



**BHARAT HEAVY ELECTRICALS LIMITED**

**HEEP HARIDWAR INDIA-PIN 249403**

**FAX NO: 0091 1334 226462**

**PHONE NO: 01334 285076**

**REQUIREMENT OF CASTINGS:**

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators, Defense Items and so on.

Details of items details as below:

Sl. No.	MAT CODE	ITEM DISCREPTION	Quantity	UOM	Delivery DAYS
1	W93078299309	HOUSING (OTO DRG 1576-99-167 FOR FINISH PART NO 1576-20-107) N.STD: UNI 3051 SIZE: 0-78299-51670 GRADE: G-AL SI 9 MN MG	11	NOS	180 DAYS
2	W93078238016	SAND CASTING FOR BOX AS PER DRAWING 0-78299-51500 (OTO DRG NO 1576-99-150 FOR FINISH PART NO 1576-38-100) N.STD: UNI 3599 SIZE: 157699150,157638100 GRADE: G-AL SI 7 MG	12	NOS	180 DAYS
3	W93078299317	COVER (OTO DRG NO 1576-99-166 FOR FINISH PART NO 1576-20-106) N.STD: UNI 3051 SIZE: 2-78299-51660 GRADE: G-AL SI 9 MN MG	13	NOS	180 DAYS
4	W93078220010	CASTING FOR COVER AS PER DRAWING 2-78220-21370 (FOR OTO PART NO 1276-20-137) N.STD: UNI 3051 SIZE: P/N 127620137 GRADE: G-AL SI 9 MN MG	13	NOS	180 DAYS
5	W93078205029	CASTING FOR HAND WHEEL AS PER DRAWING 1-78205-26660 (FOR OTO PART NO. 1276-05-666) N.STD: UNI 3051 SIZE: P/N 127605666 GRADE: G-AL SI 9 MN MG	13	NOS	180 DAYS
6	W93078218023	HOUSING CASTING FOR DRAWING NO 17821812462(OTO PN 127618462) N.STD: UNI 3051 SIZE: P/N 127618462 GRADE: G-AL SI 9 MN MG	13	NOS	180 DAYS

7	W93078218031	COVER CASTING AS PER DRAWING NUMBER 2-78218-24630 (FOR OTO PART NO. 1276-18-463) N.STD: UNI 3051 SIZE: P/N 127618463 GRADE: G-AL SI 9 MN MG	13	NOS	180 DAYS
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1. TECHNICAL DELIVERY CONDITIONS (TDC) **ENGG/MTE/DFP-C/95/1 Rev-02 & ENGG/MTE/DFP-C/95/2 Rev-02** ARE ENCLOSED.
2. ALL VENDORS TO PROVIDE POINT WISE REPLY/CONFIRMATION ALONG WITH RELEVANT SUPPORTING DOCUMENTS TO EACH AND EVERY POINT OF **PRE-QUALIFICATION REQUIREMENT/PQR** FOR ALL ENQUIRY ITEMS. NONCOMPLIANCE OF THESE MAY LEAD TO REJECTION OF OFFER AS THESE ARE ESSENTIAL CONDITION FOR PARTICIPATING IN TENDER ENQUIRY.
3. VENDOR TO SUBMIT DULY FILLED, SIGNED & STAMPED **PQR SHEETS** ALONG WITH SUPPORTING DOCUMENTS REQUIRED AS PER CLAUSES ALONG WITH OFFER.
4. VENDOR TO SUBMIT DULY FILLED, SIGNED & STAMPED **COMMERICAL & QUALITY CHECKLIST** SHEET ALONG WITH SUPPORTING DOCUMENTS ALONG WITH OFFER.
5. VENDOR TO SUBMIT DULY SIGNED & STAMPED **DRAWINGS & TECHNICAL DELIVERY CONDITION (TDC)** ALONG WITH OFFER.
6. EARLY DELIVERY IS ACCEPTABLE.
7. **QUALITY REQUIREMENT:**
  - a) VENDORS TO CONFIRM FOR INSPECTION BY BHEL/BHEL TPIA AS PER ATTACHED BHEL APPROVED QUALITY PLAN (QA/DF/QP/AL Casting DATED 30.06.2025).
  - b) VENDORS TO SUBMIT ENDORSED COPY (SIGNED & STAMPED) OF QAP QA/DF/QP/AL Casting DATED 30.06.2025 ALONG WITH OFFER

**QUALIFYING CONDITIONS for CASTINGS**

<b>Sl. no.</b>	<b>PQR Requirement</b>	<b>Action</b>	<b>Vendor Response (Yes / No)</b>
1.	who can manufacture or supply CASTINGS as per BHEL drawings.	Vendor to confirm	
2.	who can arrange material as per drawing. In case of any deviation/substitution, prior approval is required from BHEL.	Vendor to confirm	
3.	who can provide Material Test Certificate (MTC) from NABL certified / Govt. approved Labs/ OEM certified labs.	Vendor to confirm	
4.	There shall be no pending rejections of supplied PO.	Vendor to confirm	
5.	who can provide Radiography Test reports	Vendor to confirm	
6.	<i>Point numbers 1 to 5 are the Mandatory Qualification Requirements. Offers of vendors not meeting these requirements will NOT be considered.</i>	Vendor to accept & confirm	

AGM/DPE

## Technical Check-List

SL	Mat code	Description	Material Grade	Finished Drawing (attached)	TDC (for material Properties, tolerance, casting radius and other terms)	Unit	Vendor to Confirm
1	W93078299309	Housing Casting in rough machined condition for finished PN - 07822018107	G-AL SI 9 MN MG AS PER UNI 3051	07822018107	ENGG/MTE/DFP-C/95/2 Rev-02	NO	
2	W93078238016	Sand Casting for Box in rough machined condition for finished PN -07823818100	G-AL SI 7 MG AS PER UNI 3599	07823818100	ENGG/MTE/DFP-C/95/1 Rev-02	NO	
3	W93078299317	Casting for cover in rough machined condition for finished PN - 27822018106	G-AL SI 9 MN MG AS PER UNI 3051	27822018106	ENGG/MTE/DFP-C/95/2 Rev-02	NO	
4	W93078220010	Casting for cover in rough machined condition for finished PN - 27822012137	G-AL SI 9 MN MG AS PER UNI 3051	27822012137	ENGG/MTE/DFP-C/95/2 Rev-02	NO	
5	W93078205029	Casing for hand wheel in rough machined condition for finished PN - 17820512666	G-AL SI 9 MN MG AS PER UNI 3051	17820512666	ENGG/MTE/DFP-C/95/2 Rev-02	NO	
6	W93078218023	Housing Casting in rough machined condition for finished PN - 17821812462	G-AL SI 9 MN MG AS PER UNI 3051	17821812462	ENGG/MTE/DFP-C/95/2 Rev-02	NO	
7	W93078218031	Cover Casting in rough machined condition for finished PN - 27821812463	G-AL SI 9 MN MG AS PER UNI 3051	27821812463	ENGG/MTE/DFP-C/95/2 Rev-02	NO	

NOTE: CODE W93078299309 AND W93078299317 IS CLASS "B" CASTING AS PER OTO-CO-55. CASTING SHOULD MEET ALL REQUIREMENTS INCLUDING RADIOGRAPHY FOR CLASS "B" CASTINGS GIVEN IN OTO-CO-55.

## COMMERCIAL & QUALITY CHECKLIST

SL. NO.	TERMS & CONDITION	VENDOR'S CONFIRMATION /REMARKS / REPLY
<b>TENDER DETAILS</b>		
1	COMPANY / FIRM NAME OF BIDDER	
2	GEM BID NO	
<b>TECHNICAL REQUIREMENTS</b>		
3	TECHNICAL DELIVERY CONDITIONS (TDC) AS PER ENGG/MTE/DFP-C/95/1 Rev-02 & ENGG/MTE/DFP-C/95/2 Rev-02	
4	VENDOR TO SUBMIT DULY FILLED SIGNED & STAMPED <b>TECHNICAL CHECKLIST</b>	
<b>QUALITY REQUIREMENTS</b>		
5A	VENDOR TO CONFIRM FOR INSPECTION BY BHEL/BHEL TPIA AS PER ATTACHED BHEL APPROVED QUALITY PLAN (QA/DF/QP/AL Casting DATED 30.06.2025)	
5B	VENDOR TO SUBMIT ENDORSED COPY (SIGNED & STAMPED) OF QAP QA/DF/QP/AL Casting DATED 30.06.2025 ALONG WITH OFFER	
<b>COMMERICAL REMARKS</b>		
6	<b>BREACH OF CONTRACT CLAUSE:</b> VENDOR TO AGREE AS PER CLAUSE NO 14 OF ATC	
7	VENDOR TO SUBMIT MAKE IN INDIA CERTIFICATE AS PER ATTCHED FORMAT ONLY	
8	<b>CONFLICT OF INTEREST</b> AMONG BIDDERS/ AGENTS: VENDOR TO AGREE AS PER CLAUSE NO 31 OF ATC	
9	ACTION AGAINST BIDDERS / VENDOR / SUPPLIER / CONTRACTOR IN CASE OF DEFAULT SHALL BE AS PER CLAUSE 27 OF ATC	
10	Vendor to confirm regarding <b>Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017</b> as below: I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I certify that <b>OUR COMPANY / FIRM</b> is not from such a country/ has been registered with the Competent Authority (attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT).	
11	<b>Vendor to confirm the following:</b> The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL	
12	<b>Vendor to confirm the following:</b> We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.	
13	<b>Vendor to confirm the following:</b> We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions	
14	REST TERMS AND CONDITIONS SHALL BE as per GEM (Latest Version- applicable at the time of issuance of enquiry) and Enquiry ATC (ADDITIONAL TERMS & CONDITIONS)	

VENDOR' S SIGN & STAMP

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH  
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), Order 2017” Dt. 19.07.2024  
issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4)Vol.II AND SUBSEQUENT ORDER(S)  
(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)**

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To,  
Manager  
PPX-DABG  
BHEL-HEEP, HARIDWAR

Dear Sir,

**Sub:** Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017” Dt. 19.07.2024 issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4) Vol.II and subsequent order(s).

