

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

**SPECIFICATION FOR
ALUMINIUM STAR (99%PURE)**

PL No.91980021

Issued by

**MECHANICAL DRAWING OFFICE
RAIL WHEEL FACTORY
YELAHANKA, BANGALORE-560 064
INDIA**

<i>Rajni J.</i>	<i>A. Aravind</i> 30/6/15	<i>S. Pa</i> — 1 30.6.15	<i>Chand</i> 30/6/15
CME	CWE/W	Dy. CME/Mfg	SSE/D
APPROVED BY	REVIEWED BY	VERIFIED BY	PREPARED BY

SPECIFICATION FOR ALUMINIUM STAR (99 % PURE)**1.0 SCOPE**

The Specification covers the design, manufacture and supply of Aluminium Star 99% pure used in steel Melting Shop / Rail Wheel Factory, Yelahanka, Karnataka State, India as per instructions and conditions of contract.

2.0 GENERAL DESCRIPTION

Aluminium Star of dimensions and composition as specified in drawing and chemical composition mentioned in the specification.

3.0 JOB REQUIREMENTS

3.1 Aluminium Star is used for final killing of the liquid steel tapped from Electric Arc Furnace before casting the railway wheels

4.0 CHEMICAL COMPOSITION

4.1 The Chemical Composition of the Aluminium Star shall be according to IS 23 Grade 1900. The requirements are:

Chemical Constituent	Quantity
Aluminium	99% Min
Iron	0.60% Max
Silicon	0.50% Max
Copper	0.03% Max
Zinc	0.06% Max
Manganese	0.05% Max
Total Impurities	1.00% Max

5.0 SHAPE

The shape of the Aluminium Star shall be to Drg No. C/ME- 8/10.

6.0 SAMPLING NORM

One number of Aluminium Star is taken at random per 1000 Nos. or part thereof.

<i>Regi Jankar</i>	<i>AM</i>	<i>SP</i>	<i>Chase 20/4/15</i>
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7.0 METHOD OF CHEMICAL ANALYSIS AND TESTING

The Method of testing can be drilling from the sample and checking for chemical constituents in accordance with latest version of IS 504 or by instrumental method using spectroscope / similar instrument as deemed fit by RWF. The constituents shall conform to Clause 4.0.

8.0 MANUFACTURER'S TEST CERTIFICATE (MTC)

The Supplier shall submit Manufacturer's Test Certificate (MTC) pertaining to the lot of supply to Rail Wheel Factory, Yelahanka fully conforming to the requirements.

9.0 PACKING

The material shall be packed in gunny bags each containing 100 Nos of Aluminium Stars. Each bag shall be marked with supplier's name and grade of the material.

Use eco-friendly biodegradable packing material.

<i>Nepi Sanku</i>	<i>Approved</i> <i>30/6/15</i>	<i>S.P.*</i> <i>30.6.15</i>	<i>Chand</i> <i>30/6/15</i>
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JOB No.	2436	INITIALS	
DESCRIPTION	RE-DRAWN		
ALT	MANAGEMENT ENGINEER 8/27		

NOTE :-

- ALL DIMENSIONS OTHER THAN BORE MENTIONED IN THE DRAWING ARE NOT CRITICAL, BUT FOR GENERAL GUIDANCE ONLY.
- THE SHAPE OF THE STAR IS TO BE ACHIEVED AFTER CASTING.
- WEIGHT OF CASTING IS 450 ± 50 grms.
- MATERIAL :- ALUMINIUM
- FOR STAR FROM EXTRUDED BAR REFER C/ME B/14.

INDIAN RAILWAYS		SUPERSEDED BY	
STAR CASTING		SUPERSEDES C/ME B/10 ALTY	
WHEEL AND AXLE PLANT		SCALE	1:1
APPROVED		CHKD	TRD
		APP	NIXON 941012
		DRS.No.	C/ME-8/10
		JOB No.	2436 SHEET 1 OF 1

