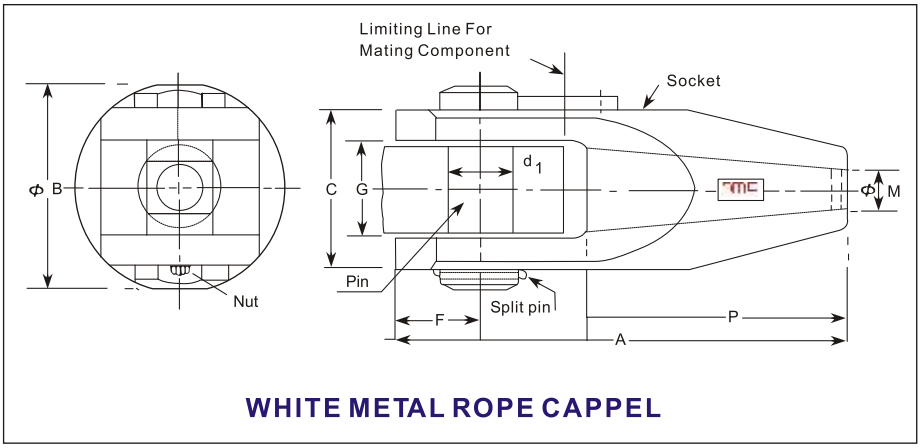
WHITE METAL SOCKET TYPE WINDING ROPE CAPPEL

'NMC' White Metal Socket type Cappels are supplied for all rope and loads. They conform to IS : 7587 (Part II) – 2006. They are used for connecting winding rope to the suspension Gear. The length of the taper of the basket is usually not less than 6 times and not more than 8 times the diameter of the rope and the angle of taper is between 3^0 and 6^0

Mterial : Rope Capples are manufatured from 11 Mn2 of IS : 4432-2004 or 20C15 of IS 5517 : 2004

Heat treatment : Rope Cappels are subject to heat treatment as follows :



WHITE METAL ROPE CAPPEL

HEAT TREATMENT			
Designation of Steel	Normalising Temperature	Hardening Temparature	Tempering Temperature
11 Mn2	870^0C - 910^0C	870^0C - 910^0C	550^0C - 660^0C
20C15	860^0C - 910^0C	860^0C - 910^0C	550^0C - 660^0C

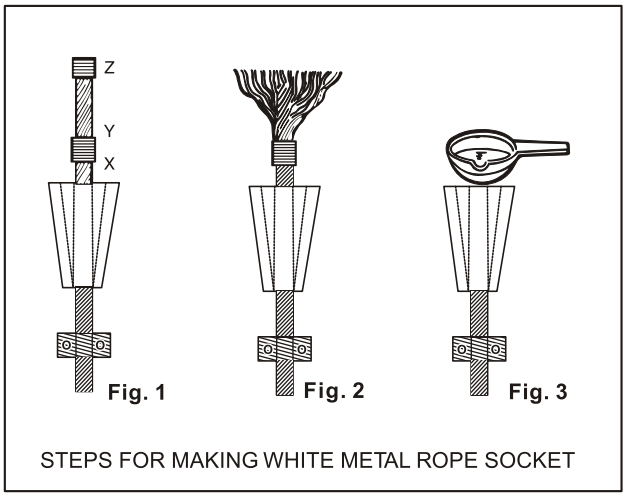
20C15 STEEL ANALYSIS		
Carbon%	Silicon%	Manganese%
0.16 Max	0.15 to 0.35	1.3 to 1.7
0.16 to 24	0.15 to 0.35	1.3 to 1.7

MAIN DIMENSIONS FOR WHITE METAL SOCKET CAPPLES

Rope Dia mm	A mm	B Ø mm	C mm	F mm	G mm	M mm	P mm	Pin Ø d1 mm	S.W.L. kN	Approx Wt. in kg.
16	216	115	84	42	50	22	127	32	20	9
19*	251	127	95	48	57	25	146	40	30	12
22*	298	127	95	57	57	29	172	40	40	14
25/26/27/28*	340	162	120	65	72	33	197	50	50	20
30	382	162	120	73	72	36	222	50	70	23
32*	420	193	146	81	88	40	244	60	80	40
38	503	228	175	95	103	46	296	70	120	55
44	583	268	200	112	117	53	346	80	150	75
51	666	292	226	127	132	60	394	90	200	135

'DGMS Approval No. : Mech (HQ)/NMC/APP/WMRC/235/Dhanbad, Dated the 15th April, 2008
Testing : Rope Cappel shall be subject to proof load and N.D.T. by CIMFR, Dhanbad or DGMS approved test house approval No. (HQ)/CSG-Testing APP/NMC/387 Dhanbad, Dated 23rd July, 2008

INSTRUCTION FOR MAKING WHITE METAL ROPE CAPPEL



STEPS FOR MAKING WHITE METAL ROPE SOCKET

The way to make White Metal Cappel is as follows :

1. Before cutting off the old cappel or rope end, fit sufficient temporary seizings or clamps to prevent the rope from "kicking" (loosening its lay) when cut through. With locked coil ropes clamps are absolutely necessary and about four clamps for every 25 mm of rope diameter should be used.

2. Thread the socket on to the rope and push it along out of way.

3. Seize the rope with soft iron wire for a length XY (Fig. 1) equal to twice the diameter of the rope, leaving the rope end free of this seizing YZ equal to the length of the socket barrel less half a rope diameter.

4. Unlay the rope end beyond the seizing, separate all the wires out into a brush, but do not bend any of them too sharply at the seizing and do straighten the wires. Cut out the fibre core or cut as deep into the brush as possible (Fig. 2).

5. Clean all the wires carefully with petrol, emery cloth etc. and remove all dirt and grease before going any further. This cleaning is most important. Do not let the petrol run into the unopened rope or it will wash out the lubricant and allow corrosion to occur next to the cappel.

6. Pull the brush of opened wires into the socket and fix the socket upright in a soft jawed vice or clamps with the large end up, ready for pouring the metal. See that the rope hangs straight down under the socket for a length of at least 36 rope diameter (Fig. 3).

7. Make a dry string binding round the rope at the small end of the socket to prevent the molten metal from escaping (Fig 3). Do not use damp clay for this purpose as it will give off steam and may cause blow holes in the metal.

8. Heat the socket evenly with blow lamp to a temperature of 100°C, temperature of boiling water. At this temperature drops of water placed on the socket will fly off.

9. Dust powdered rosin among the wires in the socket. This acts as a flux and help grip the wires.

10. Heat the standard white metal to a temperature of 350°C and pour it, in one ladleful if possible, while it is at this temperature or not more than 13°C above or below. The pouring temperature should be measured with a thermometer. If the metal is poured too hot it may affect the rope wires, whereas if it is poured too cold it may not flow or grip the wires properly (See Coal Mines Regulation 1957 : 83 (5) (d). Metaliferous Mines Regulation 1961 :88(5)(d).

11. Allow the cappel to cool before using it. If there is not enough time for natural cooling, let the metal become solid and then apply wet sacking or direct a current of cold air on to the socket. Do not dip the socket in cold water or use it until it has cooled to air temperature.

12. Finally lubricate part of the rope which is near the socket

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