


# REQUEST FOR QUOTATION

 MMI:PU:RF:003	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 <b>INDIA</b>	<b>RFQ NUMBER:</b> MTBM900003  <b>RFQ DATE :</b> 02.SEP.2009	<b>Due Date</b> <b>14.OCT.2009</b> <b>Time: 13:00 HRS</b>  <b>VENUE :</b> <b>NEW ENGG. BLDG</b>
		(for all correspondence) Purchase Executive : Malathi .T Phone : 080-26998415 Fax : 00918026989227 E-mail: malathit@bheledn.co.in	

Please submit your lowest quotation subject to our terms and conditions attached for the material mentioned below. The quotation must be enclosed in a sealed envelope / Fax superscribed with RFQ no.and due date, should reach us on or before the due date by **13.00** hours IST and will be opened on the same day at **13.30** hours at the venue mentioned above. **PLEASE DROP THE OFFER IN THE BOX PROVIDED AT RECEPTION.**

SI No.	Description	Qty	Unit	Delivery qty	Delivery Date
1	CU9075916035 CABLE PVC 14CORE FLEX. & CSP SHEATED CABLE PVC 14CORE FLEX. & CSP SHEATED, TRAILING GRADE AS PER PS441297 Certificate as per BHEL Norms	5,000	M	1,000	10.MAR.2010
				1,000	10.MAR.2010
				3,000	10.MAR.2010
2	CU9075916043 CABLE PVC 20CORE FLEX. & CSP SHEATED CABLE PVC, 20 CORE FLEX. & CSP SHEATED, TRAILING GRADE AS PER PS441297 Certificate as per BHEL Norms	5,000	M	1,000	10.MAR.2010
				2,000	10.MAR.2010
				2,000	10.MAR.2010
3	CU9075916051 CABLE PVC 26CORE FLEX. & CSP SHEATED CABLE PVC 26CORE FLEX. & CSP SHEATED, TRAILING GRADE AS PER PS441297 Certificate as per BHEL Norms	5,000	M	4,000	10.MAR.2010
				1,000	10.MAR.2010
4	DR0710470002 ANNEALING CABLE FOR INDUCT HEAT EQPT ANNEALING CABLE FOR INDUCTION HEATING EQUIPMENT 240 SQ mm 1200AMPS AT 3000HZ, 0.3mm DIA. SUPER ENAMELED SPECIAL GRADE FLEXIBLE ANNEALED COPPER WIRE AS PER IS:8130-1984 No. OF WIRES 3360, No. OF STRANDS 20 LENGTH OF CABLE 15 METERS TO WITHSTAND TEMP OF 400DEG.C AS PER PS/441/164 DRW PS441164 01	600	NO	200	10.MAR.2010
				400	10.MAR.2010
5	DR0711044244 INDUN.HEAT INTERCONN CABLE LENGTH:50METR INDUCTION HEATING INTERCONN CABLE : 50 METRE LONG 185 SQ MM, 1000A/1100V, 3KHZ RED COLOUR HEAT SHRINKABLE SLEEVE AT BOTH ENDS. DRW PS441165 00 Certificate as per BHEL Norms	50	NO	50	10.MAR.2010
6	DR0711044538 INDUN HEAT CONNECTNG CABLE; LENGTH:5MET INDUCTION HEATING CONNECTING CABLE : 5 METRE LONG 185 SQ MM, 1000A/1100V, 3KHZ RED COLOUR HEAT SHRINKABLE	100	NO	100	10.MAR.2010

For and On behalf of BHEL.

# REQUEST FOR QUOTATION

	<b>BHARAT HEAVY ELECTRICALS LIMITED</b> Electronics Division PB No. 2606, Mysore Road Bangalore - 560026 INDIA	<b>RFQ NUMBER:</b> MTBM900003  <b>RFQ DATE :</b> 02.SEP.2009	<b>Due Date</b> <b>14.OCT.2009</b> <b>Time: 13:00 HRS</b>  <b>VENUE :</b> <b>NEW ENGG. BLDG</b>
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Sl No.	Description	Qty	Unit	Delivery qty	Delivery Date
	<b>SLEEVE AT BOTH ENDS.</b>  DRW PS441165 01 Certificate as per BHEL Norms				
7	DR0711049050 INDUN HEAT INTERCONN CABLE LENGTH:50METR INDUCTION HEATING INTERCONN CABLE : 50 METRE LONG 185 SQ MM, 1000A/1100V, 3KHZ BLACK COLOUR HEAT SHRINKABLE SLEEVE AT BOTH ENDS.  DRW PS441165 01 Certificate as per BHEL Norms	50	NO	50	10.MAR.2010
8	DR0711049068 INDUN HEAT INTERCONN CABLE; LENGTH:5MET INDUCTION HEATING CONNECTING CABLE : 5 METRE LONG 185 SQ MM, 1000A/1100V, 3KHZ BLACK COLOUR HEAT SHRINKABLE SLEEVE AT BOTH ENDS.  DRW PS441165 01 Certificate as per BHEL Norms	100	NO	100	10.MAR.2010

**Total Number of Items - 8**




Please note that the tender will be opened in the presence of the bidders or his authorised representatives (maximum two per organisation) who choose to be present with authorisation letters. Refer annexure for the terms and conditions.

Preference will be given to vendors who accepts our standard payment terms i.e.100% payment - 30 days after receipt of material at our works subject to acceptance.




Please specify Terms of delivery, Excise duty, sales tax, Ex-BHEL, Ex-works surcharge, Insurance,P&F, Freight and other taxes very clearly .

- i). This is only RFQ not an order.
- ii). In all correspondence quote RFQ No. & due date.
- iii). In Quotation BHEL material code / RFQ Sl. No. should be mentioned clearly.
- iv). Quotation Envelope / Fax not superscribed with RFQ No.and due date is liable for rejection.
- v). Quotation should remain valid for a minimum peiod of 90 days from due date.
- vi). In case of non-receipt of Quotation or regret letter for 3 consecutive RFQs you are liable to be removed from our vendors list.
- vii). All Prices should be written in words and numbers.
- viii). Excise Chapter Heading should be mentioned for all items where VAT is applicable .

