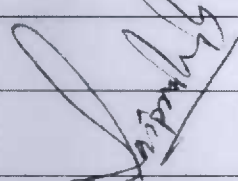
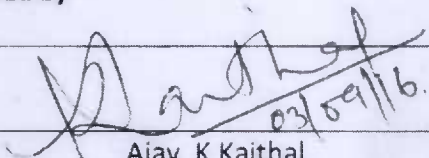
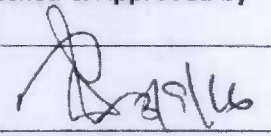




स्टील फाउंड्री / STEEL FOUNDRY
सेंट्रल फाउंड्री फॉर्ज प्लांट / CENTRAL FOUNDRY FORGE PLANT
भारत हेवी इलेक्ट्रिकल्स लिमिटेड / BHARAT HEAVY ELECTRICALS LIMITED
SPECIFICATION FOR CONTINUOUS SAND MIXER CAPACITY 3 MT/Hour
SPECIFICATION NO. FT/SP/71 REV 00

Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
Vendor must confirm/specify details as demanded against each clause of this specification. Inadequate/incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance. In case of response is "NO" against any clause the justification of that may be provided separately mentioning the clause number with its detail however non acceptance generally will be considered as noncompliance and hence offer may be rejected.			
1.0	OBJECTIVE:		
1.1	Sand Mixer shall deliver sand mixed with Acid/Alkaline phenolic Resin and its corresponding Catalyst at the rate of 3 MT per hour from start till the required quantity is drawn for use in preparing moulds/cores.	Vendor to confirm	
1.2	Ingredients to be mixed in selectable ratio : 1- Acidic Resin 1.6 % , catalyst 50 % of Resin & Chromite or silica sand (approximately) 2- Alkaline Resin 2.2% , Catalyst 25 % of resin & Chromite or silica sand (approximately)	Vendor to take note and confirm	
2.0	PRE-QUALIFICATION CRITERIA:		
2.1	Offer shall be considered from original manufactures only.	Vendor to provide certificate of incorporation.	
2.2	The manufacturer should have supplied equipments as specified in Clause 1.1 of the capacity 2 MT or above. Proof of supply of at least 4 numbers of similar equipment of capacity 2 MT/hour or above in last seven years (year ending tender opening date) to be submitted along with offer.	To be submitted: Purchase orders copies of supplies, preferably with performance certificate	
3.0	SCOPE OF SUPPLY: Scope of supply includes design, manufacturing, supply, erection and commissioning of the Continuous Mixer at CFFP/BHEL Haridwar. The technical and general requirements of the Continuous Mixer are given below.		
3.1	Sand Mixer shall have Double Arm. First arm shall have suitable sand conveying system to receive sand from hopper and deliver to the second arm. Second arm shall house mixing shaft with easy	Vendor to take note and confirm	

Prepared by		Checked & Approved by
	 03/09/16	
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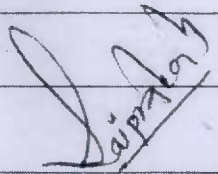
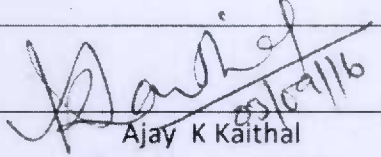
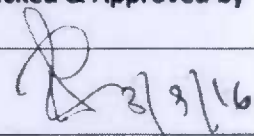
सेंट्रल फाउंड्री फोर्ज प्लांट / CENTRAL FOUNDRY FORGE PLANT

भारत हेवी इलेक्ट्रिकल्स लिमिटेड / BHARAT HEAVY ELECTRICALS LIMITED

SPECIFICATION FOR CONTINUOUS SAND MIXER CAPACITY 3 MT/Hour

SPECIFICATION NO. FT/SP/71 REV 00

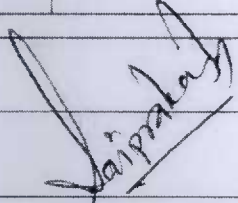
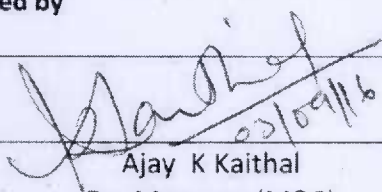
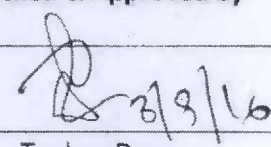
Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
	accessibility for cleaning purpose. The trough shall easily open out for cleaning and changing of blades. The hardened blades should have Tungsten Carbide tip, mounted on the mixing shaft. The blades should have interchangeability. The discharge gate shall be atleast 1 meter above ground level.		
3.2	The end of the mixing shaft should be supported by a heavy duty Bearing and protected by seals. The Bearing and the seals should be on the outside of Mixing Trough. Controlling flow of sand, adjusting ratio of different Sands from storage hoppers by the machine shall be in the scope of supply.	Vendor to take note and confirm	
3.3	Catalyst Pump should be adjustable stroke piston pump with variable speed. Catalyst shall be injected first followed by resin in the Mixer Arm Casing through Filter and Nozzles after arrival of first flow of dry sand. During mixing calibrated amount of Resin and Catalyst shall flow through nozzles in atomized form.	Vendor to take note and confirm	
3.4	Mixer base shall be made of a steel structure with space for housing pumps etc. on the top of the base.	Vendor to take note and confirm	
3.5	Double oil seals shall be provided to take care of extreme dust conditions in the Foundry.	Vendor to take note and confirm	
3.6	All gates of Sand flow should be non-sticking type with electromagnetically controlled valves and pneumatic cylinders.	Vendor to take note and confirm	
3.7	The power supply available at CFFP works is 415 Volt $\pm$ 10 % AC, 50 Hz and the machine should be amenable for operation with the above power supply.	Vendor to take note and confirm	
3.8	The supplier shall give guarantee for trouble free operation of the equipment for a period of twenty four months from the date of commissioning.	Vendor to take note and confirm	

