

बी एच ई एल BHEL		TD 218 Rev.00	PLANT STANDARD HYDERABAD		HY 724 84 61	
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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.				Issued : STANDARDS ENGINEERING AND IPR CO-ORDINATION DEPARTMENT		
Rev. No. 04	Amd. No.	Reaffirmed:	Prepared:	Approved:	Date:	
Dt. 05-Aug-2015	Dt.	Year :	K.S.S. P.D.P.	K.L.M.	APR 1980	

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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.

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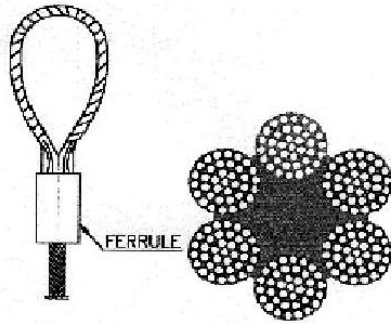


TABLE -1 (ALL DIMENSIONS ARE IN mm)

DIAMET ER OF WIRE ROPE mm	LENGTH OF SLING metres	MINIMUM BREAKING LOAD kgf	PERMISSI BLE 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	√	√	√	√	√	√	√	√	√	√	√	√		

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						
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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DIAMET ER OF WIRE ROPE	LENGTH OF SLING METRES	MINIMUM BREAKING LOAD kgf	PERMISSI BLE 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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				OLD CODE	201	202	203	204	205	206	207	208	209	210	211	352	840	ST	08	05 FS	M&S	
32	3.0	49000	8166	HY 724 84 61 750																		
				-																		
32	3.5	49000	8166	HY 724 84 61 768	T	C																
				724 28 61 909																		
32	4.0	49000	8166	HY 724 84 61 776																		
				-																		
32	4.5	49000	8166	HY 724 84 61 784	T	C																
				724 28 61 910																		
32	5.0	49000	8166	HY 724 84 61 792																		
				-																		
32	5.5	49000	8166	HY 724 84 61 806																		
				-																		
32	10.3	49000	8166	HY 724 84 61 814																		
				-																		
56	9.0	160900	26816	HY 724 84 61 822	T	G																
				-																		
32	1.5	49000	8166	HY 724 84 61 830	T	C																
				-																		
8	10.0	3060	510	HY 724 84 61 849																		
				724 28 61 087																		
10	8.0	4780	796	HY 724 84 61 857																		
				-																		
10	10.8	4780	796	HY 724 84 61 865																		
				724 28 61 127																		
14	12.0	9350	1558	HY 724 84 61 873																		
				-																		
20	18.0	19100	3183	HY 724 84 61 881																		
				-																		
36	6.0	62000	10333	HY 724 84 61 890																		
				-																		
40	6.0	76400	12733	HY 724 84 61 903																		
				-																		
40	8.0	76400	12733	HY 724 84 61 911																		
				724 28 61 406																		
40	12.0	76400	12733	HY 724 84 61 920																		
				-																		
44	9.0	100100	16683	HY 724 84 61 938	T	G																
				-																		
18	6.0	15500	2583																			
6	2.0	1720	286	HY 724 84 61 946																		
6	6.5	1720	286	HY 724 84 61 954																		
20	6.5	19100	3183	HY 724 84 61 962																		
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DIAMET ER OF WIRE ROPE	LENGTH OF SLING METRES	MINIMUM BREAKING LOAD kgf	PERMISSI BLE 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
54	5.0	-	-	HY 724 84 63 019	√														
54	10.0	-	-	HY 724 84 63 027	√														
54	15.0	-	-	HY 724 84 63 035	√														
57	5.0	-	-	HY 724 84 63 043	√														
57	10.0	-	-	HY 724 84 63 051	√														
57	15.0	-	-	HY 724 84 63 060	√														
64	4.0	-	-	HY 724 84 63 078	√														
64	10.95	-	-	HY 724 84 63 086	√														
64	12.60	-	-	HY 724 84 63 094	√														
64	20.0	-	-	HY 724 84 63 108	√														
70	4.0	-	-	HY 724 84 63 116	√														
70	10.95	-	-	HY 724 84 63 124	√														
70	12.60	-	-	HY 724 84 63 132	√														
70	20.0	-	-	HY 724 84 63 140	√														
36	8.0	62000	10333	HY 724 84 63 159	√														
32	0.9	49000	8166	HY 724 84 63 302	√														
32	4.9	49000	8166	HY 724 84 63 310	√														