For and On behalf of BHEL.

	PURCHASE SPECIFICATION		P.S NO. : PS/441/164																				
	GROUP : DRIVES & POWER SUPPLIES		REV. NO : 01																				
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<div>REVISION HISTORY SHEET</div> <table><thead><tr><th>REV. NO.</th><th>DATE</th><th>NATURE OF CHANGE</th><th>REASONS</th><th>PREPARED BY</th><th>APPROVED BY</th></tr></thead><tbody><tr><td>00</td><td>12-09-2000</td><td>FIRST ISSUE</td><td>-----</td><td>C N KUMAR</td><td>H C VARADARAJ</td></tr><tr><td>00</td><td>09-06-2005</td><td>INSULATION COVERING PERCENTAGE REVISED &amp; SPECIFICATION GENERALLY REVISED.</td><td>TO IMPROVE CABLE LIFE.</td><td>C N KUMAR</td><td>S K IYENGAR</td></tr></tbody></table>						REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY	00	12-09-2000	FIRST ISSUE	-----	C N KUMAR	H C VARADARAJ	00	09-06-2005	INSULATION COVERING PERCENTAGE REVISED & SPECIFICATION GENERALLY REVISED.	TO IMPROVE CABLE LIFE.	C N KUMAR	S K IYENGAR
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REVISIONS			APPROVED BY  S K IYENGAR																				
			PREPARED BY  C N KUMAR	ISSUED BY D & PS	DATE 12-09-2000																		

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	PURCHASE SPECIFICATION		P.S NO. : PS/441/164	
	GROUP : DRIVES & POWER SUPPLIES		REV. NO : 01	
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A4 - 10				
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 anyway detrimental to the interest of the company.	SPECIFICATION FOR INDUCTION HEATING ANNEALING CABLE			
	1. Cable Size	:	240 Sq. MM	
	2. Cable Rating	:	1200 Amps. At 3000 HZ	
	3. Conductor	:	0.3 mm Dia. Super enameled special Electrical grade Flexible annealed copper wire as per IS : 4800	
	4. DC Resistance of each wire at 20°C	:	0.2289Ω/Meter (max.) as per IS : 8130 - 1984	
	5. No. of Wires	:	3360	
	6. No. of Strands	:	20	
	7. Insulation of each strand	:	Each strand is taped over entire length with Fibre glass tape of 0.08mm (nom.) and to be covered 100%.	
	8. Braiding	:	Each strand should be braided with 1mm Asbestos on entire length.	
	9. Transposing	:	All 20 strands thus laid and transposed in the shape of rope as 1+7+12.	
	10. DC Resistance of strands at 20°C as per IS : 8130	:	For single strand	: 1.59Ω/KM (max.)
			For five strands	: 0.322Ω/KM (max.)
			For twenty strands	: 0.0801Ω/KM (max.)
	11. Inner sheath	:	100% covering with one layer of 1.0mm dia. Asbestos yarn to withstand upto 400°C.	
	12. Inner sheath cover	:	100% covering with Teflon tape of 0.05mm (nom.) thickness over inner sheath on entire length.	
13. Inner sheath braiding	:	Inner sheath to be braided 70% (approx.) covering with bare annealed copper wire of 0.3mm (nom) over the Teflon tape.		
14. Outer sheath braiding	:	100% covering with two layers of Asbestos yarn of 1.0 mm dia. to withstand temperature of 400°C		
15. Length of cable	:	15 Metres.		
	REVISIONS	APPROVED BY  S K IYENGAR		
		PREPARED BY  C N KUMAR	ISSUED BY D & PS	DATE 12-09-2000



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## PURCHASE SPECIFICATION

GROUP : DRIVES &amp; POWER SUPPLIES

P.S NO. : PS/441/164

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16. End finishing

: Four ends on each side to be crimped with 4 lugs of 150 Sq. mm copper lugs (long neck) as shown in page 03 of this spec. Near cable ends Teflon taping to be done and binding to be done with Asbestos yarn.

**INFORMATION REQUIRED WITH OFFER FOR TECHNICAL ACCEPTANCE**

- a) Cable dimension details.
- b) Conductor specification.
- c) Current/Voltage rating.
- d) Cable construction.
- e) Thermal insulation capacity.
- f) Half metre (minimum) long sample cable for technical acceptance.

**TESTS TO BE CONDUCTED**

- a) Conductor resistance separately each strand, 5 strands and 20 strands.
- b) Before crimping the ends, Insulation/continuity between braids to be checked. (There should not be any short between braids)
- c) Transposition of braids should be checked on a sample piece and braids should be closely transposed.
- d) HV test (spark test) of 3.0 KV to be done as per IS : 694 - 1990.
- e) After the above, ends to be crimped with 150 Sq. mm long neck copper lugs as shown on page 03.

**ACCEPTANCE CRITERIA**

- a) Visual inspection for any physical damage.
- b) Conductor dimension (0.3mm  $\pm$  5%).
- c) Length of cable as per spec.
- d) Conductor resistance of each strand, 5 strands and 20 strands as per spec.
- e) HV test (spark test) of 3.0 KV at strand level.
- f) Copper elongation test (10% minimum).
- g) Test certificate.

**PACKING**

Each cable should be rolled separately and covered with suitable cover and tag with following information to be attached to the roll.

