

TD 218
Rev.00**PLANT STANDARD
HYDERABAD****HY 724 84 61**

REV. NO. 04

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WIRE ROPE SLINGS WITH FERRULE-SECURED EYE TERMINALS**1.0 SCOPE:**

This standard specifies the requirements of wire rope slings with ferrule-secured eye terminals of wire construction 6 x 37 M (18/12/6-1) and gives information as to the correct designation and rationalized sizes.

2.0 DESIGNATION :

Eg. A wire rope sling to this standard, of dia 8 mm and length 2 metres shall be designated as follows:

2.1 On Indents: Wire rope sling with ferrule secured eye terminals Dia 8 mm length 2 metres HY 724 84 61.

2.2 On Enquiries and Purchase Orders: In addition to incorporating the above description a copy of this standard shall be enclosed.

3.0 TECHNICAL REQUIREMENTS:

3.1 Wire Rope: The wire rope shall comply with IS: 2266-2002 with the following requirements:

- | | | |
|-----------------|---|--------------------------------|
| a) Construction | : | 6 x 37 M (18/12/6-1) |
| b) Core | : | Fiber Core |
| c) Lay | : | RHOL (Right hand ordinary lay) |
| d) Rope Grade | : | 1770 |
| e) Coating | : | Galvanised. |

3.2 Sling leg: The sling shall comply with IS: 5245 (Part II)-Reaffirmed in 2006, with the following requirements.

- | | | |
|-----------------|---|---|
| a) Construction | : | Ferrule-secured eye terminals without thimbles. |
| b) Splicing | : | Mechanically spliced. |
| c) Eye terminal | : | Eye terminal is formed by looping the rope back parallel to the main part and joining the parts by means of a ferrule under pressure. |

Revisions: (1) Load values in Table-1 are revised to match with IS-5245. (2) IS reference is updated in Clause No.3.2. (3) Two new variants are added in Page 10 of 10.

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P.D.P.

K.L.M.

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- d) Ferrule : The ferrule shall be made of a suitable material whose hardness is not less than 40 HB. Prior permission from BHEL shall be obtained, if a softer material is used. The ferrule shall be free from defects and it shall be examined by a competent person before assembly.

3.3 Proof-loading: Each completed sling leg shall be proof-loaded to twice the permissible working load given in Table-1. The proof loading shall be accurate to within 0, -5 percent of applied load. Each sling leg shall be inspected by a competent person prior to assembly and also after proof-loading for compliance that it is free from visible flaws or defects.

4.0 TESTS :

4.1 Acceptance prototype tests: Eye terminals made with each type of ferrule shall be subjected to the following prototype tests as specified in IS: 5245 (Part II) clauses 7.2 and 7.3 respectively.

- a) Prototype Breaking Load Test to Destruction
- b) prototype Durability Test by pulsatory Loading (Endurance Test)

4.2 Routine Tests: Samples of completed slings (one sample for one wire dia and length) shall be subjected to the following routine tests as specified in IS: 5245 (part II) clauses 8.1 and 8.2 respectively.

- a) Routine tensile testing
- b) Routine check of dimensions of completed ferrule.

5.0 TEST CERTIFICATE:

Three copies of the test certificate as per the proforma enclosed shall be supplied by the manufacturer for each sling.

6.0 MARKING :

6.1 The following details shall be punched on the ferrules of the slings of sizes 13 mm and above. For slings of sizes 6 mm to 12 mm, the details shall be punched on MS washers and these punched MS washers shall be inserted into the sling loop.

- a) Manufacturers identification serial number (to be traceable with the respective test certificate)
- b) Permissible working load in kgf.

6.2 A tag bearing the following information shall be securely attached to each sling.



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- a) Manufacturer's name
- b) BHEL Order Number
- c) BHEL Standard Number : HY 724 84 61
- d) Diameter and Length of the sling.

7.0 PACKING :

The wire rope slings shall be packed suitably to avoid damage in transit.

8.0 SIZES :

The diameter and length of the sling shall be as specified on the Enquiry/Purchase Order. The rationalized sizes of BHEL, Hyderabad are given in Table for general information and internal reference.

