

	<u>BHARAT HEAVY ELECTRICAL LIMITED</u>			Enquiry No. :	
	<u>UNIT'S ADDRESS:</u>			Due Date :	
	<u>CONTACT PERSON'S NAME/DESIGN./PHONE NO./E-MAIL (FROM PURCHASE DEPTT.)</u>			Supplier Qtn. No.:	
				Date :	
SPECIFICATION CUM COMPLIANCE CERTIFICATE OF FLUX BAKING OVEN.					
NOTE:-					
	1. Vendor must submit complete information against clause no. 21. The offer meeting this clause would only be processed.				
	2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.				
	3. The offer and all documents enclosed with offer should be in English language only.				
NAME & ADDRESS OF THE SUPPLIER :			NAME &		
TELEPHONE NOS.:			TELEPHONE		
FAX NOS.:			FAX NOS.:		
E-MAIL ADDRESS :			E-MAIL ADDRESS		
SCOPE: SUPPLY, ERECTION & COMMISSIONING OF FLUX BAKING OVEN:					

SNO	DESCRIPTION FOR BHEL REQUIREMENT	Specified / Confirmed by:	Offered	Deviations	Remarks
1	Storage space \geq 200 liters (approx)	Vendor to confirm			
2	Storage capacity \geq 300 Kg (approx)	Vendor to confirm			
3	Top loading of flux.	Vendor to confirm			
4	The flux compartment shall have sloping bottom to provide gravity flow dispensing through manual slide valve at front face of oven.	Vendor to confirm			
5	Temperature Range at least between: 100° c to 400° c	Vendor to confirm			
6	Temperature Uniformity with in: \pm 10° c	Vendor to confirm			
7	Time taken to achieve uniformly distributed temperature of 400 ° c: \leq 6 hrs	Vendor to specify			
8	Heating Element (Vendor to specify details)	Vendor to specify			
9	CONSTRUCTION:				
9.1	The Oven should be of robust construction with adequate stiffeners for longer life .	Vendor to confirm			
9.2	The unit shall be portable type and should be mounted on wheeled trolley for easy movement, it should also be provided with suitable lugs/eye bolts for lifting by cranes.	Vendor to confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	Specified / Confirmed by:	Offered	Deviations	Remarks
10	INSULATION : The oven should be suitably insulated with high quality fibreglass material of thickness such that the skin temperature should not be more than 25°C above ambient at oven operating temperature of 400°C.	Vendor to confirm			
11	Uniform Heating : of flux to be ensured through segregated/distributed heating elements/rods over the entire volume and not on surface only.	Vendor to confirm			
12	Doors : Door duly lined with insulation material and proper sealing arrangement through out the circumference of the door for better sealing effect.	Vendor to confirm			
13	OPERATION AND CONTROL SYSTEM:				
13.1	TEMPERATURE CONTROL : By full indicating PID (proportional, integral, derivative) controller using thermocouple.	Vendor to confirm			
13.2	Controller make: EUROTHERM/ YOKOGAWA/ CHINO-LAXON/ HONEYWELL /ABB	Vendor to specify			
13.3	The high-limit safety cut-off system shall be separate from temperature controller. It shall shut down the oven heat when the oven temperature reaches the high-limit set point. Audio/visual trip alarm shall also be provided.	Vendor to confirm			
13.4	CONTROL PANEL : Duly wired and ferruled as per International/Indian standards and housing necessary Power ON/OFF switch, instruments, switchgears, indication lamps(LED type) and other accessories shall be provided. It should be suitably placed to ensure adequate insulation / protection from heat.	Vendor to confirm			

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14	PAINTING : The oven should be painted with heat resistant paint.	Vendor to confirm			
15	ELECTRICAL/ ELECTRONIC SYSTEM :				
15.1	415V $\pm 10\%$, 50HZ $\pm 3\%$, 3 Phase AC (3 wire system with out neutral) or 240 V $\pm 10\%$, 50HZ single phase. Power Supply Source will be provided by BHEL at a single point near the equipment.	Vendor to confirm			
15.2	Equipment to be equipped with protection to prevent overheating, usage beyond permissible duty cycle, over voltage/under voltage etc.	Vendor to confirm			
15.3	Dust , heat and vermin proof.	Vendor to confirm			
16	SPARES:				
16.1	Unit price List of itemised breakup of mechanical, electrical and electronic spares used on the equipment in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation. (Unit Price of each item of spare should be offered)	Vendor to confirm			
16.2	All types of spares for total equipment and accessories should be available for at least ten years after supply of the equipment. If equipment or control is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required .	Vendor to confirm			
16.3	Recommended set of spares to be offered with the equipment	Vendor to specify			
17	DOCUMENTATION : Three sets of following documents (Hard copies) in English language should be supplied along with the equipment	Vendor to confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	Specified / Confirmed by:	Offered	Deviations	Remarks
17.1	Detailed Operation and Maintenance manual of equipment which shall contain System Description, Block diagram, Schematic drawings, Circuit diagrams & hardware details, Trouble shooting charts.	Vendor to confirm			
17.2	One additional set of all the above documentation on CD ROM, wherever possible.	Vendor to confirm			
18	Test to be carried out at BHEL works while commissioning the equipment :				
18.1	Demonstration of all features of the equipment & all accessories to the satisfaction of BHEL for their efficient and effective use.	Vendor to confirm			
18.2	Training of BHEL operation / maintenance persons for operation / maintenance of complete equipment & accessories etc by the supplier.	Vendor to confirm			
18.3	Instrument must be calibrated and proved against setting knob as well as against actual current measured by tong tester while welding a job.	Vendor to confirm			
19	GUARANTEE :12 months from the date of acceptance of the equipment.	Vendor to confirm			
20	GENERAL: The vendor should submit the following information:				
20.1	Equipment Model	Vendor to specify			
20.2	Total connected load (KVA):	Vendor to specify			
20.3	Floor area required (Length, Width, Height) for complete equipment & accessories and total weight of the equipment.	Vendor to specify			
20.4	Detailed catalogues , sketch/ photographs of the m/c and accessories/ attachments should be submitted with the offer.	Vendor to confirm			

SNO	DESCRIPTION FOR BHEL REQUIREMENT	Specified / Confirmed by:	Offered	Deviations	Remarks
21	EVALUATION CRITERIA / QUALIFYING REQUIREMENT: <p>Makes of world renewed companies who have supplied at least Ten Flux baking oven of 200 liters size or more with uniform heating at 400°C or higher capacity in the past ten years and such equipment is presently working satisfactorily for more than one year after commissioning/ six months in case of BHEL would be quoted in the tender. The following information is to be submitted by the vendor about the companies where similar equipments have been supplied.</p> <p>1. Name of the customer / company where similar equipment is installed.</p> <p>2. Complete postal address of the customer</p> <p>3. Year of commissioning.</p> <p>4. Name and designation of the contact person of the customer.</p> <p>5. Phone, FAX no. and email address of the contact person of the customer.</p> <p>6. Performance certificate from the customers regarding satisfactory performance of equipment supplied to them</p>	Vendor to confirm			