**Ref:** 1) GeM Bid Specification No: .....  
2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... (*specify the name of the organization here*) has a local content of \_\_\_\_\_ % and this meets the local content requirement for '**Class-I local supplier**' / '**Class II local supplier**' (*Strike out whichever is not applicable*) as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- |          |              |
|----------|--------------|
| 1. _____ | 2. _____     |
| 3. _____ | 4. _____ ... |

Thanking you,  
Yours faithfully,

**(Signature, Date & Seal of  
Authorized Signatory of the Bidder)**

**Note:**

1. Bidders to note that above format, duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

TECHNICAL DELIVERY CONDITION (TDC) FOR ALUMINIUM CASTINGS  
MATERIAL GRADE G-Al Si 7 Mg Mn UNI 3599

1. SCOPE

This TDC supplements to the requirements of Heat Treatable Al-Alloy castings of Material Grade G-Al Si 7 Mg Mn UNI 3599.

2. CONDITION OF DELIVERY.

2.1 Chemical Composition and Mechanical properties shall be as per UNI 3599.

2.2 Castings shall be supplied in rough machined condition with surface finish of 12.5 micron and  $3 \pm 1$  mm machining allowance on surfaces marked with machining symbol.

2.3 All grooves and holes marked with machining symbol shall be supplied solid by casting supplier.

2.4 Unless otherwise specified on the drawings, the tolerances values (for unmachined surfaces) shown bellow are to be applied to all dimensions with tolerances not explicitly defined : (All dimensions in mm)

$\leq 120$	$> 120$	$> 200$	$> 300$	$> 500$	$> 750$	
	$\leq 200$	$\leq 300$	$\leq 500$	$\leq 750$	$\leq 1000$	
-----+-----+-----+-----+-----+-----+						
$\pm 1.0$	$\pm 1.3$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$	

The above tolerances limits supersede the limits indicated on the drawing side.

For thickness  $\pm 8\%$  (however minimum  $\pm 0.5$  mm)

For angular  $\pm 2\%$  degrees.

2.5 Unspecified casting radius shall be 3 mm.

2.6 Castings shall be supplied in Sand Cast, Solutionized (T) and Artificially aged (A) as per specification UNI 3599.

2.7 The test bars (samples) are to be integrally casted with the castings and connected by means of a feederhead. The choice of the connection point of the feederhead is left to the foundry. Separately cast test bars are not acceptable. The test bars should be first duly stamped and identified by BHEL representative & then only be parted off from the castings. The identified/stamped test bars will be heat treated alongwith the castings and then submitted to Mechanical tests.

Sample for chemical analysis will be taken from bars used for mechanical tests.

Rev 02

(2)

- 2.8 For every heat/batch of heat treatment- 2 (two) Number of Test bars shall be tested for chemical / mechanical properties. If any of the two test bars fails to meet the properties specified, the whole batch shall be rejected without any further testing.
- 2.9 DP test shall be carried out as per AA0850131 to ensure freedom from cracks and shrinkages.
- 2.10 Drawing Number and Suppliers emblem shall be marked at the location shown on the drawing.
- 2.11 Box and its cover, shall be ground to match at the parting plane periphery, shall be marked with the same Serial Number.
- 2.12. Kerosene leak test shall be carried out on all box castings for a duration of 12 hours. No leakage/seepage is allowed.
- 2.13 Repair/ welding of castings is not allowed.
- 2.14 Test samples must have shape and dimensions as shown below.

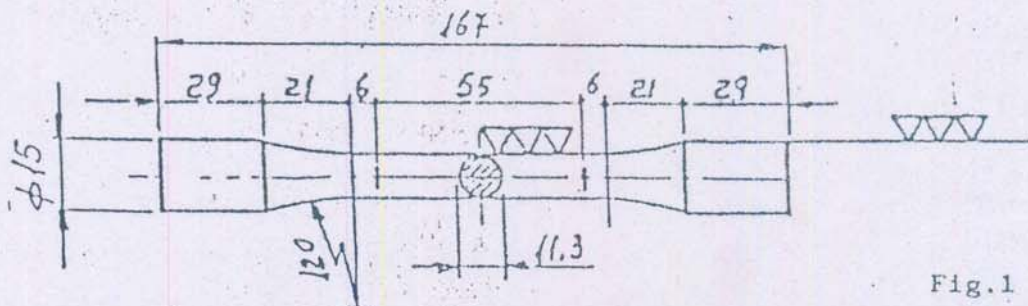


Fig.1

### 3.0 General Requirements :

The manufacturer shall examine the order ,drawing regarding the casting and compliance to test requirements before the commencement of production. Comments ,if any, for optimization of casting and testing technique for the propose of achieving the required quality shall be discussed with BHEL.

Before the commencement of production the manufacturer shall forward the BHEL the following documents :

- a production and test sequence plan for approval with the quality Assurance operations which shall include details about the individual production steps.

contd ....(3)

(3)

- A heat treatment chart with the details of temperature, holding period, quenching media and rate of cooling.
- Test instructions for the NDT tests which shall be performed to ensure quality of the castings.

4. DOCUMENTATION

Supplier shall send BHEL a certificate of acceptance B as per EN 10204/DIN 50049 with the dispatch of castings, which should reach at the latest simultaneously with the castings and must contain the following information:

- a) Identity number and order number.
- b) Material Designation : G-Al Si 7 Mg Mn UNI 3599.
- c) Melt Number , melting analysis and type of melting.
- d) Results of Mechanical Tests inclusive of hardness tests. All the individual values are to be informed.
- e) Complete information about all the heat treatment performed inclusive of actually measured temperature - time- curves in the form of a schematic sketch.
- f) Certificate of following the Ordered Quality, accompanied with the records about the ND test performed.
- g) Certificate of the dimensions including dimensional report.

5. DEVIATIONS

Deviations of any kind from this delivery specifications are to be intimated to BHEL on format PU-25 alongwith the deviation report.

6. ACCEPTANCE AND RELEASE

- 6.1 BHEL evaluates the total results with regards to the intended operational requirements of the castings and judges according to admissibility of deviations from the properties required in this specification (if any)
- 6.2 The clearance does not release the supplier from the responsibility for hidden defects which are detected at later stage of manufacturing.

7.0 PACKING

The castings shall be suitably packed in a condition to withstand for an indefinite time exposure to all climatic condition without developing any external and internal defects, The castings shall be properly protected from damage during transportation.

UBA  
25/8/99  
SDG/m/TE

TECHNICAL DELIVERY CONDITION (TDC) FOR ALUMINIUM CASTINGS  
MATERIAL GRADE G-Al Si 9 Mg Mn UNI 3051.

1. SCOPE

This TDC supplements to the requirements of Heat Treatable Al-Alloy castings of Material Grade G-Al Si 9 Mg Mn UNI 3051.

2. CONDITION OF DELIVERY.

- 2.1 Chemical Composition and Mechanical properties shall be as per UNI 3051.
- 2.2 Castings shall be supplied in rough machined condition with surface finish of 12.5 micron and  $3 \pm 1$  mm machining allowance on surfaces marked with machining symbol.
- 2.3 All grooves and holes marked with machining symbol shall be supplied solid by casting supplier.
- 2.4 Unless otherwise specified on the drawings, the tolerances values (for unmachined surfaces) shown bellow are to be applied to all dimensions with tolerances not explicitly defined : (All dimensions in mm)

$\leq 120$	$> 120$	$> 200$	$> 300$	$> 500$	$> 750$	
	$\leq 200$	$\leq 300$	$\leq 500$	$\leq 750$	$\leq 1000$	
-----+-----+-----+-----+-----+-----+						
$\pm 1.0$	$\pm 1.3$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$	

The above tolerances limits supersede the limits indicated on the drawing side.

For thickness  $\pm 8\%$  (however minimum  $\pm 0.5$  mm)

For angular  $\pm 2\%$  degrees.

- 2.5 Unspecified casting radius shall be 3 mm.
- 2.6 Castings shall be supplied in Sand Cast, Solutionized (T) and Artificially aged (A) as per specification UNI 3051.
- 2.7 The test bars (samples) are to be integrally casted with the castings and connected by means of a feederhead. The choice of the connection point of the feederhead is left to the foundry. Separately cast test bars are not acceptable. The test bars should be first duly stamped and identified by BHEL representative & then only be parted off from the castings. The identified/stamped test bars will be heat treated alongwith the castings and then submitted to Mechanical tests.  
Samples for chemical analysis will be taken from bars used for mechanical tests.