- a) Cable type : INDUCTION HEATING ANNEALING CABLE
- b) Cable size : 240 Sq. MM
- c) Cable rating : 1200 AMPS. AT 3000 HZ
- d) Cable length : 15 METRE.
- e) BHEL Code No. : PR0900001517



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**PURCHASE SPECIFICATION**  
**GROUP : DRIVES & POWER SUPPLIES**

PS.No. : PS/441/164

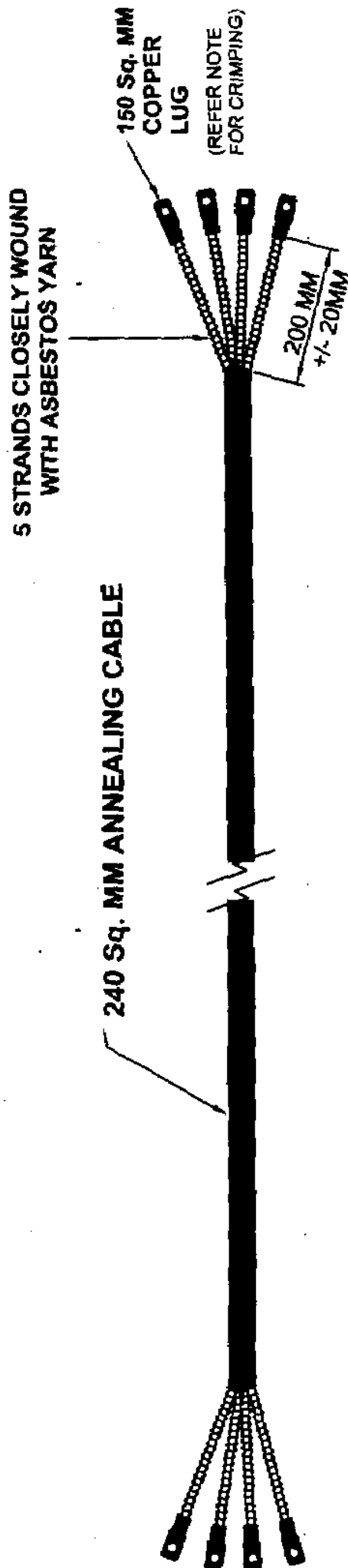
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- NOTE :**
- a) Before crimping each crimp end Enamel upto a length of 40mm to be removed completely using suitable chemical.
  - b) After removing the Enamel each crimp end to be tinned properly.
  - c) Tinned ends to be crimped using 150Sq.mm long neck copper lugs with appropriate crimping tool.

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	<div><div><div>COPYRIGHT AND CONFIDENTIAL</div><div>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in anyway detrimental to the interest of the company.</div></div></div>	<table><tr><th>REV. NO.</th><th>DATE</th><th>NATURE OF CHANGE</th><th>REASONS</th><th>PREPARED BY</th><th>APPROVED BY</th></tr><tr><td>00</td><td>12-09-2000</td><td>FIRST ISSUE</td><td>-----</td><td>C N KUMAR</td><td>H C VARADARAJ</td></tr><tr><td>01</td><td>09-06-2005</td><td>INSULATION COVERING PERCENTAGE REVISED &amp; SPECIFICATION GENERALLY REVISED.</td><td>TO IMPROVE CABLE LIFE.</td><td>C N KUMAR</td><td>S K IYENGAR</td></tr></table>	REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY	00	12-09-2000	FIRST ISSUE	-----	C N KUMAR	H C VARADARAJ	01	09-06-2005	INSULATION COVERING PERCENTAGE REVISED & SPECIFICATION GENERALLY REVISED.	TO IMPROVE CABLE LIFE.	C N KUMAR
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 <b>A4 - 10</b>	<b>PURCHASE SPECIFICATION</b>		P.S NO. : PS/441/165	
	<b>GROUP : DRIVES &amp; POWER SUPPLIES</b>		REV. NO : 01	
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<b>SPECIFICATION FOR INDUCTION HEATING INTERCONNECTION CABLE</b>				
<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in anyway detrimental to the interest of the company.	1. Cable Size	: 185 Sq. MM		
	2. Cable Rating	: 1000 Amps/1100V, at 3000 HZ		
	3. Conductor	: 0.3 mm Dia. Super enameled special Electrical grade Flexible annealed copper wire as per IS : 4800		
	4. DC Resistance of each wire at 20°C	: 0.2289Ω/Meter (max.) as per IS : 8130 - 1984		
	5. No. of Wires	: 2600		
	6. No. of Strands	: 20 (130 wires in each strand)		
	7. Insulation of each strand	: Each strand is taped over entire length with Fibre glass tape of 0.08mm (nom.) and to be covered 100%.		
	8. Braiding	: Each strand should be braided with 1mm Asbestos on entire length.		
	9. Transposing	: All 20 strands thus laid and transposed in the shape of rope as 1+7+12.		
	10. DC Resistance of strands at 20°C as per IS : 8130	: For single strand : 2.14Ω/KM (max.) For five strands : 0.417Ω/KM (max.) For twenty strands : 0.106Ω/KM (max.)		
	11. Inner sheath Taping	: 100% covering with Teflon tape of 0.05mm (nom.) thickness over entire length.		
	12. Extrusion	: The cable is to be extruded with black colour Polychloroprene over entire length for good mechanical strength.		
		a) Sheath Thickness : 3.0 mm (nom.) b) Tensile : 8.0 N/Sq. mm (min) c) Elongation : 250% (min)		
13. End finishing	: Four ends on each side to be crimped with 4 lugs of 150 Sq. mm copper lugs (long neck) as shown in page 03 of this spec. Near cable ends Teflon taping to be done and heat shrinkable sleeve of colour as per specification in page 02 to be provided.			
REVISIONS		APPROVED BY  <b>S K IYENGAR</b>		
		PREPARED BY  <b>C N KUMAR</b>	ISSUED BY <b>D &amp; PS</b>	DATE <b>12-09-2000</b>





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**PURCHASE SPECIFICATION**  
**GROUP : DRIVES & POWER SUPPLIES**

P.S NO. : PS/441/165

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**CABLE LENGTH, BHEL CODE NO. AND SLEEVE COLOUR**

<u>ITEM No.</u>	<u>CABLE LENGTH</u>	<u>SLEEVE COLOUR</u>	<u>BHEL CODE No.</u>
01	50 Metre	Red	DR0711044244
02	50 Metre	Black	DR0711049050
03	5 Metre	Red	DR0711044538
04	5 Metre	Black	DR0711049068

**INFORMATION REQUIRED WITH OFFER FOR TECHNICAL ACCEPTANCE**

- Cable dimension details.
- Conductor specification.
- Current/Voltage rating.
- Cable construction.
- Half metre long (minimum) sample cable for technical acceptance.

