

Spec No, 5/200

BHARAT HEAVY ELECTRICAL LIMITED**UNIT'S ADDRESS:****CONTACT PERSON'S NAME/DESIGN./PHONE NO./E-MAIL (FROM PURCHASE DEPTT.)**

Enquiry No. : _____

Due Date : _____

Supplier Qtn. No. : _____

SPECIFICATION CUM COMPLIANCE CERTIFICATE OF SCARFING MACHINE**NOTE:-**

1. Vendor must submit complete information against clause no. 20.0 (Qualifying Condition). The offer meeting this clause would only be processed.
2. Vendor to furnish the offer using this standard template of the specification. While furnishing the offer, no change is to be made in the first three columns (i.e. 'S.NO.', 'DESCRIPTION FOR BHEL REQUIREMENT' & 'ACTION BY VENDOR'). Only 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.
4. Vendor should confirm/clarify/specify pointwise (all the points) as per specification and provide original technical leaflet, technical details, photograph, scope of supply etc. at the first instance.

NAME & ADDRESS OF THE SUPPLIER :**NAME & ADDRESS OF THE INDIAN AGENT :****TELEPHONE NOS.:****TELEPHONE NOS.:****FAX NOS.:****FAX NOS.:****E-MAIL ADDRESS :****E-MAIL ADDRESS :****SCOPE: SUPPLY, INSTALLATION & COMMISSIONING OF SCARFING MACHINE COMPLYING WITH SPECIFICATION AS BELOW :**

Signature for BHEL *Signature for Indian Agent* *Signature for execution department*

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT				ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
1.0	PURPOSE & WORKPIECE MATERIAL							
1.1.1	Purpose: Proposed scarfing machine shall be used for scarfing / bevelled at the edges of 1.5 mm to 6 mm thickness precompressed pressboard to avoid build up at the joint during the making of cylinder. A drawing 42069133501, rev : 00 indicating the details of required scarfing on different thickness of pressboard is enclosed for reference only.				VENDOR TO NOTE			
1.1.2	Work piece material: Precompressed pressboard of 1.5 mm to 6 mm thickness X 3200 mm width x 4500 mm length.				VENDOR TO NOTE			
1.1.3	Quantity : 1 set.				VENDOR TO NOTE			
2.0	MACHINE CONFIGURATION : Scarfing machine should be of robust in construction with cast iron base frame and of latest proven compact design which guarantees reliable service, most convenient and safe operating conditions, best quality production and least maintenance requirements. Scarfing machine shall consist the following : 1. Table. 2. The holding down arrangement for pressboard. 3. The cutter and swivelling arrangement and 4. Feed arrangement. 5. Dust collector system General Arrangement Drawing of machine and Bill of material to be furnished for the approval of BHEL before manufacturing. (Vendor to furnish details of material, hardness & constructional details including explanatory drawings of various components/assemblies)				VENDOR TO CONFIRM			
2.1	TECHNICAL SPECIFICATION :							
2.1.1	Table : The table should be with ball rollers on the top for easy handling of large size of pressboard sheets. It should be fitted with a suitable stopper arrangement on the scarfing end to keep the sheet parallel to the line of movement of scarfing cutter.				VENDOR TO CONFIRM			
2.1.1.1	Table size : 3400 mm x 1000 mm				VENDOR TO CONFIRM			
2.1.1.2	Height of table : 1000 mm				VENDOR TO CONFIRM			
2.1.1.3	1.2 meter extension table support : 3 Nos.				VENDOR TO CONFIRM			
2.1.2	Holding down arrangement : The holding down arrangement to be mounted on table to hold down the pressboard sheets at equal intervals. It should be adjustable so that the holding down will be as near to the cutter as required different thickness of pressboard being scarfed. It should be 6 Nos. (minimum) pneumatic type cylinder equally spaced and should be capable of exerting the pressure and its return by the help of compression springs. All the cylinder should be actuated by a single control valve.				VENDOR TO CONFIRM			