(2)

- 2.8 For every heat/batch of heat treatment- 2 (two) Number of Test bars shall be tested for chemical / mechanical properties. If any of the two test bars fails to meet the properties specified, the whole batch shall be rejected without any further testing.
- 2.9 DP test shall be carried out as per AA0850131 to ensure freedom from cracks and shrinkages.
- 2.10 Drawing Number and Suppliers emblem shall be marked at the location shown on the drawing.
- 2.11 Box and its cover, shall be ground to match at the parting plane periphery, shall be marked with the same Serial Number.
- 2.12. Kerosene leak test shall be carried out on all box castings for a duration of 12 hours. No leakage/seepage is allowed.
- 2.13 Repair/ welding of castings is not allowed.
- 2.14 Test samples must have shape and dimensions as shown below.

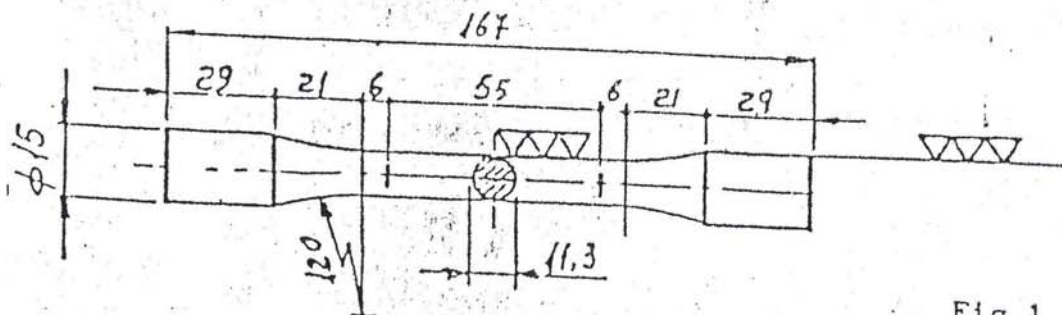


Fig.1

3.0 General Requirements :

The manufacturer shall examine the order ,drawing regarding the casting and compliance to test requirements before the commencement of production. Comments ,if any, for optimization of casting and testing technique for the propose of achieving the required quality shall be discussed with BHEL.

Before the commencement of production the manufacturer shall forward the BHEL the following documents :

a production and test sequence plan for approval with the quality Assurance operations which shall include details about the individual production steps.

(3)

- A heat treatment chart with the details of temperature, holding period, quenching media and rate of cooling.
- Test instructions for the NDT tests which shall be performed to ensure quality of the castings.

4. DOCUMENTATION

Supplier shall send BHEL a certificate of acceptance B as per EN 10204/DIN 50049 with the dispatch of castings, which should reach at the latest simultaneously with the castings and must contain the following information:

- a) Identity number and order number.
- b) Material Designation : G-Al Si 9 Mg Mn UNI 3051.
- c) Melt Number , melting analysis and type of melting.
- d) Results of Mechanical Tests inclusive of hardness tests. All the individual values are to be informed.
- e) Complete information about all the heat treatment performed inclusive of actually measured temperature - time- curves in the form of a schematic sketch.
- f) Certificate of following the Ordered Quality, accompanied with the records about the ND test performed.
- g) Certificate of the dimensions including dimensional report.

5. DEVIATIONS

Deviations of any kind from this delivery specifications are to be intimated to BHEL on format PU-25 alongwith the deviation report.

6. ACCEPTANCE AND RELEASE

- 6.1 BHEL evaluates the total results with regards to the intended operational requirements of the castings and judges according to admissibility of deviations from the properties required in this specification (if any)
- 6.2 The clearance does not release the supplier from the responsibility for hidden defects which are detected at later stage of manufacturing.

7.0 PACKING

The castings shall be suitably packed in a condition to with stand for an indefinite time exposure to all climatic condition without developing any external and internal defects, The castings shall be properly protected from damage during transportation.

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Prepared by:	 OTO MELARA S.p.A.	Specific N. OTO-CO-55/0
Approved by:	TESTING OFFICE	Date: 29-5-81 Page 1 of 7

Title:  
**TEST PROCEDURE FOR LIGHT ALLOY CASTINGS**

**1. PURPOSE**

This document identifies the test procedures for aluminum castings realized by means of sand or shell melting. Therefore, it is applicable where explicitly referenced in technical drawings.

**2. CASTINGS CLASSIFICATION**

To the extent of the present specification, castings can be divided into three classes, as follows:

**2.1 - Class A**

A casting whose damage represents a serious danger or a damage difficult to repair.

**2.2 - Class B**

A casting whose damage can result in reduced or compromised effectiveness of the higher assembly.

**2.3 - Class C**

A casting whose damage does not alter the effectiveness of the higher assembly.

### **3. CASTINGS CHARACTERISTICS**

3.1 In general, the technical drawing issued by the Design Office refers to the finished part. Therefore, the definition of drafts and other machinings for obtaining the final part, is left to foundry's responsibility.

The drawing will report the following data:

- casting class and number of this specification
- alloy type
- T.T.
- surface roughness

3.2 In some cases, the Design Office directly provides the casting coarse part drawing. This case will be clearly explained in the drawing. The drawing of the final part will be also provided.

### **4. TESTS AND INSPECTIONS**

Unless otherwise specified, the tests to be accomplished belong to the casting classification, as follows.

#### **4.1 - VISUAL INSPECTION**

##### **Class A**

It is accomplished on all castings, they must be: sanded, trimmed, with no shrinkage defects, inclusions, cracks or other surface defects.

##### **Class B and C**

This test is extended to classes B and C in dependence of the casting quantity; inacceptability criteria will be limited to cracks.

#### **4.2 - MECHANICAL TESTS**

Every 100 castings, two bars will be produced (\*), melted with the same alloy at the same time of castings, and connected by means of a feedhead. The choice of the connection point of the feedhead is left to the foundry.

For shell castings, the same procedure will be followed with the exception of the bar's melting, which is executed in separated shells.

When sand or shell castings are submitted to thermal treatments, the bars will follow the castings and then be submitted to technological tests.

Minimum values of R for bars taken from the same casting, must not set below 20% of the results evaluated with the above procedure.

#### 4.3 CHEMICAL ANALYSIS

##### Classes A-B-C

Bars for chemical analysis, two for each melting, will be taken from castings of bars used for mechanical tests.

If the foundry is provided with the necessary equipment, the analysis will be accomplished directly on site, and a suitable certification will be emitted to report analysis data and data required in the drawing.

If the foundry is not equipped, the analysis will be accomplished by means of an external Administration or Institute (in accordance to customer) which will emit the certification.

#### 4.4 INSPECTION WITH PENETRATING LIQUIDS

Only for Classes A and B.

##### Class A

The parts to be examined, as specified by the Design Office, must be completely tested on the 100% of the castings. Special care must be taken to verify discontinuities such as: cracks, cold junctions, and seams. The presence of this defects determines the rejection of the casting.

##### Class B

The parts to be examined, as specified by the Design Office, must be totally tested, but only on the 10% of the castings.

Cracks, cold junctions and seams must be rejected.

Other defects such as: surface seam cavities, evident seams, inclusions of oxides or foreign material, sponges, surface gas bubbles, can be accepted only in case of little dimensions and concentration (See the surface defects table, par. 4.5).

#### 4.5 RADIOGRAPHIC INSPECTION

CLASS A: the inspection will be accomplished on the 100% of the parts

CLASS B: the inspection will be accomplished according to the following table:

DIMENSIONS		DIMENSIONS	
Lot	Sample	Lot	Sample
1	1	21-26	9
2	2	27-36	10
3-4	3	37-51	11
5-6	4	52-82	12
7-8	5	83-162	13
9-11	6	163-971	14
12-15	7	973 >	15
16-20	8		

They must be tested in accordance to standard ASTM.E 155 with respect to the acceptable defects:

Defects type	Internal defects		Surfaced defects	
	A	B	A	B
Gas cavities	2	5	2	2
Gas bubbles	3	5	3	3
Seam sponge	2	3	1	1
Seam cavity	2	3	1	1
More dense inclusions	2	4	2	2
Less dense inclusions	2	4	2	2
Long gas porosity	5	5	3	3

Moreover, no inclusions, cracks, bubbles, seams should appear. The procedure for the accomplishment of the RX inspection must be in accordance to OTO-CO-15.

### **Class C**

No radiographic test is required.

## **5. METAL OVERLAP**

Unless otherwise specified on the drawing, the values of metal overlap to be machine worked are shown in the following table:

Melting type	Casting max dim	Dimension mm					
		below 150	150 to 300	300 to 450	450 to 600	600 to 800	800 to 1250
Sand	below 300	3	4	-	-	-	-
	300 to 600	4	5	6	6	-	-
	600 to 1250	5	5	6	6	7	7
Shell	below 300	2	2,5	-	-	-	-
	300 to 600	2,5	3	3	3,5	-	-
	600 to 800	3	3	3,5	3,5	4	-

## **6. DIMENSIONS AND TOLERANCES**

Unless otherwise specified on drawings, the tolerance values shown below are to be applied to all dimensions with tolerance not explicitly defined.

Melting type	Dimensions mm					
	below 120	120 to 200	200 to 300	300 to 500	500 to 750	750 to 1000
Sand	± 1,0	± 1,3	± 1,5	± 2,0	± 2,5	± 3,0
Shell	± 0,5	± 0,7	± 1,0	± 1,2	-	-

The above tolerance limits supersede the limits indicated on the drawing side.



### Shell castings

Samples must have shape and dimensions as shown in fig.2. The bar must not be submitted to workings other than those necessary to remove casting appendices and to regularize the attaching section.

