

WAP/M/SPECN -1/028/1988			
ALT	DATE	JOB No	SIGN
Q	26.06.96	2826	<i>[Signature]</i> 26/6/96

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

SPECIFICATION FOR
LEATHER OUTER SHROUD
SPRUE WASH HELMET

ISSUED BY
MECHANICAL DRAWING OFFICE
WHEEL AND AXLE PLANT YELAHANKA
BANGALORE

<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i> 22.8.96
DycME/WI	WM/MR	SUPDT/DES
APPD. BY	CHD. BY	PREPD. BY

SPECIFICATION FOR LEATHER OUTER SHROUD SPRUE WASH HELMET1.0 SCOPE :

The specification covers design and manufacture and supply of full chrome tanned cow split and fat liquored and dyed with fine Naped leather to Wheel and Axle Plant, Yelahanka near Bangalore in Karnataka State, India, as per instructions and conditions of tender papers.

2.0 GENERAL DESCRIPTION:

2.1 Leather with full chrome tanned cow split and fat liquored and dyed with fine Naped condition.

2.2 Size : Length 44" (1117.6 mm)
Width 18" (457.2 mm)
Thickness 1/16" (1.5 mm)

3.0 JOB REQUIREMENT :

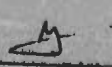
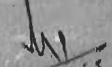
3.1 This is used for stitching the outer shroud as per Drg. No. WAP/SK/M-432 which serves as protection for operator from the heat generated while Arc Air Gouging of sprues on cast steel wheels at temperature of 800°F to 1000°F.

4.0 PHYSICAL REQUIREMENTS :

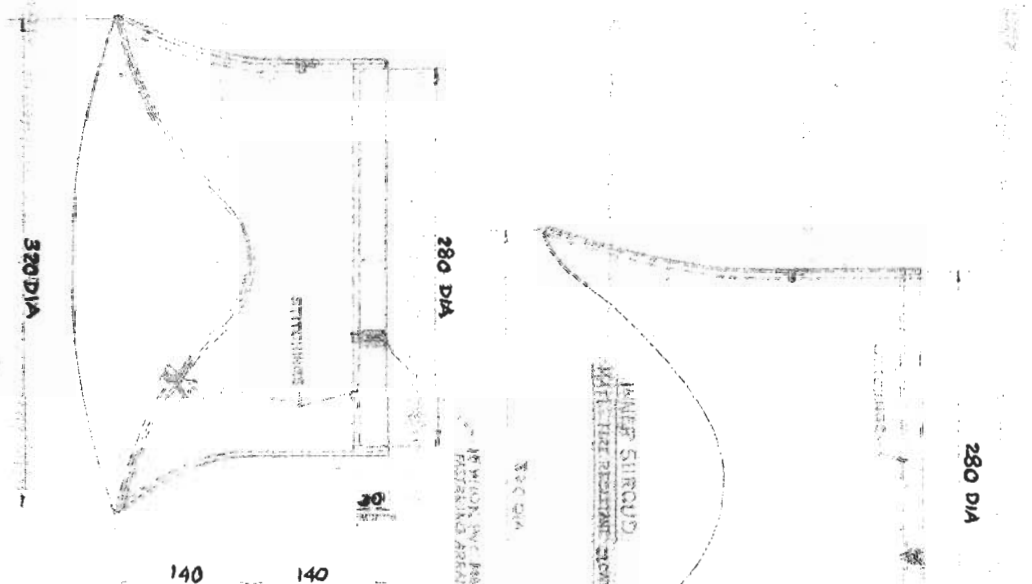
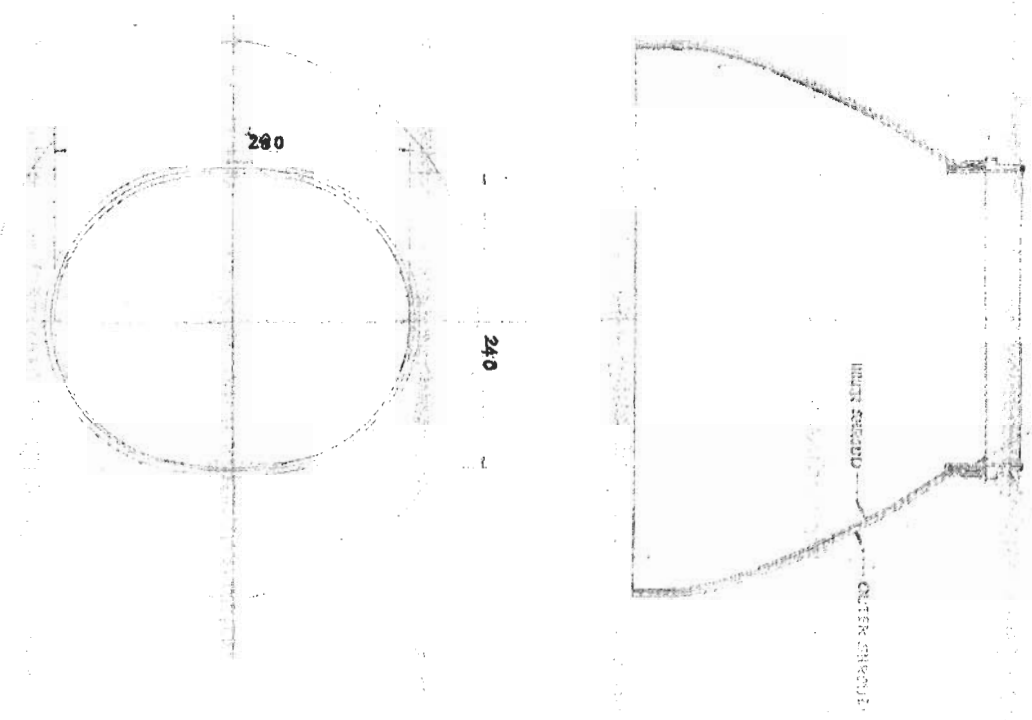
4.1 Thickness : Not below 1.5 mm
4.2 Tensile strength Kg/cm² min : 80
4.3 Percentage Elongation at break max : 80
4.4 Stitch tear strength Kg/cm min : 50
4.5 Tearing strength Kg/cm min : 25
4.6 Water vapour permeability mg/cm²/hr. min : 4.0
4.7 Boiling water immersion test: Linear shrinkage not to exceed 3% in 15 minutes. Leather shall remain soft and flexible after boiling water immersion test.