for execution Amendment

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
2.1.3	Cutter arrangement : The cutter is to be mounted on arbour and the arbour should be able to swing in vertical plane. The cutter is to be with 6 helical cutting edge.	VENDOR TO CONFIRM			
2.1.3.1	Cutter diameter : 100 mm	VENDOR TO CONFIRM			
2.1.3.2	Length of cutter : 250 mm	VENDOR TO CONFIRM			
2.1.3.3	RPM of spindle : 4000 (maximum)	VENDOR TO CONFIRM			
2.1.3.4	Spindle motor : 3 HP (minimum)	VENDOR TO CONFIRM			
2.1.3.5	Two sets of cutter with detail drawing and material specification is to be supplied along with machine.	VENDOR TO SPECIFY			
2.1.4	Feed arrangement : The complete cutter arrangement with motor should be mounted on a bed with lead screw arrangement to enable the cutter arrangement to travel the entire length of table.	VENDOR TO CONFIRM			
2.1.4.1	Rate of forward travel : Variable speed	VENDOR TO CONFIRM			
2.1.4.2	Rate of return travel : Variable speed	VENDOR TO CONFIRM			
2.1.4.3	Feed motor : 7.5 HP (minimum)	VENDOR TO CONFIRM			
2.1.5	Dust Management system (1 set):- Self contained Dust collector system, duct and connector shall be provided	VENDOR TO SPECIFY			
2.1.5.1	The dust management system shall be such that it can be integrated with scarfing machine.	VENDOR TO CONFIRM			
2.1.5.2	It shall be compatible with 440V supply.	VENDOR TO CONFIRM			
2.1.5.3	Motor : 5 HP (Minimum)	VENDOR TO CONFIRM			
2.1.5.4	Device shall consist of washable and easily replaceable filters.	VENDOR TO SPECIFY			
2.1.5.5	Initially the dust collector to be supplied with two additional filters as spares.	VENDOR TO CONFIRM			
2.1.5.6	Device shall be able to work in ambient conditions where temperatures may go up to 50°C	VENDOR TO CONFIRM			
2.1.5.7	Device shall have standard electrical fittings conforming to all IS standards.	VENDOR TO CONFIRM			
3.0	FEATURES : following features shall be provided on the machine.	VENDOR TO CONFIRM			
3.1	Helical profile hardened and ground tooling for even shaping.	VENDOR TO CONFIRM			
3.2	Accurate feeding system for the cutting head.	VENDOR TO CONFIRM			
3.3	Taper angle adjustment system as per enclosed drawing.	VENDOR TO CONFIRM			
3.4	Shaping head movement in UP Down, side ways movement for setting of angle.	VENDOR TO CONFIRM			
3.5	LM guide will be provided for the movement of carriage.	VENDOR TO CONFIRM			
3.6	Pneumatic clamping system with even clamping for sheet surface.	VENDOR TO CONFIRM			
3.7	Extension side table for sheet support.	VENDOR TO CONFIRM			
3.8	Scale for angle setting.	VENDOR TO CONFIRM			
3.9	Variation of sheet width of cutting can be adjusted using the guide and references.	VENDOR TO CONFIRM			