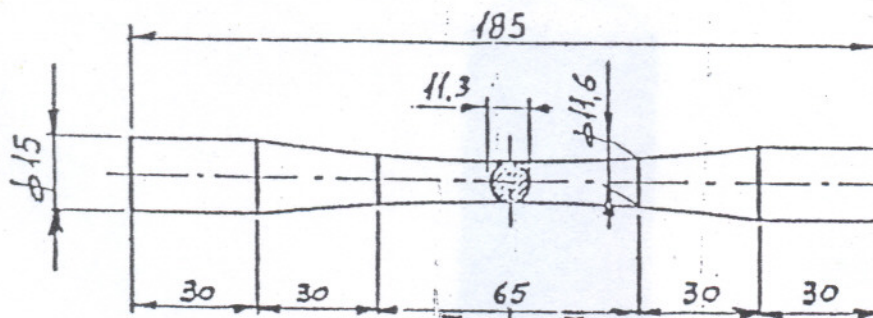


Fig.2

## 11. IMPREGNATING

All castings which have to contain fluids (mineral oils, fuels, etc.) must be impregnated and the impregnating mode will be suitably defined or specified on the drawing.

After the above treatment, all castings will be submitted to pneumatic test at 0,2-0,3 kg/cm<sup>2</sup>, unless otherwise specified on drawings.

For castings requiring subsequent welding operations for the assembling of items, impregnating process will be performed at the stage of final use.

Normally, impregnating workshops are provided with tubs of about 1 m<sup>3</sup> of capacity. The supplier, if expected to execute the impregnating process, will provide complete information about the procedure used for impregnating.

Primary\* aluminium-silicum-manganese-magnesium casting alloy

UNI 3051  
July, 1960  
Page 1/2

18

(Si 9% - Mn 0.5% - Mg 0.35%)  
Supersedes UNI S43, UNI 2630 and UNI 2631.

Notes: Norms are binding:

~~.....~~

Conventional designation of the alloy:

G-AL SI 9 MN MG UNI 3051

Alloy countersign:

G-A S 9 M G

Alloy

Chemical composition (in %)										
Alloy	Cu max.	Fe max.	Si	Mg	Mn	Zn max.	Ti max.	Ni max.	Total imp. excl. Fe max.	Al
Theoretical	—	—	9	0,35	0,5	—	—	—	—	Rem.
In ingots	0,05	0,5	8,5 ÷ 9,5	0,3 ÷ 0,45	0,4 ÷ 0,8	0,05	0,15	0,1	0,15	Rem.
In castings	0,1	0,7	8,5 ÷ 9,5	0,3 ÷ 0,45	0,4 ÷ 0,6	0,1	0,15	0,2	0,4	Rem.

Physical and general characteristics of the alloy  
(indicative values):

Specific weight	2,68 kg/dm <sup>3</sup>	Coefficient of thermal expansion	from 20 to 100 °C	19,5 · 10 <sup>-6</sup> / °C
Melting point	Lower	Linear shrinkage	from 20 to 200 °C	20,5 · 10 <sup>-6</sup> / °C
	Upper		from 20 to 300 °C	21,5 · 10 <sup>-6</sup> / °C
Specific heat at 100 °C	0,23 cal/g	Max. melting temperature	780 °C	
Latent melting heat	~ 93 cal/g	Optimum cast. range	in sand 690 ÷ 730 °C	
Thermic cond. at 20 °C	0,35 cal/sec cm °C		in iron moulds 690 ÷ 730 °C	
Restivity at 20 °C	4,7 μ Ω cm			
Elasticity module, E	7 600 kg/mm <sup>2</sup>			

Castings

Mechanical characteristics of the castings					
State of supply		Max. tensile stress	Load at yield point	Elongation	Brinell hardness
Denomination	Symbol	R kg/mm <sup>2</sup>	s kg/mm <sup>2</sup>	A <sub>5</sub> %	H <sub>d</sub> kg/mm <sup>2</sup>
Cast in sand, hardened & tempered (artific. aged)	G <sub>s</sub> T A	22 ÷ 28	17 ÷ 23	2 ÷ 4	80 ÷ 90
Cast in iron moulds, crude	G <sub>c</sub>	18 ÷ 24	10 ÷ 13	3 ÷ 5	60 ÷ 75
Cast in iron moulds, hard. & temp. (artific. aged)	G <sub>c</sub> T A	25 ÷ 30	20 ÷ 26	3,5 ÷ 5,5	80 ÷ 95

Those values which appear in boldface must be considered as minimum binding values; those in ordinary type give an approximate indication of the upper limits of the reliability range for that particular characteristic.

Thermic treatments (indicative values)

- R - Annealing at 350 to 390 °C for 4 to 8 hours.
- T - Hardening in cold water from 510 to 530 °C after preheating for 2 to 4 hours.
- A - Artificial aging at 150 to 175 °C for 8 to 20 hours.

Technological characteristics

- 1 - The following classification scale is used to indicate the alloy's technological characteristics: good - sufficient - mediocre - deficient - bad. The scale used to indicate the shrinkage brittleness is: large - medium - small.

ARCHIVIO  
DEPT. ...

GRAFICA LUNENSE - LA SPEZIA

ORIGINE	MODIFICHE	DATA	NORMALIZZAZIONE		S.p.A. OTO MELARA
			COMP	VISTO	LA SPEZIA

2 - The alloy of this standardisation has the following technological characteristics:

- Castability: good
- Shrinkage brittleness: small
- Workability by machine: deficient
- Sealing capacity under pressure: sufficient
- Mechanical characteristics at elevated temperatures: sufficient
- Polishability: mediocre

3 - This alloy is suitable for general uses and for complex castings.

4 - For general information (designation, countersign), see UNI 3039.

Symbols - Metallic materials tests: R, s, A<sub>5</sub>, H<sub>d</sub>, see UNI 552.

GRAFICA LUNENSE - LA SPEZIA

ORIGINE	MODIFICHE	DATA	NORMALIZZAZIONE		S.p.A. OTO MELARA LA SPEZIA
			COMP	VISTO	

16

CDU 689:715

Italian Standard

January 1989

UNIMET

UNI 3599

Casting aluminium alloys

Aluminium-Silicon-Magnesium Alloys (Si 7%-Mg 0.3%)

General information

1.1 The present standard defines the chemical composition of the alloy in pigs and casts and the mechanical characteristics of the casts obtained.

1.2 For purely indicative purposes, data on the physical and technological characteristics of the alloy and on certain fields of application are also reported.

2. References

UNI 552: Mechanical tests of metallic materials - Symbols, denominations and definitions.

UNI 3039: Aluminium primary light alloys for casts - General information.

UNI 5962: Non ferrous metallic materials -- Gradation of technological characteristics and of particular properties.

3. Designation

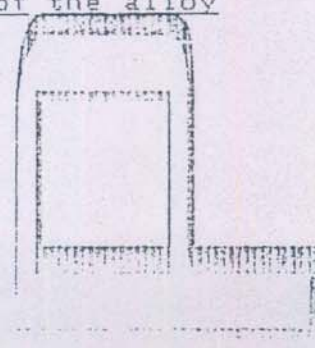
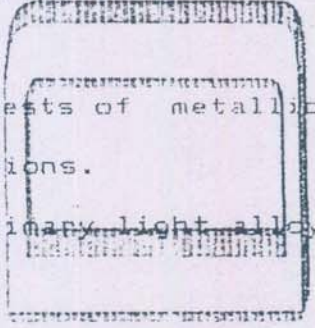
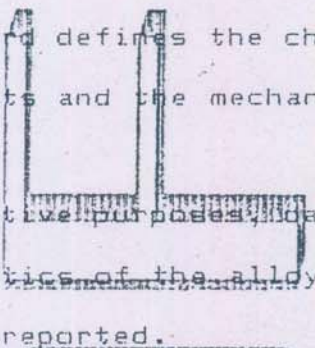
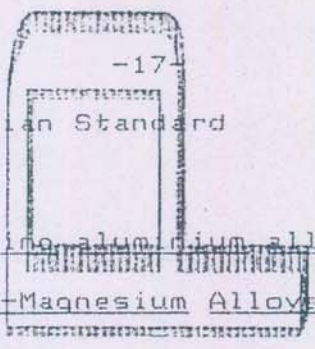
Conventional designation of the alloy:

G-Al Si 7 Mg UNI 3599

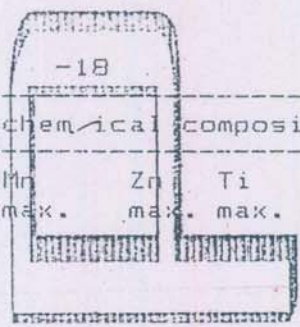
Indication of the alloy (optional):

G-A S 7 G

4. Chemical composition of the alloy



15



Percentage chemical composition

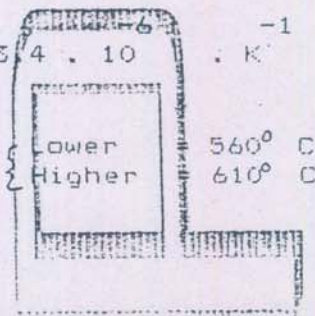
Alloy	Si	Mg	Cu	Fe	Mn	Zn	Ti	Ni	other impurities	Al
	0.8	0.30	max.	max.	max.	max.	max.	max.	max.	Rest
	6.5-7.5	0.30-0.40	0.05	0.5	0.4	0.05	0.02	0.05	0.10	rest
	6.5-7.5	0.25-0.40	0.10	0.7	0.4	0.10	0.2	0.10	0.10	rest

UNI Standards are revised, when necessary, with the publication either of new editions or of updating sheets. Therefore it is important for the users to ascertain whether they have in possession the latest edition or updating sheet.