**TESTS TO BE CONDUCTED**

- Conductor resistance separately each strand, 5 strands and 20 strands.
- Before crimping the ends, Insulation/continuity between braids to be checked.  
(There should not be any short between braids)
- Transposition of braids should be checked on a sample piece and braids should be closely transposed.
- HV test (spark test) of 3.0 KV to be done as per IS : 694 - 1990.
- After the above, ends to be crimped with 150 Sq. mm long neck copper lugs as shown on page 03.

**ACCEPTANCE CRITERIA**

- Visual inspection for any physical damage.
- Conductor dimension (0.3mm  $\pm$  5%).
- Length of cable as per spec.
- Conductor resistance of each strand, 5 strands and 20 strands as per spec.
- HV test (spark test) of 3.0 KV at strand level.
- Copper elongation test (10% minimum).
- Test certificate.

**PACKING**

Each 5 metre long cable should be rolled separately and covered with suitable cover and each 50 metre long cable should be packed in suitable wooden roller drums and tag with following information to be attached to the roll.

- Cable type : **INDUCTION HEATING INTERCONNECTION CABLE**
- Cable size : **185 Sq. MM**
- Cable rating : **1000 AMPS. AT 3000 HZ**
- Cable length :
- BHEL Code No. :



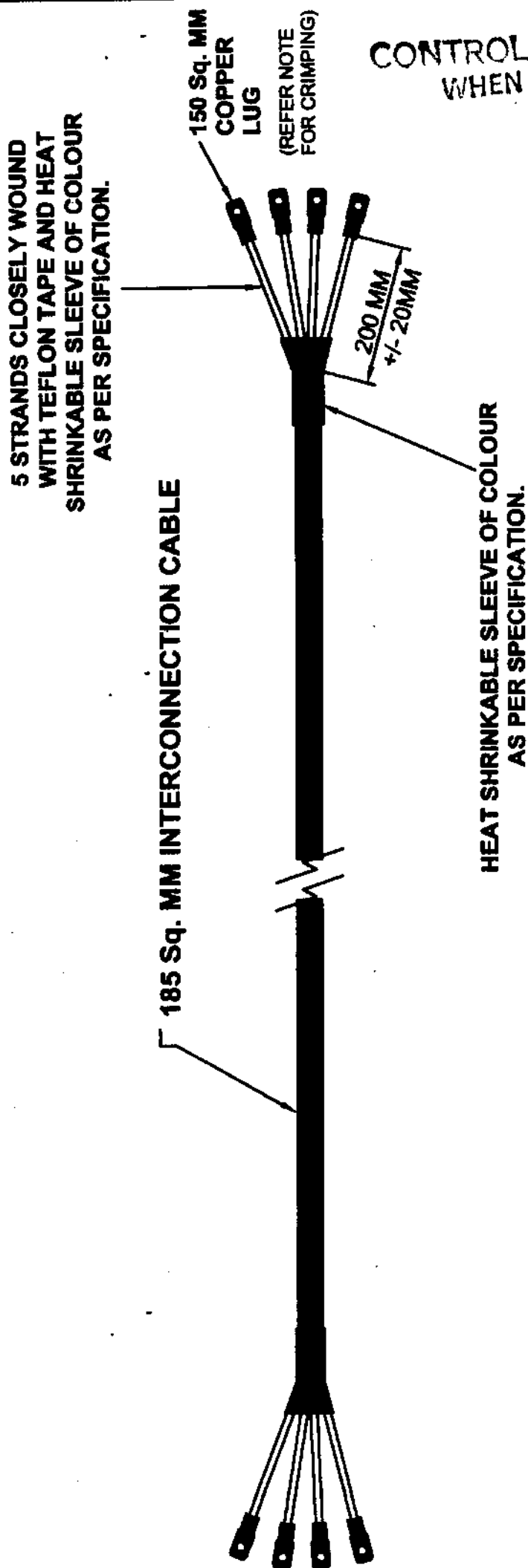
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**PURCHASE SPECIFICATION**  
**GROUP : DRIVES & POWER SUPPLIES**

PS.No. : **PS/441/165**

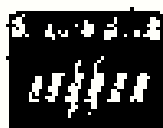
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- NOTE :**
- a) Before crimping each crimp end Enamel upto a length of 40mm to be removed completely using suitable chemical.
  - b) After removing the Enamel each crimp end to be tinned properly.
  - c) Tinned ends to be crimped using 150Sq.mm long neck copper lugs with appropriate crimping tool.



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**PURCHASE SPECIFICATION**  
**GROUP : DRIVES & POWER SUPPLIES**

P/S NO. : PS/441/297

REV. NO. : 00

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**REVISION HISTORY SHEET**

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REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	27/10/06	FIRST ISSUE	-----	NAGARAJA.A	S K IYENGAR

**REVISIONS**

REV. 00 : FIRST ISSUE

**APPROVED BY**

*[Signature]*  
S K IYENGAR

**PREPARED BY**

*[Signature]*  
NAGARAJA.A

**ISSUED BY**

DEPT

**DATE**

27-10-2006



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**PURCHASE SPECIFICATION**  
**GROUP : DRIVES & POWER SUPPLIES**

P.S. NO. : PSM441/297

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**SPECIFICATION FOR**  
**PVC INSULATED & CSP SHEATHED FLEXIBLE TRAILING GRADE**  
**REELING / UNREELING DUTY MULTICORE CABLE**