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4.0	CONTROL PANEL :- A frame mounted sheet metal control panel with powder coating shall be provided complete with MCCB for incoming Power Supply, all contactors, relays, starters, timer, single phasing preventer, MCCB & HRC fuses, step down transformer for control voltage etc.	VENDOR TO CONFIRM			
5.0	ELECTRICAL SYSTEM :				
5.1	415V +/-10%, 50HZ +/- 1.5 HZ, 3 Phase AC (3 wire system with out neutral) Power Supply Source will be provided by BHEL at a single point near the plant, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the plant/control cabinets, shall be the responsibility of vendor.	VENDOR TO CONFIRM			
5.2	Tropicalisation : All electrical / electronic equipment shall be tropicalized.	VENDOR TO CONFIRM			
5.3	All electrical & electronic control cabinets & panels should be dust and vermin proof and should be easily accessible for the maintenance purposes.	VENDOR TO CONFIRM			
5.4	All electrical components in the cabinets should be mounted on DIN Rail.	VENDOR TO CONFIRM			
5.5	Motors shall conform to IEC or Indian Standards. Make: NGEF / ABB / Alstom / Crompton Greaves / Siemens	VENDOR TO CONFIRM			
5.6	Vendor should ensure the proper earthing for the machine and its peripherals.	VENDOR TO CONFIRM			
5.7	All electrical fittings shall confirm to IE rules and IS/BIS standard.	VENDOR TO CONFIRM &			
5.8	All electrical equipments shall be suitably protected by HRC fuses/ MCBs/ Overload relays & single phase preventives. Make of all electrical equipment except motor : ABB / Siemens / CG	VENDOR TO CONFIRM			
5.9	The wires & cables shall be of fire retardent insulation.	VENDOR TO CONFIRM			
6.0	SAFETY ARRANGEMENTS :				
6.1	Following safety features in addition to other standard safety features should be provided on the machine :	VENDOR TO CONFIRM			
	1. Machine should have adequate and reliable safety interlocks in respect of Electrical, Mechanical, Hydraulic and Pneumatic devices to avoid damage to the machine, workpiece and the operator due to the malfunctioning or mistakes. Machine functions should be continuously monitored and alarm / warning indications through lights / alarm .	VENDOR TO CONFIRM			
	2. A detailed list of all alarms / indications provided on machine should be submitted by the supplier with the offer.	VENDOR TO FURNISH			
	3. All the pipes, cables etc. on the machine should be well supported and protected.	VENDOR TO CONFIRM			
	4. All the rotating parts used on machine should be statically & dynamically balanced to avoid undue vibrations and should also be covered with steel sheet or mesh.	VENDOR TO CONFIRM			
	5. Emergency Switches at suitable locations as per International Norms are to be provided.	VENDOR TO CONFIRM			
	6. Electrical control panel should be dust & vermin proof and sealed from entry of rodents.	VENDOR TO CONFIRM			
	7. Suitable fire protection scheme to be provided by supplier compatible to the system provided in BHEL.	VENDOR TO CONFIRM			

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
7.0	ENVIRONMENTAL PERFORMANCE OF THE MACHINE :				
7.1	The machine shall conform to following factors related to environment : (a) Maximum noise level shall be 85 dB(A) at normal load condition, 1 mtr away from the machine with correction factor for back ground noise, if necessary. This will be measured as per international standards like DIN 45635-16. Supplier to demonstrate compliance to noise level, if so required. (b) If any safety / environmental protection enclosure is required, it should be built in the machine by the vendor.	VENDOR TO CONFIRM VENDOR TO CONFIRM			
8.0	TOOLS FOR ERECTION, OPERATION & MAINTENANCE :	VENDOR TO CONFIRM			
8.1	Special tools and equipment required for erection of the machine shall be brought by the vendor (on returnable basis). However, the necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. for operation and maintenance of the machine should be supplied. List of such tools should be submitted with offer.	VENDOR TO FURNISH			
9.0	SPARES : (The offer for the spares is required to be quoted separately). Note : The price of spares will not be considered while evaluating the offers.	VENDOR TO CONFIRM			
9.1	All types of spares for total machine and accessories should be available with the vendor for atleast ten years after supply of the machine. If machine or control is likely to become obsolete in this period. The vendor should inform BHEL sufficiently in advance and provide drawing of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required.	VENDOR TO CONFIRM			
9.2	Recommended set of spares for all attachment are to be offered with details. List of required spares are to be submitted along with offer.	VENDOR TO CONFIRM & FURNISH THE LIST OF SPARES			
10.0	DOCUMENTATION : Three sets of following documents (Hard copies) in English language should be supplied along with the machine.	VENDOR TO CONFIRM			
10.1	Operating and maintenance manuals of Machine with electrical schematic diagram, all drawings of machine assemblies / sub-assemblies / parts.	VENDOR TO CONFIRM			
10.2	Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	VENDOR TO CONFIRM			
10.3	Detailed specification of all rubber items and hydraulic/lube fittings.	VENDOR TO CONFIRM			
10.4	Complete master list of parts used in the machine shall be submitted by the vendor.	VENDOR TO CONFIRM			
10.5	Guarante certificate of machine.	VENDOR TO CONFIRM			
10.6	Test certificate of bought out items and other parts used on machine.	VENDOR TO CONFIRM			
10.7	Detail drawing and material specification of cutters and tooling items used in machine.	VENDOR TO CONFIRM			