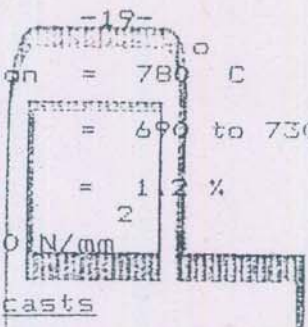
5. Physical characteristics (indicative values)

- Volume mass = 2.68 kg/dm<sup>3</sup>
- Specific heat at 100° C = 0.96 J/(g·K)
- Latent heat of fusion = 389 J/g
- Thermic conductivity at 20° C = 1.55 W/(cm·K)
- Electric resistivity at 20° C = 4.8 μΩ·cm
- Coefficient of linear thermic dilation:
  - from 20 to 100 C = 21.6 · 10<sup>-6</sup> · K<sup>-1</sup>
  - from 20 to 200 C = 22.6 · 10<sup>-6</sup> · K<sup>-1</sup>
  - from 20 to 300 C = 23.4 · 10<sup>-6</sup> · K<sup>-1</sup>

Temperature of fusion



14



Maximum temperature of fusion = 780 °C  
 Optimum interval of casting = 690 to 730 °C  
 Linear shrinkage in the die = 1.2 %  
 Elasticity modulus = 72,600 N/mm<sup>2</sup>

6. Characteristics of the casts

Physical state      Mechanical characteristics\*

Type of cast	Denomi- mation	Symbol	Unitary load of traction breaking Ra min. N/mm <sup>2</sup>	Unitary load of displacement from propor- tionality Rp0.2 N/mm <sup>2</sup>	Elonga- tion min. %	Brinell's hardness** min. HB
Casting in sand	Crude	Gs	145	100	1.5	55
	Tempered and antifi- cially aged	Gs TA	215	175	1.5	70
Casting in chill	Crude	Ge	165	110	4	65
	Tempered and antifi- cially aged	Ge TA	255	175	6	85

\*The values should be understood as binding lower limits. These values are derived from tests carried out on test-pieces cast separately, according to UNI 3039.

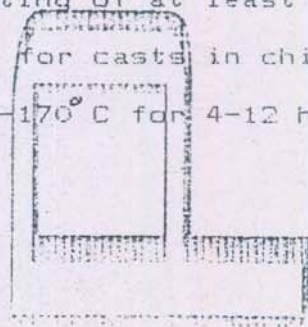
\*\* See UNI 3039.

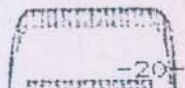
7. Thermic treatments (indicative values)

R-Annealing from 350 to 390 °C for 4 to 8h at regime.

T-Tempering in water (hot for particularly complex cast) from 530 to 550 °C after preheating of at least 12 h for the casts in sand and of at least 8 h for casts in chill.

A-Artificial ageing at 155-170 °C for 4-12 h at regime.



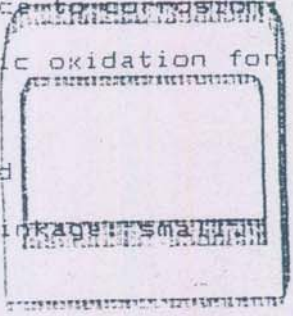


8. Technological characteristics (indicative)

8.1 For the graduation of technological characteristics and of particular properties.

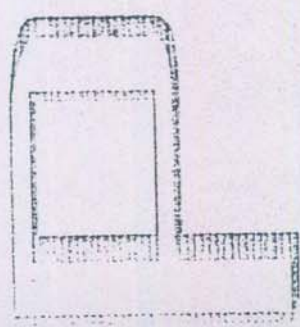
8.2 The alloy of the present norm has the following technological characteristics and particular properties:

- good castability;
- workability to tool: less;
- tightness at pressure: good;
- mechanical characteristics at high temperature: less;
- mechanical lucidability: less;
- general resistance to corrosion: sufficient;
- attitude to anodic oxidation for technical uses: sufficient;
- weldability: good
- fragility of shrinkage: small



Applications

Apt for general uses which require good castability, weldability and tightness at pressure (motor cylinders cooled with water, pump elements, etc.).



**UNI 3599**

*Casting aluminium alloys - Aluminium-silicon-magnesium alloys (7% - Mg 0,3%)*

**1. Generality**

1.1. The present norm defines the chemical composition of the alloy in ingots and in castings and the mechanical characteristics of obtained castings.

1.2. Moreover they are brought back, to pure indicative scope, the data on the physical and technological characteristics of the alloy and on the main fields of application.

**2. References**

*UNI 552 mechanical Tests of the metallic materials - Symbols, descriptions and definitions*

*UNI 3039 Alloys to read primary of aluminum for jets - Generality*

*UNI 5962 non ferrous metallic Materials - rating of fabrication properties and special requirements.*

**3. Designation**

Conventional designation of the alloy:

*G-Al 7 Mg UNI 3599*

Mark of the alloy (optional):

*G-as7g*

**Translation through SYSTRAN software**

**4. Chemical composition of the alloy**

Lega	Composizione chimica percentuale										
	Si	Mg	Cu	Fe	Mn	Zn	Ti	Ni	Altre impurità		Al
			max.	max.	max.	max.	max.	max.	max.	singole max.	
Teorica	7,0	0,30	—	—	—	—	—	—	—	—	resto
In pani	6,5 a 7,5	0,30 a 0,45	0,05	0,5	0,4	0,05	0,2	0,05	0,10	0,15	resto
In getti	6,5 a 7,5	0,25 a 0,40	0,10	0,7	0,4	0,10	0,2	0,10	0,10	0,15	resto

## 5. Physical characteristics (values indicated to you)

Massa volumica	= 2,68 kg/dm <sup>3</sup>	Coefficiente di dilatazione termica lineare	da 20 a 100 °C = 21,6 · 10 <sup>-6</sup> · K <sup>-1</sup> da 20 a 200 °C = 22,6 · 10 <sup>-6</sup> · K <sup>-1</sup> da 20 a 300 °C = 23,4 · 10 <sup>-6</sup> · K <sup>-1</sup>
Calore specifico a 100 °C	= 0,96 J/(g·K)	Temperatura di fusione	{ inferiore = 560 °C superiore = 610 °C
Calore latente di fusione	= 389 J/g	Temperatura massima di fusione	= 780 °C
Conduktività termica a 20 °C	= 1,55 W/(cm·K)	Intervallo ottimo di colata	= 690 a 730 °C
Resistività elettrica a 20 °C	= 4,8 μΩ·cm	Ritiro lineare nello stampo	= 1,2%
		Modulo di elasticità	= 72 600 N/mm <sup>2</sup>

## 6. Characteristics of jets

Tipo di getto	Stato fisico		Caratteristiche meccaniche*			
	Denominazione	Simbolo	Carico unitario di rottura a trazione $R_m$ min. N/mm <sup>2</sup>	Carico unitario di scostamento dalla proporzionalità $R_{p0,2}$ min. N/mm <sup>2</sup>	Allungamento A min. %	Durezza Brinell .. HB min.
Colato in sabbia	Grezzo	Gs	145	100	1,5	55
	Temprato e invecchiato artificialmente	Gs TA	215	175	1,5	70
Colato in conchiglia	Grezzo	Gc	165	110	4	65
	Temprato e invecchiato artificialmente	Gc TA	255	175	6	85

\* I valori devono intendersi limiti inferiori impegnativi. Detti valori sono ricavati da prove eseguite su provette colate a parte, secondo UNI 3039.  
\*\* Vedere UNI 3039

Gs- cast in sand

GsTa- Cast in sand, hardened and tampered (artificially aged)

Gc- cast in iron modules

GcTa- cast in iron moulds, hard and tampered (artificially)

\* The values must agree to lower limits engaged to you. Sayings values are gain to you from tests executed on tests-tube strained to part, according to UNI 3039.

\*\* Vedere UNI 3039.

7. Heat treatments (values indicated to you)

R – Annealing at 350 to 390 °C for 4 to 8 h to regimen

T - hardening in water (warm for particularly complex jets) from 530 to 550 °C after *preheating* at least 12 h for castings in sand and at least 8 h for castings in shell

To - precipitation hardening to 155/170 °C for 4/12 h to regimen.

8. Technological characteristics (indicative)

8.1. For the *graduatoria* of the technological characteristics and the particular property, to see UNI 5962.

8,2 *The alloy of the present norm has the following technological characteristics and particular properties: -*


- good castability
- workability to tool less'
- tightness at pressure: good
- mechanical characteristics at high temp: less .
- general resistance to corrosion sufficient
- attitude to anodic oxidation for technical uses: sufficient
- weldability: good
- fragility of shrinkage: small

9.Applications:

apt for the general uses which required good castability, weldability and tightness at pressure (motor cylinders cooled with waters, pump elements etc.)

