

Form No:	 PE&SD	BHARAT HEAVY ELECTRICALS LIMITED PROJECT ENGINEERING & SYSTEMS DIVISION		PY 52001
		TECHNICAL SPECIFICATION FOR		Rev. No. 03
		RUBBER HOSES & HOSE REEL FOR UTILITIES		Page 1 of 5

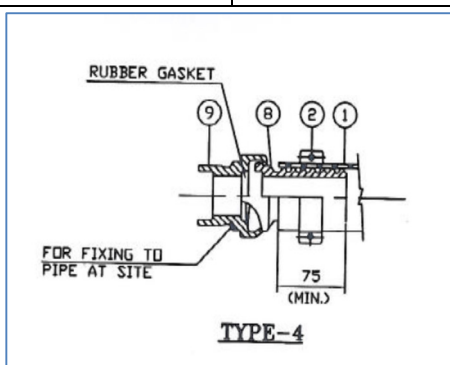
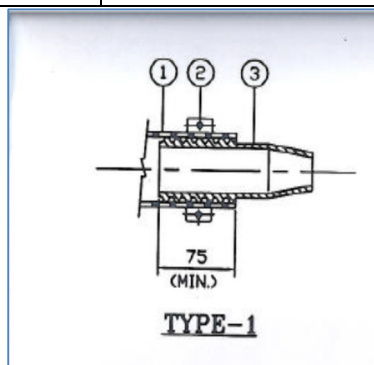
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED, It must not be used directly or indirectly in any way detrimental to the interest of the company.	SPECIFICATION FOR RUBBER HOSES AND HOSE REELS			
	1. SCOPE: This standard specifies the requirements of Hoses and hose reels used for Utility services complete with all accessories as specified hereinafter.			
	2. APPLICATION: These Hoses are used in Service water, Service air and other utility services.			
	3. CODES AND STANDARDS: EIL Specification for Hoses: 6-44-0064 IS-884-Specification for Hose Reel.			
	4. TECHNICAL REQUIREMENTS:			
	DESIGN DATA FOR RUBBER HOSES, HOSE REELS – UTILITY SERVICE			
	TECHNICAL INFORMATION			
	Sl.No.	Description	Unit	Purchaser's requirement / Bidder's Data
	1	SERVICE		SERVICE WATER, SERVICE AIR
	2	FLOW MEDIUM		WATER, AIR
	3	HOSE		As per IS-444, Type-2
	4	HOSE REEL		AS PER IS-884, Type-A
	5	FLOW RATE	N Cu.m/hr	15 N Cu.m/hr
	6	DESIGN PRESSURE	Kg/cm ² (g)	10.2 (For Service water and Service Air)
	7	DESIGN TEMPERATURE	°C	65 (For Service water and Service Air)
8	OPERATING PRESSURE	Kg/cm ² (g)	6.5	
9	TEST PRESSURE	Kg/cm ² (g)	2 TIMES OF DESIGN PRESSURE	
10	OPRATATING TEMPERATURE (Normal & Maximum)	°C	50	
11	MATERIAL OF CONSTRUCTION			
11.1	HUB		M.S IS-513	
11.2	WALL BRACKET		M.S IS-513	
11.3	SWIVEL JOINT		SS304	
11.4	SHUT OFF NOZZLE		SS304	
11.5	HOSE REEL VALVE		SS304	
11.6	HOSE REEL TYPE		TYPE-A AS PER IS-884, SWINGING TYPE.	

Form No:	LAYOUT & PIPING ENGINEERING PROJECT ENGINEERING & SYSTEMS DIVISION	PREPARED	CHECKED	APPROVED	DATE
		SVN R	DVS RAJU	VVSS S	25.04.13