1. Cable Size : Type a) 14core  
Type b) 20core  
Type c) 26core
2. Voltage grade : 1100 Volts
3. Ref. Std. : IS : 9886 (Part-I) - 1988  
IS : 1554 (Part-I) - 1988
4. Conductor Type : Highly Flexible Annealed Tinned Copper & Circular Stranded  
as per class 6 of IS:8130 1984 and Table 7 of IS:6350 1969
5. Cross section of each core : 0.75 Sq. mm
6. Diameter of Conductor : 0.20mm
7. No. of wires in each core : 24
8. Nominal dia. Of each core : 1.14mm  
(only conductors)
9. Core insulation & Type : Extruded Heat Resisting PVC Compound, Type C  
as per IS:1554 Part-1 1988
10. Nominal thickness of insulation of core : 0.60mm
11. Nominal outer dia. of core : 2.34mm
12. Colour of core : All cores are GREY coloured
13. Core identification : Type a) Numbered 1 to 14  
Type b) Numbered 1 to 20  
Type c) Numbered 1 to 26
14. Core laying : All cores shall be laid up as per reference standard  
Type a) : 4+10  
Type b) : 1+7+12  
Type c) : 3+9+14  
If found necessary, filler shall be provided.
15. Approx. diameter of laid up of cores : Type a) : 10.80mm  
Type b) : 12.00mm  
Type c) : 14.80mm
16. Braiding over cores laid-up : Nylon / Synthetic yarn braiding over laid-up of cores  
with approx. covering of 75%
17. Outer sheath : As per IS:6380 - 1984
18. Outer Sheath Material : Heavy Duty HOFR CSP Extruded
19. Outer sheath Type : Type SE3
20. Outer sheath colour : Black

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**REVISIONS**  
REV.00 : FIRST ISSUE.

APPROVED BY

SK LYENCAR

PREPARED BY

NAGARAJA. A.

ISSUED BY

D&PS

DATE

27-10-2011



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# PURCHASE SPECIFICATION

GROUP : DRIVES & POWER SUPPLIES

P.S NO. : PS/441/297

REV. NO : 00

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21. Nominal Thickness of outer sheath insulation. : Type a) : 1.80mm  
: Type b) : 1.80mm  
: Type c) : 2.00mm

21. Approximate Overall Diameter of cable : Type a) : 14.50mm  
: Type b) : 18.00mm  
: Type c) : 18.00mm

## ELECTRICAL CHARACTERISTICS

- a) Conductor temperature under short circuit condition : 180° C max.
- b) Conductor temperature for continuous rating of cable : 90° C min.

## INFORMATION REQUIRED WITH OFFER FOR TECHNICAL ACCEPTANCE

- a) Cable dimension details.
- b) Conductor specification.
- c) Current / voltage rating.
- d) Cable construction.
- e) Core insulation and Outer sheath insulation data.

## ACCEPTANCE & ROUTINE TESTS

- a) High voltage test at room temperature : To withstand 3.0KV ac for 5 minutes
- b) Max. D.C. resistance of conductor at 20°C : 26.7 Ohm/Km
- c) Minimum volume Resistivity of PVC :  $1 \times 10^{13}$  ohm-cm at 27°C &  
 $1 \times 10^{10}$  ohm-cm at max rated temperature.
- d) Tensile strength of insulation & Outer sheath : 12.5 N/sq. mm (min.) for Insulation &  
8.0N/Sq. mm(min.) for Outer sheath.
- e) Elongation at break of insulation & Outer sheath : 150% (min.) for insulation &  
250% (min.) for Outer sheath.
- f) Annealing (% Elongation ) test on Conductor (before stranding) : 9.0% minimum.

## PACKING

Each cable should be rolled separately and covered with suitable cover and tag with the following information to be attached to the roll.

- a) Cable type : For Type a) : 14 core , 0.75mm<sup>2</sup> Trailing cable.  
: For Type b) : 20 core , 0.75mm<sup>2</sup> Trailing cable.  
: For Type c) : 28 core , 0.75mm<sup>2</sup> Trailing cable.
- b) Cable length :
- c) BHEL Code No. : For Type a) :  
: For Type b) :  
: For Type c) :

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**Pre Qualification Criteria for Supply of Annealing Cables**  
**( Annexure to RFQ No. MTBM900003 )**

**These cables are used in Induction Heating Equipment manufactured by BHEL-EDN. The Specifications of these Cables have been finalized after extensive trials and usage at various sites across the country. In case there are any deviations to these specifications, these shall be explicitly brought out in the technical offer.**

1. The vendor shall be an Original Equipment Manufacturer (OEM). Only the OEM or their authorized dealers along with latest authorization letter can submit offers. An authorized Representative/Dealer cannot quote for the same equipment from more than one OEM.
2. The vendor should have the capability to design and manufacture these cables at their works.
3. In case these cables are being developed and manufactured for the first time, the supplier will have to submit 2 numbers of these cables for BHEL's approval and testing at their works within 4-6 weeks from the trial order date . Bulk manufacture shall be taken up only after the approval of these samples.
4. The supplier shall furnish the details of similar cables supplied and the reference list of customers along with contact details, quantity of supply and application information.
5. The vendor shall furnish a comprehensive warranty for at least 12 months from the date of commissioning.

**Note:**

1. Pre qualification will be carried out based on the details furnished by the vendor / feedback from their customers / inspection of the company / product if required by BHEL and at its sole discretion.
2. The Pre qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre Qualification criteria are met.
3. The suppliers can bid for one or more cable mentioned under the RFQ .
4. Sealed Bids shall be submitted in 2 part bid system
  - a) **Techno-Commercial Bid** (which shall be opened on the due date 14/10/2009 at 1330 hrs) and
  - b) After evaluation of techno-commercial bids and receipt of clarification if any , **Price Bids** will be opened .Date and time of Price bid opening will be intimated to the technically accepted bidders. .
5. Pre-Shipment Inspection by BHEL shall be carried out on the P.O. items.

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**1. Enquiry/Request for Quotation (RFQ)**

- a) Any Purchase Order resulting from this enquiry shall be governed by **these general terms and conditions listed below and special terms and conditions, if any, along with this enquiry** of Bharat Heavy Electricals Limited, Electronics Division, Bangalore-560026 (**hereinafter referred to as BHEL EDN**).
- b) Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the quotation. Otherwise, it will be treated as that all terms and conditions of this enquiry are acceptable.
- c) If counter terms and conditions are offered by supplier, BHEL EDN shall not be governed by such terms and conditions, unless it is agreed and incorporated in the Purchase Order of BHEL EDN.
- d) Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order of BHEL EDN.
- e) BHEL EDN reserves the right to adopt Reverse Auction for the enquiry sent, at its discretion
- f) BHEL EDN shall be at liberty to cancel the tender at any time, before ordering, without assigning any reason.