### MEANING TO THE WORDS USED IN TABLES

Composizione chimica percentuale	Chemical composition in %
teorica	theoretical
In pani	In ingots
In getti	In castings
Coefficiente di dilatazione	Coefficient of thermal expansion
Calore specifico	Specific heat
Calore latente di fusione	Latent melting heat
Conductivita termica	Thermal conductivity
Resistivita elettrica	resistivity
Ritiro lineare nello stampo	Linear shrinkage
Modulo di elasticita	Elasticity module
Carico unitario di rottura a trazione	Maximum tensile stress
Carico unitario di scostamento dalla proporzionalita	Load at yield point
Allungamento	Elongation
durezza	hardness

MANUFACTURER'S NAME AND ADDRESS		STANDARD QUALITY PLAN							TO BE FILLED BY BHEL			
 <b>BHEL</b>	VENDOR'S NAME	ITEM	Aluminium Casting (Rough Machined)		QP NO.	QA/DF/QP/AL Casting						
					REV.	00	Date: 30.06.2025					
		DRG. NO. & REV.	17821812462, 27821812463, 07823818136, 17820512666, 27822012137, 07822018107, 27822018106, 07823818100, 27823818148									
	SPEC. & REV.	ENGG/MTE/DFP-C/95/1 Rev-02 and ENGG/MTE/DFP-C/95/2 Rev-02					Page 1 of 1					
		(UNI 3599, UNI 3051)										
SL. NO.	COMPONENT / OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS
									M	B	N	
1	2	3	4	5	6	7		8	D	9		10

1.0 RAW MATERIAL INSPECTION												
1.1	Pouring analysis of aluminium molten metal with melt no., type of melting etc.	Chemical composition (G-Al-Si-7-Mg-Mn UNI 3599, G-Al-Si-9-Mg-Mn UNI 3051)	Major	Review	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	TC	√	P	V	-
2.0 IN-PROCESS INSPECTION												
2.1	Cutting of 2 nos. stamped integral test bar	Test piece dimension as per specification	Major	Review	2 nos./ heat/batch	BHEL Drg. /spec.	BHEL Drg. /spec.	Report	√	P	W	-
2.2	Heat treatment of casting and stamped test bar	--	Major	Review	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	HT chart	√	P	V	-
2.3	Chemical & mechanical properties of both sample	As per grade UNI 3599/3051	Major	Physical	2 nos./ heat/batch	BHEL Drg. /spec.	BHEL Drg. /spec.	TC	√	P	W	-
2.4	Hardness test of both sample	--	Major	Physical	2 nos./ heat/batch	BHEL Drg. /spec.	BHEL Drg. /spec.	TC	√	P	W	-
2.5	Die penetrant test	Surface defects	Major	NDT	100%	AA0850131	Level-II, AA0850132	I.R.	√	P	W	-
2.6	Kerosene leak test	12 hours	Major	NDT	100%	ENGG/MTE/DFP-C/95/1 & 2	No leakage	I.R.	√	P	W	-
2.7	Radiography testing (For mat codes. W93078299309 & W93078299317)	Internal defects	Major	NDT	100%	Class B as per OTO-CO-55	ASTM E155	I.R.	√	P	W	-
3.0 FINAL INSPECTION												
3.1	Visual and dimensional check	Rough machined dimensions as per drawing	Major	Measure	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	I.R.	√	P	W	-
3.2	Surface roughness	12.5 micron	Major	Measure	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	I.R.	√	P	W	-
3.3	Compliance certificate	Technical specification/PO	Major	Measure	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	I.R.	√	P	V	-
3.4	Identification & marking	At specified location in drg.	Major	Visual	100%	HW0400397	HW0400397	I.R.	√	P	V	-
3.5	Packing	--	Major	Measure	100%	BHEL Drg. /spec.	BHEL Drg. /spec.	I.R.	√	P	V	-

Notes: 1. Verification of TC/IR is acceptable in case of NABL approved Lab. Witness is required for OEM test facility. 2. Vendor has to provide TC/IR mentioning above Q.P. clauses and also index/summary sheet for co-relation of TC/IR with QP clauses. TPIA to check the same.

<b>MANUFACTURER/ SUBCONTRACTOR</b>	LEGEND: LDS: M/s. LEONARDO DEFENCE SYSTEM , DRG: DRAWING, SPEC: SPECIFICATION, BOM: BILL OF MATERIAL, MTC: MATERIAL TEST CERTIFICATE, T.C.: TEST CERTIFICATE, INT. REP.: INTERNAL REPORTS, I.R.: INSPECTION REPORTS, COC: CERTIFICATE OF CONFORMANCE, M: MANUFACTURER / SUBCONTRACTOR, B: BHEL /BHEL NOMINATED INSPECTION AGENCY, N: DQAN / INDIAN NAVY, 'P': PERFORM, 'W': WITNESS, 'V': VERIFICATION, "√" RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.	<b>APPROVED BY: BHEL HARIDWAR - QA</b>
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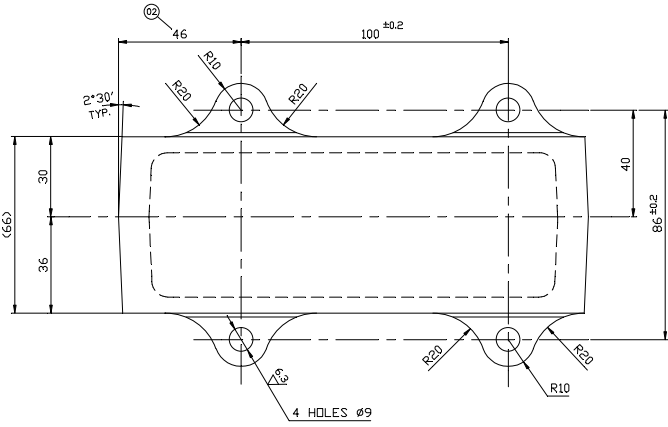
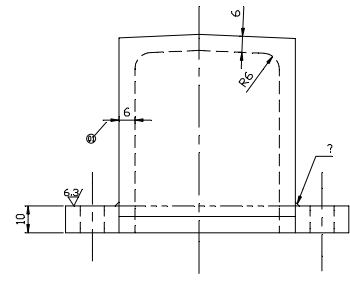
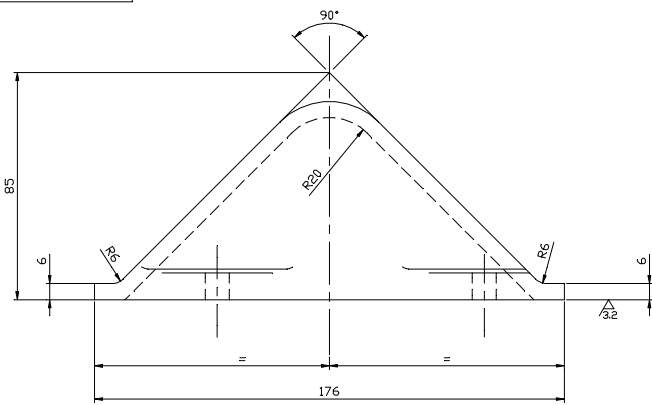






27822012137

✓ THE REST



TECHNICAL REQUIREMENTS

- DRAFT ANGLE : 2°30'
  - FINAL PROTECTIVE FINISH AS PER ALODYNE TREATMENT AS PER SPEC. HW0986094.
  - DIMENSIONS WITHIN BRACKETS ARE FOR REFERENCE ONLY.
  - IDENTIFICATION OF COMPONENT IS AS PER HW0400397.
- (a) EXTERNAL SURFACES :  
PRIMER PER SPEC. MIL-P-8585 & APPLY TWO COATS OF ENAMEL PER SPEC. TT-E-529 LIGHT GREEN COLOUR, NO. 24533 OF FED-STD-595
- (b) INTERNAL SURFACES :  
PRIMER PER SPEC. MIL-P-8585 & APPLY TWO COATS OF PAINT PER SPEC. TT-E-429 C, CLASS A, WHITE COLOUR, NO. 17875 OF FED-STD-595

GENERAL TOLERANCES LINEAR DIMENSIONS UP TO 18 ±0.15 > 18 TO 60 ±0.25 > 60 ±0.4 ANGLES ±30°	CASTING TOLERANCES LINEAR DIMENSIONS ±0.25(±0.10) THICKNESS ±0.10 (MIN. ±0.5mm) ANGLES ±2°	FORGING TOLERANCES LINEAR DIMENSIONS UP TO 18 ±0.5-0.3 > 18 TO 60 ±1 > 60 ±1.5 ANGLES ±1°	UNLESS OTHERWISE SPECIFIED ROUND EDGES ±2.5 MIN. CHAMFER ±0.40 SURFACE MARKED ----- REQUIRE STOCK MATERIAL TO BE REMOVED AT ASSEMBLY
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CBOM 07822018001/00 STATUS OF DRG

GRADE OF UNTOOLDIM	APPROV	NAME	SIGN	DATE
M/CS- <i>1/1/1</i> AA0230208	MTE	JPM	Sd/-	15.12.2003
WELDING- <i>4/8/1/1</i> AA0621104	NCT	SPV	Sd/-	18.12.2003
GAS CUTTING- <i>13/AA0621101</i>				
REV	DATE	ALTERED	SANDEEP	
02	24.5.17	CHECKED	RAHUL	
			DIM. 46 PLACED & DRAWING CORRECTLY SHOWN.	
			DPE-16-F0051	
REV	DATE	ALTERED	R.S.CHAUHAN	
01	06.01.06	CHECKED	N.MITTAL	
			CHANGES DONE AS PER C/A NUMBER DPE-05-F0146	

