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TD-218 Rev.00

PLANT STANDARD HYDERABAD

HY 724 81 67

REV.No. 00

PAGE 1 OF 3

BOW SHACKLE GR.63

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1.0 SCOPE

- 1.1 This standard covers the requirements of Bow Shackle Gr.63 for lifting purpose in the range of 1 to 80 Tonnes safe working load.

2.0 DESIGNATION

- 2.1 A Bow Shackle of Grade 63 suitable for safe working load 2.0 Tonnes shall be designated as:

2.1.1 On Drawings:

- i) Material Specification Column - HY7248167
- ii) Description Column - Bow Shackle Gr.63 SWL - 2T

- 2.1.2 For placing indents on purchase: Bow Shackle Gr.63 SWL 2T - HY 724 81 67.

- 2.1.3 For issuing enquiries and purchase orders: While issuing enquiries and purchase orders, delete the plant standard No. from the above description and add the information given under clause 3.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

3.1 Dimensions and Tolerances:

IS:6132 (Pt.111)-1972 (Re-affirmed 1991).

3.2 General Requirements:

IS:6132 (Pt.1)-1971 (Re-affirmed 1991).

- 3.3 Material: The body and the pin of the bow shackle shall be manufactured from suitable steel having a minimum Tensile Strength of 784 N/mm^2 (80 kgf/mm^2). Steel shall be fully killed. Sulphur & Phosphor content shall not exceed 0.045 max.

3.4 Heat Treatment:

As per IS:6132/Pt.1

- 3.5 Hardness: 248 - 302 HB.

- 3.6 Type of pin: Screwed pin with Eye and Collar.

- 3.7 Threads: Coarse pitch to IS:4218.

Revisions:

Issued:

STANDARDS ENGINEERING SECTION

Rev.No.00

Amd.No.

Reaffirmed

Prepared
SR.MANAGER,
(S.TDS JENGG

Approved
DGM (P,T&I
(SERVICES)

Dt.of 1st Issue

Dt. NOV .95

Dt.

Year:

NOV .95

PLANT STANDARD
HYDERABAD

3.8 Marking: IS:6132 (Pt.I).

3.9 Test Certificates: Three copies of test certificates containing the following information shall be furnished.

For each batch:

Bow shackle Gr.83 - HY 724 81 63

BHEL Order No.

Date of Testing

No. & Size

Hardness Range

Mechanical properties, Tensile strength and percentage Elongation

Details of Heat Treatment

Manufacturer Name

For each item:

Manufacturer Identification No.

Safe Working Load (kg)

Proof Load

4.0 PROOF LOAD

Each bow shackle after manufacture and subsequent heat treatment shall be subjected to a proof load at the centre of the pin as per table 2 of IS:6132 (Part III) which it shall withstand without showing permanent set. After the removal of proof load, each shackle shall be thoroughly examined and shall be accepted only if found free from visible flaw or defect.

5.0 MAXIMUM LOAD

It is recommended that for the normal conditions of use, the maximum load for any bow shackle shall not exceed the safe working load.

6.0 PRECAUTIONS

Periodical inspection / examination of bow shackles shall be done. When the threads show signs of damage or the bow shows appreciable bruising, the bow shackle shall be scrapped.

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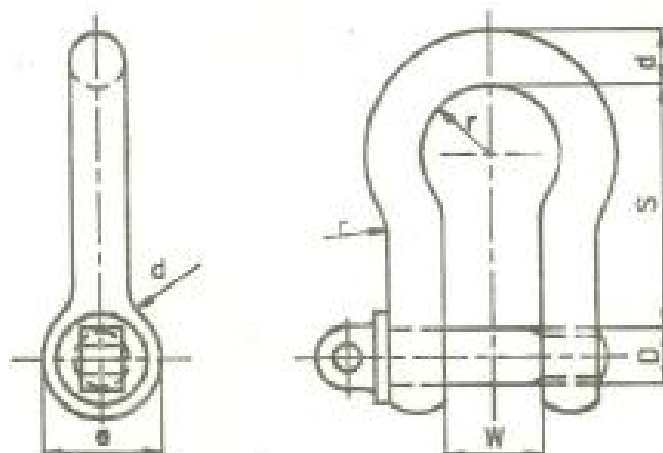
TD-216 Rev.00

PLANT STANDARD HYDERABAD

HY 724 81 67

REV.No.

PAGE 3 OF 3



(All dimensions are in mm)

JAW INSIDE WIDTH W	INSIDE LENGTH $S=2.5W$	BOW DIA $2r=1.7W$	BODY MATERIAL DIA d	PIN DIA D min.	EYE OUTSIDE e min.	PROOF LOAD KN	SWL TONNES Gr63	SUB CODE
18	45	31	11	12	24	20	1.0	010
20	50	34	13	14	28	25	1.25	029
22	55	37	14	16	32	32	1.6	-
25	63	42	16	19	38	40	2.0	045
28	70	48	18	20	40	50	2.5	053
32	80	54	20	22	44	63	3.2	061
36	90	61	23	26	52	80	4.0	-
40	100	68	25	28	58	100	5.0	088
45	110	76	28	31	62	125	6.3	096
50	125	85	32	35	70	160	8.0	100
56	140	95	36	39	78	200	10	-
63	155	105	40	44	88	250	12.5	126
70	175	120	45	50	100	315	16	134
80	200	135	50	55	110	400	20	142
90	225	155	58	62	124	500	25	-
100	250	170	63	69	138	600	32	-
107	270	180	68	77	154	700	40	177
117	295	200	75	82	164	850	50	-
130	325	220	85	91	182	1000	63	-
140	350	240	88	98	195	1200	80	-
155	390	265	95	110	220	-	-	-

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