

DRAFT Specifications / Requirements for Two- Wire- Braid Reinforced Hydraulic Hoses

Sl. No.	NIT Parameter	Tenderers response
1.0	Description: Two- wire braid Reinforced Hydraulic hoses shall confirm to BCS-174 of 1972. All the staple lock end fittings shall confirm to NCB-638/1978.	All the
2.0	Nominal sizes, Dimensions, Materials and construction and physical properties shall be as per BCS - 174:1992	
3.0	Pressure withstanding requirements (including IMPULSE cycles) shall be as specified in Annexure-I which is inline with BCS - 174:1992	
4.0	Adhesion between components cold flexibility, Ozone Resistance, Oil Resistance, Abrasion Resistance, Electrical Resistance and Flame Resistance requirements shall be as per BCS - 174:1992	
5.0	Hose End Fittings.	
5.1	Staplelock Hose -End Fittings: The staplelock type hose end fittings shall confirm to NCB-638/1978. Each end fitting shall be provided with suitable ' O' ring & Backup ring and plastic cap to prevent ingress of dust.The end fittings shall be secured to hose by crimping only. The end fittings shall be manufactured on CNC machines to obtain required finish & uniformity. The end fittings shall be passivated to protect against corrosion.	
5.2	BSP& Other type Hose -End Fittings: The BSP & Other type hose end fittings shall confirm to relevent standard. Each end fitting shall be provided with suitable plastic plug to prevent ingress of dust.The end fittings shall be secured to hose by crimping only. The end fittings shall be manufactured on CNC machines to obtain required finish & uniformity. The end fittings shall be passivated to protect against corrosion.	
6.0	Testing & Certification:	
6.1	The Hose shall be type tested for all the parameters as specified at point No.3 & 4 at any Govt. approved lab or test house acridited by NABL and having complete infrasture facilities to conduct such tests . Copies of the type test reports to be submitted along with offers without fail.	
6.2	Routine Test for for proof pressure for each hose assembly to be submitted along with each consignments.	

7.0	Other Requirements:	
7.1	The manufacturer of hose,End fittings & Hose assembler shall have reliable and adequate facility for proper manufacturing of the Fire Resistant High Pressure Hydraulic hoses (Double Braided) and fully responsible for quality of the Fire Resistant High Pressure hoses (Double Braided) with its end fittings and shall have valid ISO: 9001-2000 certification.	
7.2	The manufacturer of hose shall ensure that the hose and the end fittings used shall not be in any way inferior to that of the materials used in the prototype sample.	
7.3	The manufacturer shall be fully responsible for the process of hose assembly / endfitting and its functionality shall be verified in accordance with NCB 638 of 1978 or its revised version/ any internationally accepted standard.	
7.4	The hose manufacturer shall inspect the works of its authorised assembler at least once in six months to ensure that the machinery are maintained and instruments are calibrated and a record of the same shall be maintained.	
7.5	The manufacturer shall Conduct subsequent / frequent tests for all hoses for quality checks at any Govt. approved laboratories or a Test house accredited by NABL may also be accepted, subject to confirmation to its ability to conduct such tests according to Standards BCS: 174 of 1992 (for Double Wire Braid Reinforced Rubber) or its revised version / any internationally accepted standard.	
7.6	The Chief Inspector of Mines or an Inspector of Mines or SCCL engineer may inspect, check and examine the facilities at manufacturing unit and manufacturer's authorised hose assembler unit at any time and get samples tested during the course of inspection or send such samples for testing at any Govt.approved laboratories or a Test house accredited by NABL having infrasture facilities and ability to conduct such tests according to relevant standards at the cost of the manufacturer.	
7.7	The Chief Inspector of Mines or an Inspector of Mines may inspect, check and examine the Fire Resistant High pressure hydraulic hoses (Double Braided) with its end fittings at any time in the Mine or the Area of the mines and get samples tested during the course of inspection or send such samples for testing at any Govt. approved laboratories or a Test house accredited by NABL and having infracture facilities and ability to conduct such tests at the cost of Supplier. Tenderer shall confirm their acceptance to this condition.	

8.0	Marking:	
8.1	Hose: Each length of the hose shall be permanently marked at interval of not more than 0.6 mtr with the following information	
	a) Hose manufacturer's name.	
	b) Specification of hose with name of standard.	
	c) Hose Size.	
	d) The month and year of manufacture	
	e) The design working pressure.	
	f) Batch No.	
	(g) Declaration stating that it is "Suitable for use in underground mines".	
8.2	Hose end fitting: Each hose end fitting shall bear the following prominent marking	
	(a) Name of manufacturer of the end fittings. Hose manufacturer's name.	
	(b) Name of the standard.	
	(c) End fitting size.	
8.3	The identification on the hose and the end fittings shall be such that, the traceability of the hose & its end fittings remain totally transparent even during use.	
9.0	Packing: Each hose assembly shall be packed individually in polythene cover.	