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT SRGM 76/62

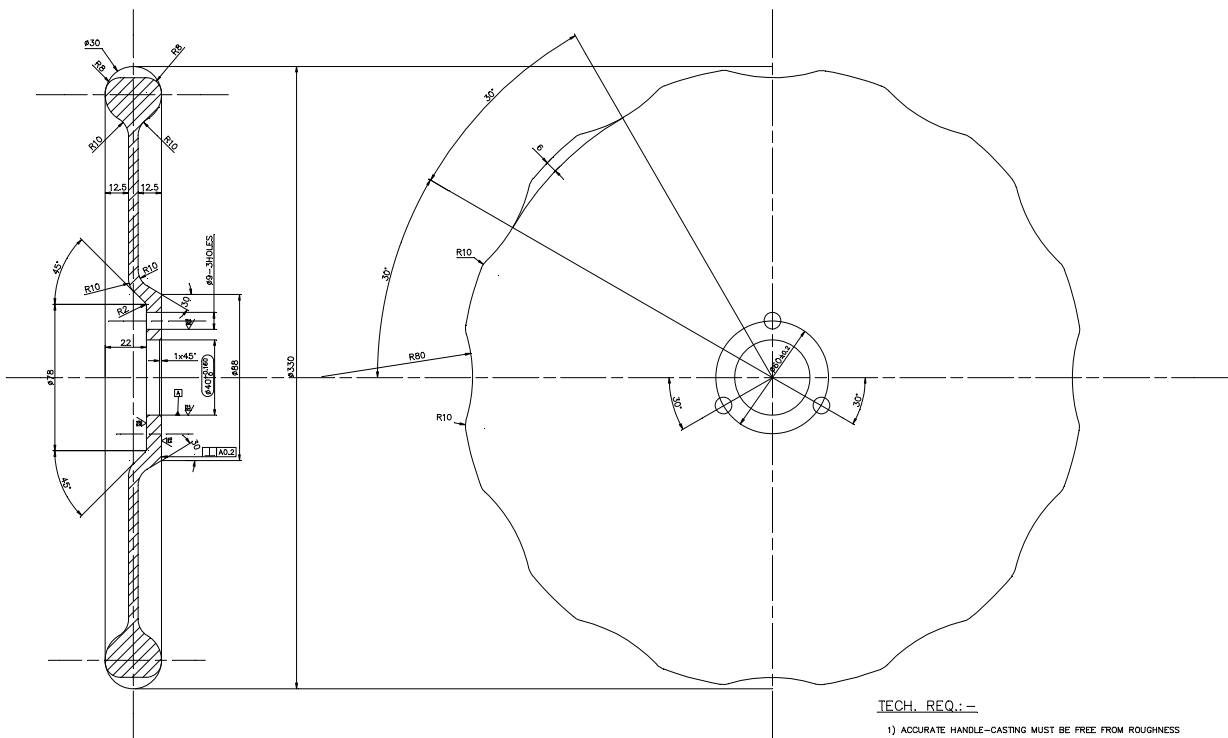
DRN	R.S.CHAUHAN	SIGN	DATE	NO. OF VAR
CHD	ARUN GUPTA	Sd/-	03.12.2003	-
APPD	N.MITTAL	Sd/-	05.01.2004	-

DEPT DPE CODE 4260 SCALE N.T.S. WEIGHT (KG) 0.350 REF. TO ASSY. DRG. ITEM No. 024

TITLE : COVER CARD CODE DRAWING NO. 27822012137 SHEET No. -1 No. OF SHEETS -1

PROPRIETARY DATA OF DTD MELAKA SPA  
 LIMITED RIGHTS OF TECHNICAL DATA  
 THE TECHNICAL DATA CONTAINED HEREIN IS RESTRICTED AS TO USE, REPLICATION OR DISSEMINATION AS PER TERMS AND CONDITIONS OF THE LICENSING AGREEMENT  
 Sign & Date Ref: Drawing No. 127620137-01  
 Inventory No.

REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED	REV	DATE	ALTERED
		CHECKED			CHECKED			CHECKED			CHECKED



- TECH. REQ.:-**
- 1) ACCURATE HANDLE-CASTING MUST BE FREE FROM ROUGHNESS
  - 2) FINAL PROTECTIVE FINISH -HARD ANODIZING(AS PER HW0986095)
  - 3) IDENTIFICATION AS PER HW 0400397.
  - 4) DIMENSIONS WITHIN  $\square$  ARE CRITICAL TO QUALITY.

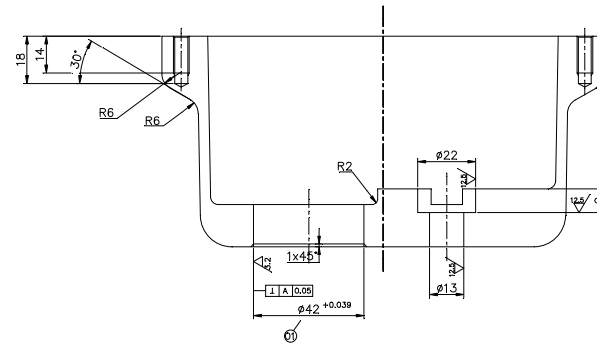
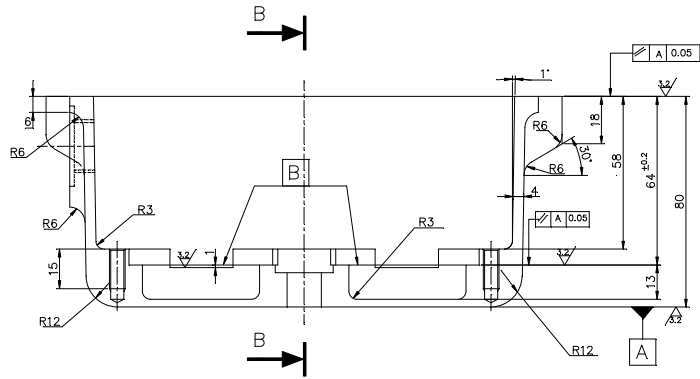
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED IT MUST NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

MATERIAL TOLERANCES UNLESS SPECIFIED AS FOLLOWS: DIMENSIONS UP TO 30 mm ±0.10 DIMENSIONS 30 TO 100 mm ±0.15 DIMENSIONS 100 TO 300 mm ±0.20 DIMENSIONS 300 TO 1000 mm ±0.30	SURFACE FINISHES UNLESS SPECIFIED AS FOLLOWS: UNLESS OTHERWISE SPECIFIED, ALL SURFACES SHALL BE FINISHED TO A RA VALUE OF 3.2 UNLESS OTHERWISE SPECIFIED, ALL SURFACES SHALL BE FINISHED TO A RA VALUE OF 6.3	TOLERANCES ON ANGLES UNLESS SPECIFIED AS FOLLOWS: ANGLES UP TO 90° ±1.0° ANGLES 90° TO 120° ±1.5° ANGLES 120° TO 150° ±2.0° ANGLES 150° TO 180° ±2.5°	HOLE TOLERANCES UNLESS SPECIFIED AS FOLLOWS: HOLE DIAMETERS UP TO 30 mm ±0.10 HOLE DIAMETERS 30 TO 100 mm ±0.15 HOLE DIAMETERS 100 TO 300 mm ±0.20 HOLE DIAMETERS 300 TO 1000 mm ±0.30
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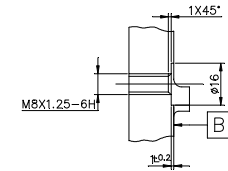
Dwg. No. 0-78205-12001-00 Date 08/11/2014 Rev. 01 Title HAND WHEEL	TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT SRGM 76/62 BHARAT HEAVY ELECTRICALS LTD RANIPUR - HARDWARE	NAME SURESH K DATE 28.11.14 TIME 10:12:03	SCALE 1:1 WEIGHT 0.14 REF TO ASSY Dwg. 0-78205-12014-00 DRAWING NO. 1-78205-126661 SHEET NO. OF TOTAL SHEETS OF SIZE A1
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GRADE OF UNTOLD DIM- REC-CUM-F-A-0000000 WELDING-A/B/C/D-AAGC1104 GAS-CUTTING-T3/AAGC21104	REV DATE 01 13.08.15 CHECKED BY DPE-06-PO083	REV DATE 01 13.08.15 CHECKED BY DPE-06-PO083
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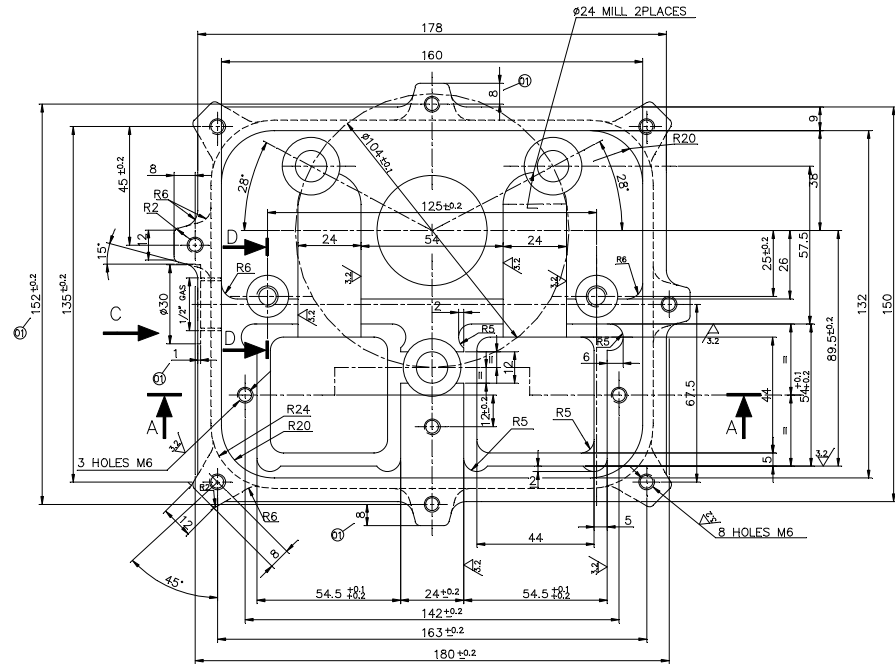
ALL OVER EXCEPT OTHERWISE STATED



SECTION B-B



SECTION D-D



VIEW-C

TECH. REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW0400397.
2. FINAL PROTECTION FINISH AS PER SPEC. RS 4.
3. APPLY ONE COAT OF PRIMER AS PER SPEC. MIL-P-8585 AND 2 COATS OF ENAMEL, LIGHT GREEN (COLOR 26440 OF FED STD -595) PER SPEC. TT-E-520.