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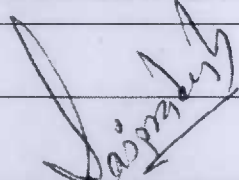
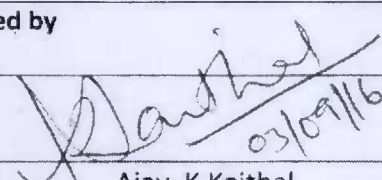
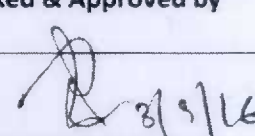
Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
3.9	Vendor has to ensure actual performance of the equipment by running equipment for atleast 3 Hrs continuously on full load for 3 times. IN each trial, samples of sand mix from the mixer shall be drawn at regular interval of 30 minutes starting 5 minutes of zero time and tested for following properties in CFFP laboratory to check consistency in flow of ingredients and their mixing. (1) Dry Compressive Strength at 4 hours and 24 hours (2) Bench Life	Vendor to take note and confirm	
4.0	<u>TECHNICAL REQUIREMENTS:</u>		
4.1	Capacity of the Continuous Mixer 3 MT per Hr.	Vendor to take note and confirm	
4.2	Resin Pump Capacity to dispense 45 Kg. to 65 Kg. per Hr. where type of Resin shall be Acidic or Alkaline phenolic type.	Vendor to take note and confirm	
4.3	Catalyst Pump Capacity to dispense 20 Kg. to 35 Kg. per Hr.	Vendor to take note and confirm	
4.6	Power Supply Requirement : 415 V , 3 Phase 50 Hz AC only	Vendor to take note and confirm	
4.7	Type of Sand to be mixed shall be Chromite Sand or Silica Sand	Vendor to take note and confirm	
4.8	Continuous Mixer shall be used in a Steel Foundry environment. All parts of mixer shall be rugged & Sturdy enough to work continuously in Foundry conditions having high dust & fumes level.	Vendor to take note and confirm	
5.0	<u>GENERAL REQUIREMENTS:</u>		
5.1	Machine should be of portable nature with proper lifting arrangements so that it could be shifted from one location to another using EOT cranes.	Vendor to take note and confirm	

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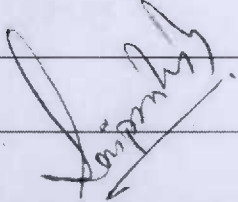
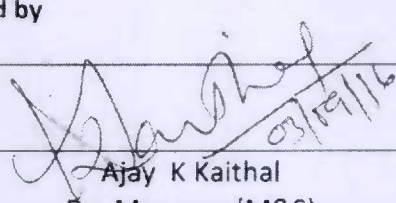
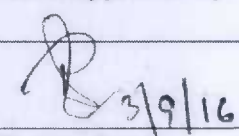
Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
5.2	The equipment should be workable under conditions of heavy fumes & dust associated with steel foundry. Ambient temperature may vary from 3 to 50°C with relative humidity 95% RH max.	Vendor to take note and confirm	
5.3	Vendor should ensure proper earthing for the equipment and its peripherals/accessories.	Vendor to confirm	
5.4	System should be safe electrically or otherwise and must have visible and audible warning as applicable on occurrence of any fault and/or approaching threshold limit of critical parameter.	Vendor to confirm	
5.5	The equipment should work with sound level below 80 decibel	Vendor to confirm	
5.6	Before manufacturing of Continuous sand Mixer Vendor shall submit the GA Drawing and get it approved from CFFP/BHEL. Manufacturing of equipment shall be done as per CFFP/BHEL approved GA drawing.	Vendor to confirm	
6.0	<u>PACKING</u>		
6.1	The equipment should be supplied in suitable packing to avoid any damage during handling, transit and storage.	Vendor to take note and confirm	
7.0	<u>DETAILS TO BE SUBMITTED ALONG WITH OFFER</u>		
	Following details to be submitted along with offer.		
7.1	Applicable drawings and calculation/chart of performance parameters.	Vendor to take note and submit	
7.2	- List of spares required for trouble-free operations for 2 years to be submitted. - The price of spares to be quoted separately.	Vendor to take note and submit	
8.0	<u>DOCUMENTS TO BE SUPPLIED ALONGWITH EQUIPMENT</u>		
	Five sets of following documents shall be supplied alongwith	Vendor to take	

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Sl. No.	Details	Requirement from Vendor	Vendor's Response Yes (OK) /No
	equipment:	note and confirm	
8.1	Operation and maintenance manual.	Vendor to take note and confirm	
8.2	Assembly drawings, Electrical circuit diagram showing the placement of components/parts alongwith make, rating and specification.	Vendor to take note and confirm	
8.3	Details of all bought out items with their specification, addresses of Vendors.	Vendor to take note and confirm	
8.4	Test certificate and guarantee certificate for the equipment as a whole and test certificate of individual bought out components.	Vendor to take note and confirm	
9.0	INSPECTION		
9.1	BHEL reserves the right to inspect equipment at site before dispatch. The supplier shall be given prior intimation in such case. However inspection at BHEL shall be final. The supplier shall offer BHEL representative all reasonable test facilities without charge to satisfy the latter that the equipment is being furnished in accordance with this specification.	Vendor to take note and confirm	
9.2	The equipment shall be tested at CFFP, BHEL and will be binding on supplier. If the equipment received at CFFP is not found in accordance with the requirements, it shall be rejected.	Vendor to take note and confirm	

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