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Annexure-I

2- Wire Braided Hoses as per NCB-174							
Sl. No	Nominal size (DN)	Design Working pressure (bar) (DWP)	Proof test pressure (bar) (2 X DWP)	Minimum Burst pressure (bar) (4 x DWP)	Impluse test pressure (bar) (1.33 X DWP)	Impluse test cycles (Nos)	Minimum Bend Radius (mm)
1	6	450	900	1800	*760	*105000	100
2	10	380	*800	1520	*655	*105000	130
3	12	362	724	1448	482	100000	150
4	20	276	552	1104	367	100000	230
5	25	215	430	860	286	100000	300
6	32	172	344	688	229	100000	380
7	40	146	292	584	194	100000	450
8	50	112	224	448	149	100000	600

* Special Requirement

DRAFT Specifications / Requirements for 4 wire spiral Reinforced Hydraulic Hoses

Sl. No.	NIT Parameter	Tenderers response
1.0	<p>Description: the 4 wire spiral Reinforced Hydraulic hoses shall confirm to BS EN-856 of 1997 & Type: 4 SH. All the staple lock end fittings shall confirm to NCB-638/1978.</p>	All
2.0	Nominal sizes, Dimensions, Materials and construction and physical properties shall be as per BS EN-856:1997	
3.0	Pressure withstanding requirements (including IMPULSE Cycles) & Minimum bend radius shall be as specified in Annexure-I which is inline with BS EN - 856:1997	
4.0	Cold flexibility, Adhesion between components , Ozone Resistance, Oil Resistance, Abrasion Resistance, Water and water based fluid resistance requirements shall be as per BS EN- 856:1997	
5.0	<u>Hose End Fittings.</u>	
5.1	<u>Staplelock Hose -End Fittings:</u> The staplelock type hose end fittings shall confirm to NCB-638/1978. Each end fitting shall be provided with suitable ' O' ring & Backup ring and plastic cap to prevent ingress of dust.The end fittings shall be secured to hose by crimping only. The end fittings shall be manufactured on CNC machines to obtain required finish & uniformity. The end fittings shall be passivated to protect against corrosion.	
6.0	<u>Testing & Certification:</u>	
6.1	The Hose shall be type tested for all the parameters as specified at point No. 3 & 4 at any Govt. approved lab or test house acridited by NABL and having complete infrasture facilities to conduct such tests . Copies of the type test reports to be submitted along with offers without fail.	
6.2	Routine Tests for proof pressure on each hose assembly to be submitted along with each consignments.	

7.0	Other Requirements:	
7.1	The manufacturer of hose,End fittings & Hose assembler shall have reliable and adequate facility for proper manufacturing of the Fire Resistant High Pressure Hydraulic hoses (Spiral reinforced) and fully responsible for quality of the Fire Resistant High Pressure hoses (Spiral reinforced) with its end fittings and shall have valid ISO: 9001-2000 certification.	
7.2	The manufacturer of hose shall ensure that the hose and the end fittings used shall not be in any way inferior to that of the materials used in the prototype sample.	
7.3	The manufacturer shall be fully responsible for the process of hose assembly / endfitting and its functionality shall be verified in accordance with NCB 638 of 1978 or its revised version/ any internationally accepted standard.	
7.4	The hose manufacturer shall inspect the works of its authorised assembler at least once in six months to ensure that the machinery are maintained and instruments are calibrated and a record of the same shall be maintained.	
7.5	approved laboratories or a Test house accredited by NABL may also be accepted, subject to confirmation to its ability to conduct such tests according to Relevant Standards specified in EN: 856 of 1997 (for 4 wire spiral Reinforced Rubber hose type: 4 SH) or its revised version / any internationally accepted standard.	
7.6	The Chief Inspector of Mines or an Inspector of Mines or SCCL engineer may inspect, check and examine the facilities at manufacturing unit and manufacturer's authorised hose assembler unit at any time and get samples tested during the course of inspection or send such samples for testing at any Govt.approved laboratories or a Test house accredited by NABL having infrasture facilities and ability to conduct such tests according to relevant standards at the cost of the manufacturer.	
7.7	The Chief Inspector of Mines or an Inspector of Mines may inspect, check and examine the Fire Resistant High pressure hydraulic hoses (Spiral and Double Braided) with its end fittings at any time in the Mine or the Area of the mines and get samples tested during the course of inspection or send such samples for testing at any Govt. approved laboratories or a Test house accredited by NABL and having infrasture facilities and ability to conduct such tests at the cost of supplier. Tenderer shall confirm their acceptance to this condition.	

8.0	Marking:	
8.1	Hose: Each length of the hose shall be permanently marked at interval of not more than 0.6 mtr with the following information	
	a) Hose manufacturer's name.	
	b) Name of standard & Type of hose (EN-856/4 SH).	
	c) Hose Size(NB).	
	d) The month and year of manufacture	
	e) The design working pressure.	
	(f) Declaration stating that it is "Suitable for use in underground mines".	
8.2	Hose end fitting: Each hose end fitting shall bear the following prominent marking	
	(a) Name of manufacturer of the end fittings. Hose manufacturer's name.	
	(b) Name of the standard.	
	(c) End fitting size.	
8.3	The identification on the hose and the end fittings shall be such that, the traceability of the hose & its end fittings remain totally transparent even during use.	
9.0	Packing: Each hose assembly shall be packed individually in polythene cover.	

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