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12	SURFACE PREPARATION	SSPC-SP-10, 1 COAT OF F-9 @67-75 MICRONS DFT/COAT.
13	FINISH PAINT as per IS-5	SERVICE WATER : SKY BLUE (ISC-101) SERVICE AIR : SEA GREEN (ISC-217)
14	HOSE END CONNECTION DETAILS:	
	ON PIPE SIDE	QUICK COUPLING (TYPE-4)
	ON FREE SIDE	NOZZLE (TYPE 1)
14	PIPE/ NIPPLE/ NOZZLE	ASTM A106 GR B, S160
15	STUB END/QUICK COUPLING/ADAPTER COUPLER	ASTM A105, SW, 6000#
16	REMARKS	Each hose shall be supplied with 2 nos. Quick type matching pipe side claw coupling which shall be socket welded to pipe. Socket end rating shall be min3000#.
17	ITEM DETAILS REFERED IN FIGURES TYPE-1 , TYPE-4	1. Hose pipe as per the specification. 2. Hose pipe Clamp with bolts minimum 6mm thk steel plate (IS-2062) in two parts. Bolts and Nuts as per A307 GR-B. 3. Pipe Nipple/Nozzle material as per specification in Material of Nozzle : Stainless Steel (seamless) 8. Quick Claw coupling (Hose End) Material as specified. Both coupling to be supplied in Type-4. 9. Quick Claw coupling (Pipe End) with socket welded ends, material as per the specification.



5. ADDITIONAL DETAILS :

5.1 HOSE

5.1.1 Hose design including its flexibility, packing and marking shall be as per IS:444 Type-2

5.1.2 Each Hose shall be clearly marked with the following:

- Manufacturer's Name or Trademark
- Month and year of manufacture
- Type of Hose
- Size of Hose
- Length of Hose
- BIS certification mark.

5.1.3 Hose shall be provided along with quick couplings (pipe side) and with the nozzle on the free side as indicated in the technical requirements.

5.1.4 One end of Hose shall be compatible to be hooked up to nearest utility supply point. Arrangement indicated in sl no-17 in above table to be considered and supplied.

5.1.5 Material, construction, tests and all other requirements shall confirm to IS: 444, Type-2.

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5.2 HOSE REELS

- 5.2.1 Hose Reel to be supplied shall be as per IS-884, Swinging Type (Type-A as per IS-884).
- 5.2.2 Hose reel shall be clearly and permanently marked with the following information along with Purchaser's name:
- Manufacturer's name or trade mark
 - Year of Manufacture
 - Manufacturing / supply standard
 - Length and size of tube carried on hose reel
 - Type of reel.

6 QUALITY ASSURANCE PLAN:

Vendor to submit quality assurance plan indicating various stages of testing and inspection, test certificated to be submitted.
Without obtaining such quality plan approved by BHEL, manufacturing action shall not be started.

7 INSPECTION & TESTING:

- The inspection agency shall be an authorised inspector of BHEL and Lloyds /TUV or any other inspection agency approved by BHEL.
- Hoses shall be hydro tested for 2 time design pressure. Test pressure shall not be held for more than 1 minute and not less than 30 sec.
- When test pressure is reached visually inspect the hose assembly for following:
Any leaks or signs of weakness.
Any twisting of hose, this indicates that some twist existed before test pressure was applied.

8 DOCUMENTATION:

Along with Offer:

Two copies each of the following documents shall be submitted along with offer.

- Drawings / leaflets / catalogues for the offered item indicating, binding dimensions, bill of materials with material specification details, test pressure, weight, etc.
- Quality plan adopted by the supplier during manufacture and inspection / testing.
- Any deviation to this specification proposed by the supplier
- Installation Guidelines

After placement of order:

- Drawings / leaflets / catalogues for the offered item indicating, binding dimensions, bill of materials with material specification details, test pressure, weight, etc.
- Quality assurance plan.
- Material test certificates and test proof certificates shall be furnished by vendor along with the supply.

9 CLEANING:

Particular care should be taken to ensure that all loose materials are properly removed using clean compressed air before delivery.

10 PACKING AND DESPATCH:

All hoses along with the couplings shall be dry, clean and free from moisture, dirt and loose foreign material of any kind. All hoses shall be suitable packed and protected to avoid damage during transportation, shipment and storage.

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RECORD OF REVISIONS				
Rev. No.	Date	Revision Details	Revised	Approved
00	30.04.13	First Issue	SVNR	VVSS S
01	09.11.13	Technical information updated	SVNR	VVSS S
02	31.10.13	NEW VARIANT ADDED	VUK	VVSS S
03	05-09-17	Technical information updated (Cl-5.1, 5.2)	SVNR	GS