S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
11.0	PRE - DESPATCH INSPECTION AT SUPPLIER'S WORKS :				
11.1	Dimensional / Physical verification of machine, components / sub-assemblies and other accessories as per clause no. 2.0, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 3.0 and 4.0	VENDOR TO CONFIRM			
11.2	Demonstration of all features of machine, control system and all accessories.	VENDOR TO CONFIRM			
11.3	Verification of Test certificate of all bought out items, wherever applicable.	VENDOR TO CONFIRM			
11.4	The machine should be tested for continuous running of 8 hrs. If any break down occurs during this test, the test should be repeated for 8 hrs from that time.	VENDOR TO CONFIRM			
12.0	TRAINING :				
12.1	BHEL Persons should be trained at supplier's Works in the area of (a) Electrical & Electronic maintenance for machine & other supplied equipments. (b) Operation of the machine.	VENDOR TO CONFIRM			
12.2	Travelling-fare, boarding & lodging for the trainees shall be borne by BHEL.	VENDOR TO NOTE			
12.3	Vendor to specify the suitable number of days for training and quote accordingly in price bid .	VENDOR CONFIRM & SPECIFY THE DAYS			
13.0	CIVIL FOUNDATION :				
13.1	Vendor shall submit the preliminary Layout / General Arrangement drawing for getting BHEL's approval within one month from the letter of (LOI) / P.O. Foundation work will be executed by BHEL. However, a detailed foundation drawing with reinforcement details needs to be given by vendor within 4 weeks from the date of approval of Layout / General Arrangement drawing.	VENDOR TO CONFIRM			
13.2	LEVELING & ANCHORING SYSTEM : Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc shall be in the scope of vendor.	VENDOR TO CONFIRM			
14.0	INSTALLATION & COMMISSIONING :				
14.1	Supplier to take full responsibility for carrying out the installation, start up, testing of machine, its control system & all types of other supplied equipment etc.. Sufficient manpower required for installation and commissioning of supplied machine shall be arranged by the supplier. Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by supplier in their layout drawings. Other requirements like EOT crane and crane operator shall be provided by BHEL. Details of these requirements should be informed by vendor in advance.	VENDOR TO CONFIRM			
14.2	Successful proving of BHEL components by the supplier shall be considered as part of commissioning. All tests, as mentioned at clause 16.0 (PROVEOUT OF MACHINE) shall form part of the commissioning activity.	VENDOR TO CONFIRM			
14.3	Tools, Tackles, Test Mandrels, instruments and other necessary equipment including Laser equipment required to carry out all above activities should be brought by the supplier on returnable basis..	VENDOR TO CONFIRM			
14.4	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the supplier.	VENDOR TO CONFIRM			