**2. Quotation**

- a) Quotation shall be submitted in a sealed envelope super scribed with enquiry number and due date (if it is single part) and the same must reach our respective tender box kept in reception area of our works on or before the due date and time indicated in RFQ.
  - b) If the quotation is to be submitted in two part bid (techno-commercial and price bids), the techno-commercial bid shall be put in one sealed envelope super scribed as 'Techno commercial bid' with enquiry number and due date of opening. The price bid envelope must be in another sealed envelope super scribed as 'Price bid' with only the enquiry number. Both these envelopes must be put in another sealed envelope super scribed with enquiry number and due date of opening.
  - c) Quotation through fax / email is acceptable but when addressed to the specific fax number and email address given in the enquiry, to be sent well in advance to enable BHEL EDN purchase person drop in the tender box before the scheduled opening date and time. **Supplier is fully responsible for lack of secrecy on information of such quotations.**
  - d) BHEL EDN is not responsible for any delay in receipt of quotation sent by supplier through post / fax/email.
  - e) Late quotation will be rejected.
  - f) Separate quotation should be submitted against each enquiry.
  - g) Quotation should be, as far as possible, free from correction / overwriting. Correction / overwriting, if any, should be signed by authorized person with the company seal.
  - h) The rates must be quoted indicating basic material rate, packing, forwarding, freight & insurance, discount, if any, and applicable taxes and duties, **each of them shown separately.**
  - i) It is preferred to indicate the rates in both figures and words. In such case, if there is difference / discrepancy between the rates in figures and words, the **least of the two** rates will be considered.
  - j) If there is any difference / discrepancy in rates quoted for per unit and total and any arithmetic addition for number of items, **the lower** of the rates beneficial to BHEL EDN will be considered.
  - k) In case any supplier is unable to quote, supplier shall send a regret letter without fail. In case of non-receipt of quotations or regret letters for three consecutive enquiries, such supplier is liable to be removed from our supplier list.
  - l) All the tenderers or their authorised representative (with authorization letter from the principal) may witness opening of quotation.
3. BHEL EDN material code number (as in enquiry) shall be indicated for each item quoted.
4. Manufacturer's name, their trade mark and brand, part number, Alternate material to the one asked in enquiry, if any, should be mentioned in quotation and illustrative leaflets giving technical particulars etc. are to be attached to facilitate consideration and technical evaluation of the quotation.
5. **Packing:** Goods must be adequately packed in proper carton / wooden box / drums / suitable container to protect against loss, damage or corrosion and to withstand normal inland transportation and handling. Hazardous material should be notified as such and their packing, transportation and other protection must conform to applicable regulations.
6. No import license will be given by BHEL EDN unless otherwise specifically stated.
7. **Quotation should be based on delivery at BHEL EDN** (including packing, forwarding, freight & insurance).
8. BHEL EDN does not bind itself to accept the lowest rate quoted, but reserves the right to accept whole or part of any quotation at its sole discretion.

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9. The quantity in each item to be purchased may vary from quantity enquired according to actual requirement at the time of placing the Purchase Order. Quantity discount, if any, should be mentioned in the quotation.
10. Quotation should remain valid for a minimum period of 90 days from the due date of opening.
11. The rate quoted against each item shall be in units stated in the enquiry. Where quotation is in terms of unit other than that in enquiry, relationship between the two units must be furnished in the quotation.
12. Change in rate is not allowed once the quotation is accepted and order is placed, except where Price Variation Clause is indicated.
13. Withdrawal from the quotation after submission till order is placed will entail cancellation of the enquiry. Such supplier is liable for de-listing for future enquiry at the sole discretion of BHEL EDN.
14. In the quotation, earliest firm delivery (number of days or weeks) by which material will be despatched from the date of receipt of order must be indicated. It is recommended to avoid Quotations with delivery term such as 'ex-stock', 'subject to prior sale', or 'delivery at the earliest'.
15. In case of enquiries **for subcontract process**, where material is provided by BHEL EDN, bank guarantee as indicated in enquiry / PO shall be provided by supplier if P.O is placed on them.
16. **Penalty:** Failure to supply within the delivery time as per purchase order will make the supplier liable to an unconditional **penalty of 0.5 % (half percent) per week at the basic price of the goods for the undelivered quantity, subject to a maximum of 10%.**
17. Purchase Order will be placed on the lowest quotation only among the technically & commercially accepted quotations. Lowest quotation is determined on the basis of Total Cost to BHEL EDN including basic value, taxes and duties, freight, insurance, loading factors for deviations to terms and conditions.
18. Quotation with 'Advance payment' or 'Inland Letter of Credit' is liable for rejection.
19. **Loading factors:** Loading factors as below will be added to the quoted basic price to evaluate the lowest quotation for non-agreement to BHEL EDN commercial terms.
  - A) For non-agreement to terms of payment of 100% payment with 30 days credit.
    - If the quotation is 'Payment through bank': Loading factor: 10%
    - If the quotation is 'Payment on receipt of material at BHEL EDN': Loading factor: 10%
  - B) For non-agreement of penalty for delayed delivery:
    - If the quotation is 'Not agreeable': Loading factor 10%
    - If the quotation is '5% maximum agreed' : Loading factor 5%
    - If the quotation is other than the above: Loading factor (10% - quoted max %)
  - C) For non-agreement on delivery at BHEL EDN: Loading factor 10%
  - D) Penalty for delayed delivery will be reckoned with respect to P.O delivery as given below
    - If the delivery is at BHEL EDN by supplier, then Delivery date at BHEL EDN will be the reference.
    - If the delivery is ex-works supplier (transportation by BHEL EDN), then Invoice date will be the reference.
    - If the despatch is with 'Document through bank', then the Invoice date will be the reference.
    - If Pre-shipment Inspection at supplier's works is to be done by BHEL EDN before despatch, then, the Inspection call date given by supplier will be the reference.
20. Inspection / Test reports / certificates, if any, as per specification / enquiry requirement, shall be adhered to. If Pre-shipment inspection at supplier's works is required either by BHEL EDN and / or by the customer of BHEL EDN, supplier shall provide necessary assistance for inspection.
21. Taxes and duties as indicated in the quotation and in the Purchase Order of BHEL EDN only to be charged. If there is any change in the statutory levies such as Excise Duty, Taxes etc. unless this is agreed by BHEL EDN, the same is to be borne by the supplier.
22. Supplier's Sales tax / ECC/ VAT Registration Number should be mentioned in quotation.
23. Any dispute arising out of this, shall be referred to the sole arbitration of Head of Dept. Materials Management of group concerned, BHEL EDN or any other officer nominated by him and his award shall be final and binding on the parties. The venue of the arbitration in all cases shall be Bangalore.
24. Any legal suit in respect of this enquiry lies in the Court of Bangalore only.