DEVIATION FOR LINEAR DIMENSIONS (mm)			
CLASS	UP TO 30	OVER 30 TO 150	OVER 150
UNFINISHED & GROUNDED	± 0.5	± 0.7	± 1.0
CLASS 1	± 0.3	± 0.5	± 0.7
CLASS 2	± 0.4	± 0.6	± 0.8
CLASS 3	± 0.5	± 0.7	± 1.0
CLASS 4	± 0.6	± 0.8	± 1.1
CLASS 5	± 0.7	± 0.9	± 1.2
CLASS 6	± 0.8	± 1.0	± 1.3
CLASS 7	± 0.9	± 1.1	± 1.4
CLASS 8	± 1.0	± 1.2	± 1.5
CLASS 9	± 1.1	± 1.3	± 1.6
CLASS 10	± 1.2	± 1.4	± 1.7
CLASS 11	± 1.3	± 1.5	± 1.8
CLASS 12	± 1.4	± 1.6	± 1.9
CLASS 13	± 1.5	± 1.7	± 2.0
CLASS 14	± 1.6	± 1.8	± 2.1
CLASS 15	± 1.7	± 1.9	± 2.2
CLASS 16	± 1.8	± 2.0	± 2.3
CLASS 17	± 1.9	± 2.1	± 2.4
CLASS 18	± 2.0	± 2.2	± 2.5
CLASS 19	± 2.1	± 2.3	± 2.6
CLASS 20	± 2.2	± 2.4	± 2.7
CLASS 21	± 2.3	± 2.5	± 2.8
CLASS 22	± 2.4	± 2.6	± 2.9
CLASS 23	± 2.5	± 2.7	± 3.0
CLASS 24	± 2.6	± 2.8	± 3.1
CLASS 25	± 2.7	± 2.9	± 3.2
CLASS 26	± 2.8	± 3.0	± 3.3
CLASS 27	± 2.9	± 3.1	± 3.4
CLASS 28	± 3.0	± 3.2	± 3.5
CLASS 29	± 3.1	± 3.3	± 3.6
CLASS 30	± 3.2	± 3.4	± 3.7
CLASS 31	± 3.3	± 3.5	± 3.8
CLASS 32	± 3.4	± 3.6	± 3.9
CLASS 33	± 3.5	± 3.7	± 4.0
CLASS 34	± 3.6	± 3.8	± 4.1
CLASS 35	± 3.7	± 3.9	± 4.2
CLASS 36	± 3.8	± 4.0	± 4.3
CLASS 37	± 3.9	± 4.1	± 4.4
CLASS 38	± 4.0	± 4.2	± 4.5
CLASS 39	± 4.1	± 4.3	± 4.6
CLASS 40	± 4.2	± 4.4	± 4.7
CLASS 41	± 4.3	± 4.5	± 4.8
CLASS 42	± 4.4	± 4.6	± 4.9
CLASS 43	± 4.5	± 4.7	± 5.0
CLASS 44	± 4.6	± 4.8	± 5.1
CLASS 45	± 4.7	± 4.9	± 5.2
CLASS 46	± 4.8	± 5.0	± 5.3
CLASS 47	± 4.9	± 5.1	± 5.4
CLASS 48	± 5.0	± 5.2	± 5.5
CLASS 49	± 5.1	± 5.3	± 5.6
CLASS 50	± 5.2	± 5.4	± 5.7
CLASS 51	± 5.3	± 5.5	± 5.8
CLASS 52	± 5.4	± 5.6	± 5.9
CLASS 53	± 5.5	± 5.7	± 6.0
CLASS 54	± 5.6	± 5.8	± 6.1
CLASS 55	± 5.7	± 5.9	± 6.2
CLASS 56	± 5.8	± 6.0	± 6.3
CLASS 57	± 5.9	± 6.1	± 6.4
CLASS 58	± 6.0	± 6.2	± 6.5
CLASS 59	± 6.1	± 6.3	± 6.6
CLASS 60	± 6.2	± 6.4	± 6.7
CLASS 61	± 6.3	± 6.5	± 6.8
CLASS 62	± 6.4	± 6.6	± 6.9
CLASS 63	± 6.5	± 6.7	± 7.0
CLASS 64	± 6.6	± 6.8	± 7.1
CLASS 65	± 6.7	± 6.9	± 7.2
CLASS 66	± 6.8	± 7.0	± 7.3
CLASS 67	± 6.9	± 7.1	± 7.4
CLASS 68	± 7.0	± 7.2	± 7.5
CLASS 69	± 7.1	± 7.3	± 7.6
CLASS 70	± 7.2	± 7.4	± 7.7
CLASS 71	± 7.3	± 7.5	± 7.8
CLASS 72	± 7.4	± 7.6	± 7.9
CLASS 73	± 7.5	± 7.7	± 8.0
CLASS 74	± 7.6	± 7.8	± 8.1
CLASS 75	± 7.7	± 7.9	± 8.2
CLASS 76	± 7.8	± 8.0	± 8.3
CLASS 77	± 7.9	± 8.1	± 8.4
CLASS 78	± 8.0	± 8.2	± 8.5
CLASS 79	± 8.1	± 8.3	± 8.6
CLASS 80	± 8.2	± 8.4	± 8.7
CLASS 81	± 8.3	± 8.5	± 8.8
CLASS 82	± 8.4	± 8.6	± 8.9
CLASS 83	± 8.5	± 8.7	± 9.0
CLASS 84	± 8.6	± 8.8	± 9.1
CLASS 85	± 8.7	± 8.9	± 9.2
CLASS 86	± 8.8	± 9.0	± 9.3
CLASS 87	± 8.9	± 9.1	± 9.4
CLASS 88	± 9.0	± 9.2	± 9.5
CLASS 89	± 9.1	± 9.3	± 9.6
CLASS 90	± 9.2	± 9.4	± 9.7
CLASS 91	± 9.3	± 9.5	± 9.8
CLASS 92	± 9.4	± 9.6	± 9.9
CLASS 93	± 9.5	± 9.7	± 10.0
CLASS 94	± 9.6	± 9.8	± 10.1
CLASS 95	± 9.7	± 9.9	± 10.2
CLASS 96	± 9.8	± 10.0	± 10.3
CLASS 97	± 9.9	± 10.1	± 10.4
CLASS 98	± 10.0	± 10.2	± 10.5
CLASS 99	± 10.1	± 10.3	± 10.6
CLASS 100	± 10.2	± 10.4	± 10.7

Rajiv Sankar	<i>Approved</i> 30/6/15	S/A - 1306-15	<i>Chad</i> 30/6/15
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