



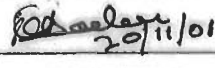
WAP/M/SPECN-1/056/1994 Alt 'd'

**GOVERNMENT OF INDIA
(Ministry of Railways)**

**SPECIFICATION FOR
STANDARD DISPOSABLE
THERMOCOUPLE TIPS
(PL No. 4398 0016)**

Issued by

**MECHANICAL DRAWING OFFICE
WHEEL & AXLE PLANT
YELAHANKA, BANGALORE-560 064
I N D I A**

		 20/11/01
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SPECIFICATION FOR STANDARD DISPOSABLE THERMOCOUPLE TIPS

1.0 SCOPE:

1.1 The specification covers the supply of type "S" Standard Disposable Thermocouple Tips which will be supplied at Wheel & Axle Plant, Yelahanka, Karnataka State, India as per instructions and conditions of contract and Tender papers enclosed.

2.0 GENERAL DESCRIPTION:

Standard disposable Thermocouple Tips of Platinum, Platinum Rhodium 10% along with 1200 mm Cardboard tube spirally wound. The Thermocouple should conform to IPTS-68.

3.0 JOB REQUIREMENT:

The disposable Thermocouple Tip is required to measure the temperature of molten steel upto 1740°C in EAFs and ladles.

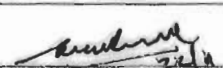
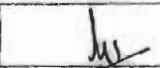
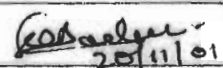
4.0 TECHNICAL DATA:

Wire shall conform to BS 4937 or alternatively the firm must indicate the specification to which the wire offered confirms. Calibration of the wire shall be as per IPTS-68.

If the firm offers T.C. Tips, conforming to British standard, then the firm should offer Miniature type lancing assembly as per Drg. No., WAP/SK/MW-364 latest and Miniature type female receptacle & receptacle housing as per Drg. No., WAP/SK/MW-365 latest.

If the firm offers T.C. Tips conforming to German Standard (DIN), then the firm should offer Mini lancer pipe assembly type-III as per Drg. No., WAP/SK/MW-375 latest, and Miniature type female receptacle per Drg. No. WAP/SK/MW-376 latest.

4.1 New firms who participate in the tender shall demonstrate satisfactory performance of the tips at WAP with minimum of 50 nos. free samples.

		
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4.2 Each tip shall have a 30 mm wide red colour band at a distance of 500 mm. from non-tip end of the cardboard tube.

5.0 THE FIRM SHALL GUARANTEE THAT:-

(I) the tips will work satisfactorily in actual service and will give accurate temperatures within a variation of 6°C.

(ii) The response time of the T.C. Tip shall be 3 Sec. or better.

6.0 The firm shall furnish the manufacturer's test certificate for the T.C. Tips at the time of supply.

7.0 INSPECTION NORM:

i) The T.C. Tips shall be tested for continuity of accuracy by using 3 tips, one after the other, under normal working conditions prevailing at WAP and variation in the temperature indicated shall be within 6°C with a response time of 3 seconds or better.

ii) The cardboard tube shall not get burnt fully within 16 seconds of immersion at a temperature of 1700°C.

8.0 SAMPLING AND ACCEPTANCE NORM: As per IS IS 2500 (Pt.I) latest. GIL-II.

i) Single sampling for reduced inspection Table II C to AQL 1.0.

ii) Consistency Test: From the selected TC tips (samples selected as per IS 2500 Part-I latest GIL-II). 5 sets of readings using 3 tips at a time shall be taken at pouring station. The variation in temperatures indicated in each sample of 3 TC tips shall be within 6°C.

<i>Sudhakar</i>	<i>M</i>	<i>25/11/01</i>
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AMENDMENT SHEET

Alt.	DATE	DESCRIPTION	JOB NO.	APPROVED BY	
				DESG	SIGN
'd'	13.11.01	Revised & Redrawn. Cl. No.4 Lancer assembly drg. Nos. added.	4025	Dy.CME/W	<i>[Signature]</i>

<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i> 28/11/01
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