**1. Enquiry/Request for Quotation (RFQ)**

- a) Any Purchase Order resulting from this enquiry shall be governed by **these general terms and conditions listed below and special terms and conditions, if any, along with this enquiry** of Bharat Heavy Electricals Limited, Electronics Division, Bangalore-560026 (**hereinafter referred to as BHEL EDN**).
- b) Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the quotation. Otherwise, it will be treated as that all terms and conditions of this enquiry are acceptable.
- c) If counter terms and conditions are offered by supplier, BHEL EDN shall not be governed by such terms and conditions, unless it is agreed and incorporated in the Purchase Order of BHEL EDN.
- d) Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of order, unless clarification is sought for by BHEL EDN and agreed upon in the Purchase Order of BHEL EDN.
- e) BHEL EDN reserves the right to adopt Reverse Auction for the enquiry sent, at its discretion
- f) BHEL EDN shall be at liberty to cancel the tender at any time, before ordering, without assigning any reason.

**2. Quotation**

- a) Quotation shall be submitted in a sealed envelope super scribed with enquiry number and due date (if it is single part) and the same must reach our respective tender box kept in reception area of our works on or before the due date and time indicated in RFQ.
  - b) If the quotation is to be submitted in two part bid (techno-commercial and price bids), the techno-commercial bid shall be put in one sealed envelope super scribed as 'Techno commercial bid' with enquiry number and due date of opening. The price bid envelope must be in another sealed envelope super scribed as 'Price bid' with only the enquiry number. Both these envelopes must be put in another sealed envelope super scribed with enquiry number and due date of opening.
  - c) Quotation through fax / email is acceptable but when addressed to the specific fax number and email address given in the enquiry, to be sent well in advance to enable BHEL EDN purchase person drop in the tender box before the scheduled opening date and time. **Supplier is fully responsible for maintenance of secrecy on information of such quotations.**
  - d) BHEL EDN is not responsible for any delay in receipt of quotation sent by supplier through post / fax/email.
  - e) Late quotation will be rejected.
  - f) Separate quotation should be submitted against each enquiry.
  - g) Quotation should be, as far as possible, free from correction / overwriting. Correction / overwriting, if any, should be signed by authorized person with the company seal.
  - h) The rates must be quoted for materials packed **on delivered FOB** (named International airport / seaport) including basic material rate, packing, handling, ancillary charges like processing of letter of credit (L/C), export declaration etc. Freight will be handled by the consolidators of BHEL EDN. Loading factor will be applied as per the Loading factor clause if the delivery term is other than FOB.
  - i) It is preferred to indicate the rates in both figures and words. In such case, if there is difference / discrepancy between the rates in figures and words, the **least of the two** rates will be considered.
  - j) If there is any difference / discrepancy in rates quoted for per unit and total and any arithmetic addition for number of items, **the lower** of the rates beneficial to BHEL EDN will be considered.
  - k) In case any supplier is unable to quote, supplier shall send a regret letter without fail. In case of non-receipt of quotations or regret letters for three consecutive enquiries, such supplier is liable to be removed from our vendor list for that item/product.
  - l) All the tenderers or their authorised representative (with authorization letter from the principal) may witness opening of quotation.
3. BHEL EDN material code number (as in enquiry) shall be indicated for each item quoted.
4. Manufacturer's name, their trade mark and brand, part number, Alternate material to the one asked in enquiry, if any, should be mentioned in quotation and illustrative leaflets giving technical particulars etc. are to be attached to facilitate consideration and technical evaluation of the quotation.
5. **Packing:** Goods must be adequately packed in proper carton / wooden box / drums / suitable container to protect against loss, damage or corrosion, shall be 'seaworthy / airworthy' as the case may be. Hazardous material should be notified as such and their packing, transportation and other protection must conform to applicable regulations. Fumigation certificate where applicable, as per regulations, shall be provided by supplier. Mandatory spares if ordered separately should be marked with green colour code.
6. **BHEL EDN standard payment term is 100% against 'Sight Draft' (net 30 days).** Loading factor will be applied as per the loading factor clause if there is any deviation to this.
7. BHEL EDN does not bind itself to accept the lowest rate quoted, but reserves the right to accept whole or part of any quotation at its sole discretion.
8. The quantity in each item to be purchased may vary from the quantity enquired according to actual requirement at the time of placing the Purchase Order. Qty discount if any should be clearly indicated in the quotation. The material offered shall be strictly as per our specification indicated in our enquiry. Any deviation should be clearly indicated in the offer.
9. Quotation should be for the quantity enquired only. Minimum Order Quantity (MOQ), if any, higher than the enquired quantity is liable for rejection. In case, the suppliers quote different MOQs, the nearest MOQ to the enquired quantity / overall cost to BHEL EDN will be considered.
10. Quotation with term of High Sea Sales is not acceptable.
11. Quotation should remain valid for a minimum period of 90 days from the due date of opening.
12. The rate quoted against each item shall be in units stated in the enquiry. Where quotation is in terms of unit other than that in enquiry, relationship between the two units must be furnished in the quotation.