9.0 LOOP LENGTHS:

The loop lengths shall be as follows:

For sling sizes 6 mm to 16 mm : 400 mm

For sling sizes 18 mm to 36 mm : 600 mm

For sling sizes 40 mm to 65mm : 800 mm

10.0 PERMISSIBLE WORKING LOADS :

The permissible working loads and minimum breaking loads of ferrule secured eye terminals for different sizes are given in table-1. The permissible working loads are calculated based on a factory of safety of 6 which is applicable for normal conditions of service.

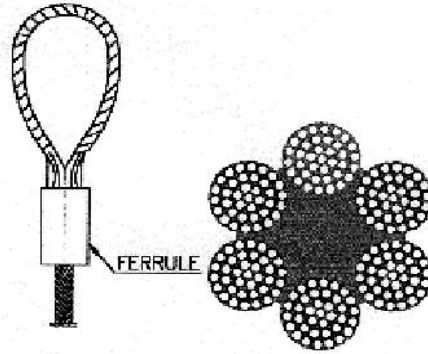


TABLE -1 (ALL DIMENSIONS ARE IN mm)

DIAMETER OF WIRE ROPE mm	LENGTH OF SLING metres	MINIMUM BREAKING LOAD kgf	PERMISSIBLE WORKING LOAD kgf	NEW CODE	USER SHOPS/DEPARTMENTS													
				OLD CODE	201	202	203	204	205	206	207	208	209	210	211	352	840	70B(Kg)
4	-	-	-															
5	-	-	-															
6	4	1720	286	HY 724 84 61 032	√			√	√	√	√			√				
				724 28 61 044														
7	-	2340	390															
8	2	3060	510	HY 724 84 61 059	√	√	√	√	√	√	√	√						
				724 28 61 082														
8	4	3060	510	HY 724 84 61 067	√	√	√	√	√	√	√	√						
				724 28 61 084														
8	6	3060	510	HY 724 84 61 075	√	√	√	√	√	√	√		√					
				724 28 61 085														
8	8	3060	510	HY 724 84 61 083	√					√	√	√	√	√				√
				724 28 61 086														
8	12	3060	510	HY 724 84 61 091	√		√			√								√
				724 28 61 088														
9	-	3870	645															
10	2	4780	796	HY 724 84 61 113	√	√	√	√	√	√	√							√
				724 28 61 122														
10	4	4780	796	HY 724 84 61 121	√	√	√	√	√	√	√	√	√	√	√	√		
				724 28 61 124														
10	6	4780	796	HY 724 84 61 130	√	√	√	√	√	√	√	√	√	√	√	√	√	
				724 28 61 125														



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DIAMETER OF WIRE ROPE	LENGTH OF SLING METRES	MINIMUM BREAKING LOAD kgf	PERMISSIBLE WORKING LOAD kgf	NEW CODE	USER SHOPS/DEPARTMENTS													
				OLD CODE	201	202	203	204	205	206	207	208	209	210	211	352	840	70Bldg
10	12	4780	796	HY 724 84 61 148	√		√	√	√	√		√	√	√		√		√
				724 28 61 128														
11	-	5770	961															
12	3	6860	1143	HY 724 84 61 164	√		√	√	√	√						√	√	
				724 28 61 163														
12	4	6860	1143	HY 724 84 61 172	√	√		√	√	√	√		√			√		
				724 28 61 164														
12	6	6860	1143	HY 724 84 61 180	√	√	√	√	√	√	√	√	√	√	√	√	√	√
				724 28 61 165														
12	8	6860	1143	HY 724 84 61 199	√	√	√	√		√			√		√	√	√	√
				724 28 61 166														
12	10	6860	1143	HY 724 84 61 202	√	√	√	√	√	√			√			√	√	√
				724 28 61 167														
13	-	8080	1346															
14	4	9350	1558	HY 724 84 61 229	√	√		√	√	√						√		
				724 28 61 204														
14	6	9350	1558	HY 724 84 61 237	√			√		√	√					√	√	√
				724 28 61 205														
14	8	9350	1558	HY 724 84 61 245	√	√		√		√						√		√
				724 28 61 206														
14	10	9350	1558	HY 724 84 61 253	√			√		√			√			√		√
				724 28 61 207														
16	4	12200	2033	HY 724 84 61 261	√	√		√	√	√	√					√		
				724 28 61 224														
16	6	12200	2033	HY 724 84 61 270	√	√		√	√	√								
				724 28 61 225														
16	8	12200	2033	HY 724 84 61 288	√	√		√		√						√	√	√
				724 28 61 226														
16	10	12200	2033	HY 724 84 61 296	√				√				√			√	√	
				724 28 61 227														
16	12	12200	2033	HY 724 84 61 300		√		√	√				√			√	√	
				724 28 61 228														
18	-	15500	2583															
20	4	19100	3183	HY 724 84 61 326	√			√	√	√	√			√	√		√	
				724 28 61 264														
20	6	19100	3183	HY 724 84 61 334	√	√		√	√	√			√			√		
				724 28 61 265														

