	-	35 Min.	25% Min.	POOR	EXCELLENT	80%	GOOD	100%	-
MODIFIED FORGING BRASS	BS - 218			56.5 to 60.0	1.0 TO 1.5	-	0.30 Max.	-	0.5 Max.	0.5 Max.	Remn.	-	42.5 Min.	25% Min.	POOR	EXCELLENT	80%	GOOD	100%	-
FORGING BRASS WITH LOW Mn		6912/85		56.5 to 60.0	0.6 TO 1.2	-	0.30 Max.	-	0.2 Max.	0.25 Max.	Remn.	-	42.0 Min.	25% Min.	POOR	EXCELLENT	80%	GOOD	100%	-
RIVETING BRASS RODS LEAD FREE	CZ109	4170/67	CuZn40	59 to 62	0.30 Max.	-	0.10 Max.	-	-	0.30 Max.	Remn.	-	34.5 Min.	25% Min.	-	-	55%	-	EXCELLENT	EXCELLENT
	CZ108	4413/81	CuZn37	62 to 65	0.30 Max.	-	0.10 Max.	-	-	0.60 Max.	Remn.	-	ANNEALED : 30 Min HALF HARD : 47 to 63 HARD : 63 to 79	35% Min.	-	-	40%	-	EXCELLENT	EXCELLENT
RIVETING BRASS RODS LEADED	CZ118	2704/83	CuZn35Pb1	62 to 65	0.75 to 1.5	-	0.10 Max.	-	-	0.50 Max.	Remn.	-	OUTR HARD : 33 to 39 HALF HARD : 40 to 49 HARD : 50 to 69 E HARD : 70 to 90	30% 20% 15% 5%	EXCELLENT	-	70%	-	-	EXCELLENT
		2704/83	CuZn35	63 to 68	0.02 Max.	-	0.05 Max.	-	-	0.30 Max.	Remn.	-	OUTR HARD : 33 to 39 HALF HARD : 42 to 51	30% 15%	EXCELLENT	-	70%	-	-	EXCELLENT
HIGH TENSILE BRASS RODS	CZ114		CuZn39AlFeMn	56 TO 59	0.5 to 1.5	0.2 to 1.0	0.5 to 1.2	0.50 Max	0.3 to 2.0	0.50 Max.	Remn.	-	AS MFGD : 47 HARD : 55	18% 12%	POOR	GOOD	30%	-	-	-
	CZ115		CuZn39AlFeMn	56 to 60	0.5 to 1.5	0.6 to 1.1	0.50 to 1.2	0.2 Max.	0.3 to 2.0	0.50 Max.	Remn.	-	47 Min.	20% Min.	FAIR	GOOD	30%	-	-	-
NAVAL BRASS ROD GRADE I	CZ112	291/89	CuZn38Sn1	61 to 64	0.20 Max.	1.0 to 1.5	0.10 Max.	-	-	0.20 Max.	Remn.	-	35 to 40	18% Min.	FAIR	EXCELLENT	30%	EXCELLENT	90%	-
NAVAL BRASS ROD GRADE II	CZ113	291/89		59 to 62	0.5 to 1.0	0.5 to 1.0	-	-	-	0.20 Max.	Remn.	-	40 Min.	15% Min.	POOR	GOOD	50%	GOOD	90%	-
LEADED BRASS FOR SECTIONS	CZ130			56 TO 58	2.5 TO 3.0	-	-	0.40 Max	-	0.75 Max.	Remn.	-	40 Min.	15% Min.	POOR	GOOD	50%	GOOD	90%	-
NICKEL SILVER ALLOY RODS				44 to 47	1.0 to 1.0	-	0.40 Max.	-	0.2 to 0.5	0.30 Max.	Remn.	9 to 11	47 Min.	8% Min.	-	EXCELLENT	80%	GOOD	-	-
COPPER ROD FOR GENERAL ENGG PURPOSE	CC101			REMAINDE R	-	-	-	-	-	0.36 to 1.4 (CHROMIUM)	-	-	41 Min.	15% Min.	EXCELLENT	EXCELLENT	-	GOOD	-	-