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
14.5	Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or commissioning should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colours of paint used.	VENDOR TO CONFIRM			
14.6	Schedule of Erection and Commissioning shall be submitted with the offer.	VENDOR TO SPECIFY			
14.7	<i>Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.</i>	VENDOR TO CONFIRM			
15.0	AMBIENT CONDITIONS & THERMAL STABILITY :				
15.1	Total machine and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. Power Supply: Voltage: 415 V +/- 10% , Frequency: 50 Hz +/- 1.5 HZ. No. of phases = 3, no neutral Ambient Conditions: Temperature = 5 to 50 degree celsius Relative Humidity = 95% max. (Vendor to confirm that machine is suitable for above).	VENDOR TO CONFIRM			
15.2	Weather conditions are tropical. Atmosphere may be dust laden during some part of the year. Machine shall be kept in the normal shop floor condition. Max. temperature variation is up to 25 deg Celsius in 24 hours. (Vendor to confirm that machine is suitable for above).	VENDOR TO CONFIRM			
15.3	Thermal Stability of the complete machine keeping in view specified Ambient Conditions and accuracy requirements of BHEL components and trouble free operation of the machine should be ensured by vendor. (Vendor to confirm that machine is suitable for above).	VENDOR TO CONFIRM			
15.4	The machine, including attachments and accessories, should be suitable for continuous operation to its full capacity for 24 hours a day and 7 days a week throughout. (Vendor to ensure and confirm the same).	VENDOR TO CONFIRM			
16.0	PROVEOUT OF MACHINE :				
16.1	Complete prove out of machine shall be done by Vendor at BHEL works as per clause no. 2.1. Job for the prove-out of machine shall be provided by BHEL. Vendor shall be fully responsible for prove-out of machine as per drawing and other requirements specified by BHEL to the full satisfaction of BHEL. <i>Clarifications, if any required by vendor, regarding accuracy requirements of the machine, whether specified or not, should be discussed and cleared by vendor during initial technical discussions.</i>	VENDOR TO CONFIRM			

S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
16.2	Tests / Activities to be carried out by the vendor at BHEL works on specified workpiece material while commissioning the machine :	VENDOR TO CONFIRM			
16.2.1	Full load test to demonstrate the maximum power capacity of the machine as per clause no. 2.1.1, 2.1.2, 2.1.3 and attached drawing 42069133501.	VENDOR TO CONFIRM			
16.2.2	The machine should be tested for continuous running of 8 hrs. If any break down occurs during this test, the test should be repeated for 8 hrs from that time.	VENDOR TO CONFIRM			
16.2.3	Demonstration of all features of the machine & all accessories to the satisfaction of BHEL for their efficient and effective use.	VENDOR TO CONFIRM			
16.2.4	Demonstration by actual use of all supplied attachments and accessories to their full capacity.	VENDOR TO CONFIRM			
16.2.5	Two weeks supervision of independent operation of machine by BHEL after job proveout.	VENDOR TO CONFIRM			
16.2.6	Training of BHEL machine operator and maintenance personnel for operating and maintenance of complete machine and accessories etc. by the supplier's experts / service engineer during commissioning at BHEL works.	VENDOR TO CONFIRM			
17.0	PACKING :				
17.1	Standard & rigid packing for all items of complete machine, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is despatched in containers, all small loose items shall be suitably packed in boxes.	VENDOR TO CONFIRM			
18.0	GUARANTEE : <i>Guaranteed</i>				
18.1	24 months from the date of acceptance of the machine.				
18.0	GENERAL : The Vendor should submit the following information :	VENDOR TO CONFIRM			
19.1	Machine Model :	VENDOR TO SPECIFY			
19.2	Total connected load (KVA) :	VENDOR TO SPECIFY			
19.3	Floor area required (Length, Width, Height) for complete machine & accessories :	VENDOR TO SPECIFY			
19.4	Painting of Machine/Electrical Panels : Polyurethane Paint (Preferably Apple Green)	VENDOR TO CONFIRM & SPECIFY			
19.5	Total weight of the machine.	VENDOR TO SPECIFY			
19.6	Vendor to submit, along with offer, the reference list of customers where such machines have been supplied mentioning the customer, PO. No. with date, machine Model, major specifications of the supplied machine, Year of Supply etc.	VENDOR TO FURNISH			
19.7	Detailed catalogues / General Arrangement Drawing of the machine and accessories/ attachments should be submitted with the offer.	VENDOR TO FURNISH			