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13. Change in rate is not allowed once the quotation is accepted and order is placed, except where Price Variation Clause is indicated.
14. Withdrawal from the quotation after submission till order is placed will entail cancellation of the enquiry. Such supplier is liable for de-listing for future enquiry at the sole discretion of BHEL EDN.
15. In the quotation, earliest firm delivery (number of days or weeks) by which material will be despatched from the date of receipt of order must be indicated. It is recommended to avoid Quotations with delivery term such as 'ex-stock', 'subject to prior sale', or 'delivery at the earliest'.
16. **Penalty:**
  - a) Failure to supply within the delivery time as per purchase order will make the supplier liable to an unconditional **penalty of 0.5 % (half percent) per week at the basic price of the goods for the undelivered quantity, subject to a maximum of 10%.**
  - b) Penalty for delayed delivery will be reckoned with respect to PO delivery as given below:
    - If the delivery is ex-works supplier, then invoice date will be the reference
    - For any other delivery terms, the house Airway bill date / Bill of Lading date will be the reference.
17. Purchase Order will be placed on the lowest quotation only among the technically & commercially accepted quotations. Lowest quotation is determined on the basis of Total Cost to BHEL EDN including basic value, taxes and duties, freight, insurance, loading factors for deviations to terms and conditions. Unless specifically indicated in the enquiry itemwise lowest quotation taking into account the total cost to BHEL EDN will be considered. Exchange rate on the date of tender opening (techno commercial bid in case of two part bid) will be considered
18. Quotation with 'Advance payment' is liable for rejection.
19. **Loading factors:** Loading factors as below will be added to the quoted basic price to evaluate the lowest quotation for non-agreement to BHEL EDN commercial terms.
  - A) For non-agreement to payment against sight draft (net 30 days). Loading factor 3.5%
  - B) For non-agreement to terms of FOB: Loading factor 2 %
  - C) For non-agreement of penalty for delayed delivery:
    - If the quotation is 'Not agreeable': Loading factor 10%
    - If the quotation is other than the above: Loading factor (10% - quoted max %)
20. Inspection / Test reports / certificates, if any, as per specification / enquiry requirement, shall be adhered to.
21. **Rejection:** If any material supplied is found not meeting the PO specification, the same shall be rejected by BHEL EDN and supplier is liable for unconditional replacement. Supplier shall provide Credit note (inclusive of basic price, duties, freight and insurance paid by BHEL EDN), In case of free replacement against rejection, additional duties and other expenses incurred by BHEL EDN shall be borne by the supplier. Supplier shall make arrangement to take back the rejected material at their own cost. If it is to be sent back to supplier by BHEL EDN, expenses incurred in doing so (duty & other expenses) by BHEL EDN shall be fully borne by supplier subject to Government approvals. BHEL EDN will keep the rejected material for a maximum of 6 months, after which, if supplier is not willing to take back, BHEL EDN reserves the right to dispose them without any claim by supplier.
22. **Warranty:** For the materials supplied, warranty of a minimum of 12 months from the date of receipt of material at BHEL EDN shall be applicable unless expressly and mutually agreed differently.
23. **Payment of Agency commission to Indian Agent:** Supplier shall give a certification to the following effect:
  - 23.1. Supplier confirms and declares to BHEL EDN that the supplier is the original manufacturer of the material(s) referred to in this enquiry and has not engaged any individual or firm, whether Indian or Foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, to the award of Purchase Order to the supplier; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. Supplier agrees that if it is any way incorrect or if at a later stage, it is found by BHEL EDN that the supplier has engaged any such individual / firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after PO placement / delivery, supplier will be liable to refund that amount to BHEL EDN. Supplier will also be debarred from entering into any supply order with Government of India for a minimum of five years. BHEL EDN will also have a right to consider cancellation of the order wither wholly or in part, without any entitlement or compensation to supplier who shall in such event be liable to refund all payments made by BHEL EDN in terms of order along with interest at the rate of 2% per annum above the LIBOR rate. BHEL EDN will also have the right to recover any such amount from any order concluded earlier with Government of India.
  - 23.2. BHEL EDN would like to procure the materials enquired directly from supplier and not to involve services of Indian Agent for the procurement. Quotation submitted by Indian Agent of supplier is not acceptable and liable to be rejected. However, if supplier would like to involve their Indian Agent for supply of materials enquired, supplier may furnish the following information along with the quotation.
    - a) Registration status of Indian Agent with DGS&D and BHEL
    - b) Commission payable to Indian Agent and percentage
    - c) Currency in which payable to Indian Agent
    - d) If the agency commission is payable by foreign principal / OEM, such commission shall be received by Indian agent through inward FFE remittance through banking channels and disbursed in Rupees only.
    - e) Tax deduction at source is applicable to the agency commission paid to Indian agent as per prevailing rules.

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- f) If the respective Indian agent is not registered with DGS&D or BHEL, is required to register with BHEL by providing the following information for registration.
    - i) Name of foreign firm / OEM represented by Indian agent
    - ii) Agency agreement
    - iii) Permanent Account Number (PAN), Name, Address of bankers in India and abroad.
    - iv) Nature of services to be rendered by Indian Agent and percentage of commission payable to Indian agent by principal / OEM.
  - g) All particulars relating to Agency commission will be reported to enforcement directorate of Income Tax Department, India.
  - h) Undertaking to be submitted by Indian agent that the agency commission would be accepted in Indian Rupees only and through inward FFG remittance through banking channel for the services rendered towards execution of order.
24. Any dispute arising out of this, shall be referred to the sole arbitration of Head of Dept. Materials Management of group concerned, BHEL EDN or any other officer nominated by him and his award shall be final and binding on the parties. The venue of the arbitration in all cases shall be Bangalore.
25. Any legal suit in respect of this enquiry lies in the Court of Bangalore, India only.