5.0 CHEMICAL REQUIREMENTS :

5.1 Percentage Solvent extractable substance : 4-10
5.2 Percentage Chrome content (Cr₂O₃) min : 4.0
5.3 Percentage Total ash (After deducting tanning oxides) max : 2.0
5.4 pH of water soluble min : 5.5

		<i>Murali</i> 27.8.98
Dy. CME/WT	WM/WR	SUPDT/DES.
APPD. BY	CHD. BY	PREPD. BY

DEVIATIONS FOR ANGULAR DIMENSIONS (IN MM)										DEVIATION FOR LINEAR DIMENSIONS (IN MM)											
CLASS OF DEVIATION	PERMISSIBLE VARIATIONS OF LENGTHS OF SIDES OF ANGLE					CLASS OF DEVIATION	RANGE														
	DEPTH	OVER TO TO	UNDER TO TO	OVER TO TO	UNDER TO TO		10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
PERMIT	0.10	0.10	0.10	0.10	0.10	10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ROUNDER	0.15	0.15	0.15	0.15	0.15	15	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
ROUGH	0.20	0.20	0.20	0.20	0.20	20	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
ROUGH	0.25	0.25	0.25	0.25	0.25	25	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
ROUGH	0.30	0.30	0.30	0.30	0.30	30	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ROUGH	0.35	0.35	0.35	0.35	0.35	35	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ROUGH	0.40	0.40	0.40	0.40	0.40	40	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ROUGH	0.45	0.45	0.45	0.45	0.45	45	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
ROUGH	0.50	0.50	0.50	0.50	0.50	50	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
ROUGH	0.55	0.55	0.55	0.55	0.55	55	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ROUGH	0.60	0.60	0.60	0.60	0.60	60	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
ROUGH	0.65	0.65	0.65	0.65	0.65	65	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
ROUGH	0.70	0.70	0.70	0.70	0.70	70	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
ROUGH	0.75	0.75	0.75	0.75	0.75	75	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
ROUGH	0.80	0.80	0.80	0.80	0.80	80	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
ROUGH	0.85	0.85	0.85	0.85	0.85	85	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
ROUGH	0.90	0.90	0.90	0.90	0.90	90	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
ROUGH	0.95	0.95	0.95	0.95	0.95	95	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
ROUGH	1.00	1.00	1.00	1.00	1.00	100	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50



NOTE: ALL DIMENSIONS ARE IN MM
 MAT. SHALL BE TANNED COW SKIN AND
 FIT LAID ON EYED AND FINE MAT
 SIZE 120 X 450 / 50 PER. SATISFACTION
 WORK/INSTR. 028/1987

NOTE: ALL DIMENSIONS ARE IN MM
 & THIS DRAWING FOR DIMENSIONAL
 PURPOSE ONLY. THE MANUFACTURER
 SHALL BE RESPONSIBLE FOR THE QUALITY.

INDIAN RAILWAYS	
SHEETS FOR HELMETS	
FOR SPUR WAGON STN.	
WHEEL AND AXLE PLANT	
DRG NO.	50/17-432
DATE	1971