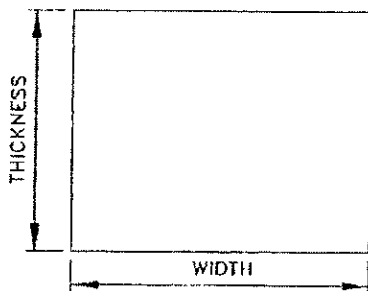
S. NO.	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	DEVIATIONS	REMARKS
20.0	QUALIFYING CONDITIONS :				
20.1	The vendor should either be an Original Equipment Manufacturer (OEM) or authorized dealer of the OEM of the offered machine. Dealers have to submit valid Certificate of Authorization of the OEM for quoting for the machine. The Certificate of Authorization must be submitted along with the offer.	VENDOR TO CONFIRM			
20.2	The vendor must have supplied and commissioned at least one " Scarfig machine or bevelling machine " in the past five years (from the tender opening date) and such machine is working satisfactorily for more than one year after commissioning.	VENDOR TO CONFIRM			
20.3	Following information is to be submitted by the bidder about the companies where such machine have been supplied. This is required from all the vendors for qualification of their offer .	VENDOR TO NOTE			
20.3.1	Un-priced purchase order copy of earlier supplied scarfig machine in line with Clause no. 20.2 .	VENDOR TO FURNISH			
20.3.2	Complete postal address of the customer.	VENDOR TO SPECIFY			
20.3.3	Month & Year of commissioning.	VENDOR TO SPECIFY			
20.3.4	Details of equipment supplied & application for which it is used.	VENDOR TO SPECIFY			
20.3.5	Name and designation of the contact person of the customer.	VENDOR TO SPECIFY			
20.3.6	Phone and email address of the contact person of the customer.	VENDOR TO SPECIFY			
20.3.7	Performance certificate from the customer (in the name of bidder or their OEM) regarding satisfactory performance of the scarfig machine supplied to them. The Performance Certificate should be recently issued (i.e. its date of issue should not be more than 1 year old than from the tender opening date).	VENDOR TO FURNISH			
20.3.8	Financial standing through latest I.T.C.C annual report (balance sheet, profit & loss statement and ITR) of last 3 years ending 31st march.	VENDOR TO FURNISH			
20.3.9	BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false / incorrect, the offer shall be rejected.	VENDOR TO CONFIRM			

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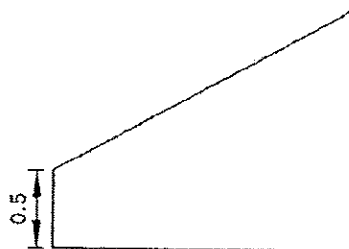
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL
		CHECKED			CHECKED	INFORMATION
		APPROVED			APPROVED	
						STATUS OF
						DRAWING
						DISTRIBUTION
						OF PRINTS



PRESSBOARD BEFORE SCARFING



PRESSBOARD AFTER SCARFING

THE EDGE TO FORM THE JOINT, SHALL BE SCARFED OF PRESSBOARD TO THE FOLLOWING EDGE THICKNESS AND WIDTH.

1. THICKNESS OF SHEET = 1.5 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 45 MM.
2. THICKNESS OF SHEET = 2 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 60 MM.
3. THICKNESS OF SHEET = 5 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 90 MM.
4. THICKNESS OF SHEET = 4 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 120 MM.
5. THICKNESS OF SHEET = 5 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 150 MM.
6. THICKNESS OF SHEET = 6 MM, EDGE THICKNESS = 0.5 MM, SCARFING WIDTH = 180 MM.

REF. DRG. NO.

SIGN. & DATE

INVENTORY NO.



BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

NAME	SIGN.	DATE	NO. OF VAR.
DRN S. BHAGAT		31.05.19	
CKD D. SINGH		31.05.19	
APPR ADRAWAL		31.05.19	
			NO. OF ITEM
			00
DRAWING NO.			REV.
42069133501			00
SHT. No. 01		NO. OF SHT. 01	

DEPT. TRM
CODE 206

TITLE

SCARFING OF PRESSBOARD