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DIAMETER OF WIRE ROPE	LENGTH OF SLING METRES	MINIMUM BREAKING LOAD kgf	PERMISSIBLE WORKING LOAD kgf	NEW CODE	USER SHOPS/DEPARTMENTS														
				OLD CODE	201	202	203	204	205	206	207	208	209	210	211	352	840	70Bldg	05 FS
20	8	19100	3183	HY 724 84 61 342	√	√		√	√	√					√		√		√
				724 28 61 266															
20	10	19100	3183	HY 724 84 61 350	√					√							√	√	√
				724 28 61 267															
20	12	19100	3183	HY 724 84 61 369	√	√		√									√		√
				724 28 61 268															
22	-	23100	3850																
24	-	27600	4600																
26	4	32300	5366	HY 724 84 61 393		√													
				724 28 61 324															
26	6	32300	5366	HY 724 84 61 407	√	√		√	√										√
				724 28 61 325															
26	8	32300	5366	HY 724 84 61 415	√			√	√	√						√	√	√	√
				724 28 61 326															
26	12	32300	5366	HY 724 84 61 423	√	√		√	√	√					√		√	√	√
				724 28 61 328															
28	-	37400	6233																
32	6	49000	8166	HY 724 84 61 440	√			√										√	
				724 28 61 365															
32	8	49000	8166	HY 724 84 61 458	√			√	√										√
				724 28 61 366															
32	10	49000	8166	HY 724 84 61 466		√		√	√										√
				724 28 61 367															
32	12	49000	8166	HY 724 84 61 474	√					√					√		√	√	
				724 28 61 368															
32	15	49000	8166	HY 724 84 61 482				√	√								√		
				724 28 61 369															
36	10	62000	10333	HY 724 84 61 490	√											√	√		√
				724 28 61 387															
36	15	62000	10333	HY 724 84 61 504		√													
				724 28 61 389															
40	10	76400	12733	HY 724 84 61 512						√									
				724 28 61 407															
44	12	100100	16683	HY 724 84 61 520		√		√	√										
				724 28 61 428															
44	16	100100	16683	HY 724 84 61 539					√										
				724 28 61 438															



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DIAMETER OF WIRE ROPE	LENGTH OF SLING METRES	MINIMUM BREAKING LOAD kgf	PERMISSIBLE WORKING LOAD kgf	NEW CODE	USER SHOPS/DEPARTMENTS														
				OLD CODE	201	202	203	204	205	206	207	208	209	210	211	352	840	ST	08
48	-	120700	20116																
52	-	137100	22850																
56	12	160900	26816	HY 724 84 61 563 724 28 61 488		√				√									
56	14	160900	26816	HY 724 84 61 571 724 28 61 489		√				√									
56	16	160900	26816	HY 724 84 61 580 -		√				√									
60	-	-	-																
65	14	-	-	HY 724 84 61 601 724 28 61 538		√				√									
65	16	-	-	HY 724 84 61 610 724 28 61 539		√				√									
12	12	6860	1143	HY 724 84 61 628 724 28 61 168				√											√
8	3	3060	510	HY 724 84 61 363 724 28 61 083				√											
26	10	32300	5366	HY 724 84 61 644 724 28 61 327															
40	18	76400	12733	HY 724 84 61 652 724 28 61 410				√					√						
10	3	4780	796	HY 724 84 61 660 724 28 61 123								√							
36	11.5	62000	10333	HY 724 84 61 679 -				√											√
26	16	32300	5366	HY 724 84 61 687 -															
10	1.5	4780	796	HY 724 84 61 695 -															
10	2.5	4780	796	HY 724 84 61 709 -															
20	2.0	19100	3183	HY 724 84 61 717 -															
20	5.0	19100	3183	HY 724 84 61 725 -															
32	2.0	49000	8166	HY 724 84 61 733 -															
32	2.5	49000	8166	HY 724 84 61 741 -															