GENERAL TOLERANCES	CASTING TOLERANCES	FORMING TOLERANCES	MOLDING TOLERANCES
LINEAR DIMENSIONS UP TO 18 ±0.15 > 18 TO 30 ±0.25 > 30 ±0.4	LINEAR DIMENSIONS UP TO 18 ±0.5-0.3 (THICKNESS ±0.8 (MIN. 0.5mm)) ANGLES ±30°	LINEAR DIMENSIONS UP TO 18 ±0.5-0.3 > 18 TO 30 ±1 > 30 ±2	HALF DIMENSIONS SHOWN ABOVE DIMS 0.3 AND DIMMER 0.5mm SURFACE MARKS REQUIRE STOCK MATERIAL TO BE REMOVED AT ASSEMBLY

CBOM17821818028-00	STATUS OF DRG
APPROVED BY	CHECKED BY
NAME S. JOSHI	NAME Sd/-
DATE 10.11.03	DATE 10.11.03
MTE	ASHISH

TYPE OF PRODUCT	SRGM 76/62			
OR				
NAME OF CUSTOMER/PROJECT				
DRM	NAME	SIGN	DATE	NO. OF
DRM	P. SINGH	Sd/-	28.05.03	VAR
DRM	O. P. SINGH	Sd/-	28.05.03	
APPRD	VKK	Sd/-	11.11.03	

REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
02	6.12.19	ALTERED SANDDEEP	CHECKED RAHUL	01	03.11.01	CHECKED RAHUL	CHECKED RAHUL
WEIGHT CORRECTED.				DIM. 152 & 8 CORRECTLY MARK. DIM 1 SHOWN AND DIM. CORRECTED FROM φ42 H8 TO φ42 ±0.039			
DPE-19-F0041				DPE-19-F0030			

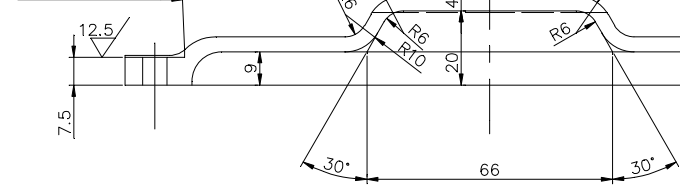
DEPT DPE	SCALE 1:1	WEIGHT (KG) 1.6	REF. TO ASSY. DRG. 17821818028-00
CODE 4260	CARD CODE	DRAWING NO. 17821812462	ITEM NO. 3
TITLE : HOUSING SOLENOID		SHEET No. 1 No. OF SHEETS 1	

INVENTORY NO. SIGN. & DATE REF. DRG. NO. 127619462-03  
 PROPRIETARY DATA OF DTD MELARA SPA  
 LIMITED RIGHTS OF TECHNICAL DATA  
 THE TECHNICAL DATA CONTAINED HEREIN IS RESTRICTED AS TO USE, REPRODUCTION OR DISCLOSURE AS PER TERMS AND CONDITIONS OF THE LICENSE AGREEMENT BETWEEN DTD MELARA SPA AND BHARAT HEAVY ELECTRICALS LTD.

DRG. NO. 17821812462

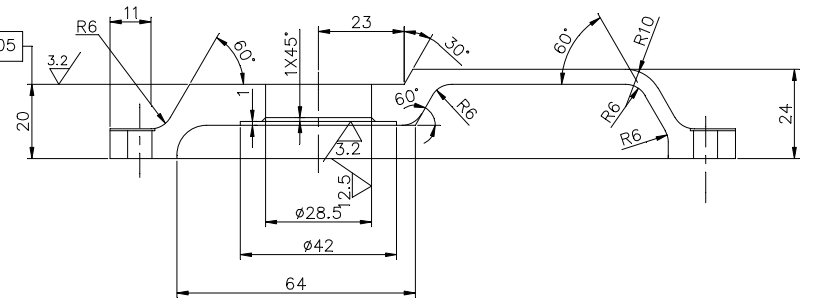
DRAWING NO. 27821812463

16 DIA SPOT FACE



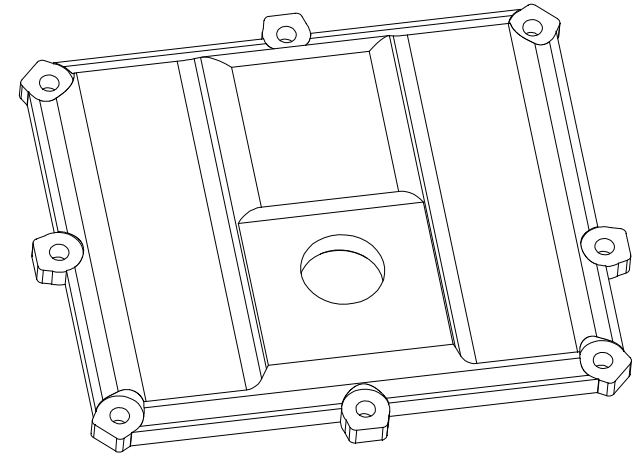
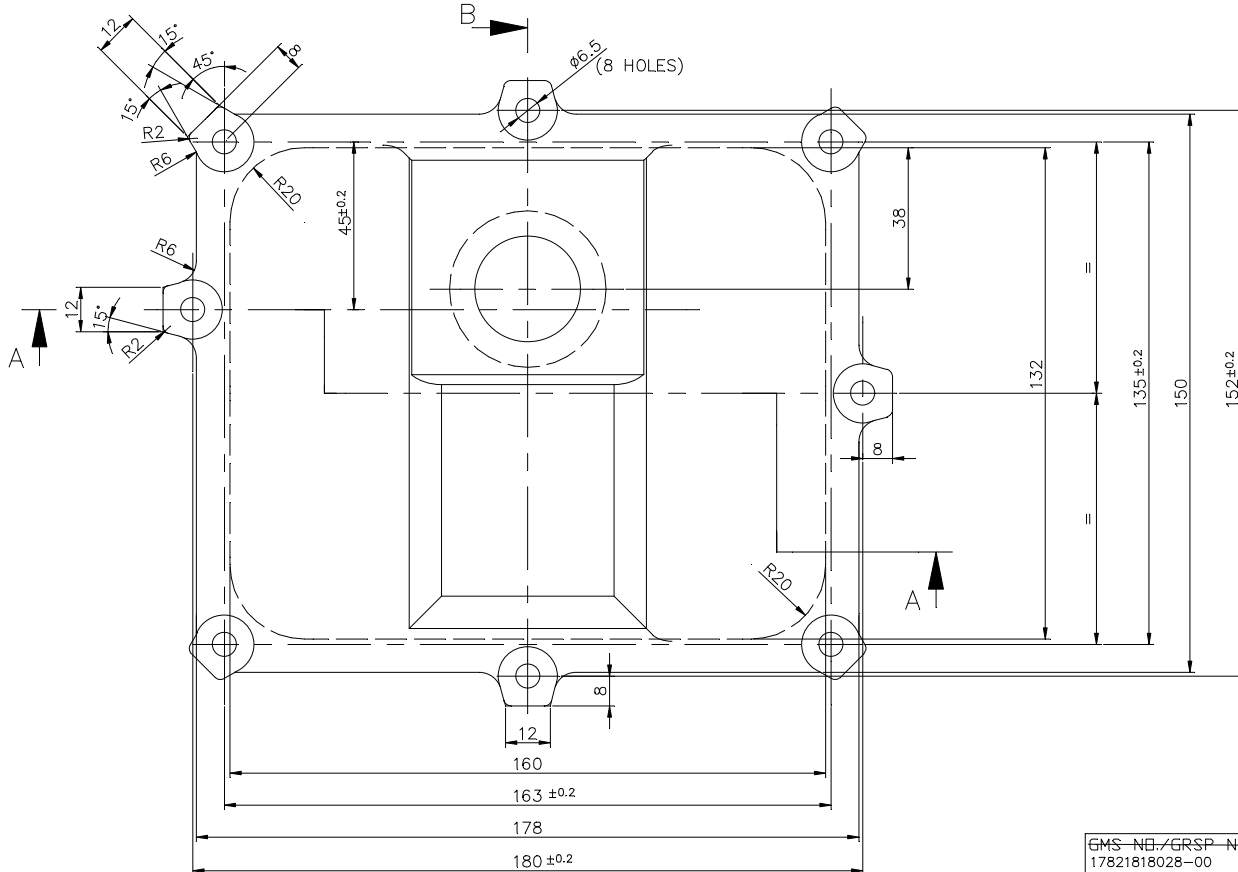
SECTION A-A

Surface texture symbol: A 0.05



SECTION B-B

ALL OVER EXCEPT OTHERWISE STATED



ISOMETRIC VIEW

TECH.REQUIREMENT

1. IDENTIFICATION ACCORDING TO HW0400397.
2. FINAL PROTECTION FINISH AS PER (RS 4.) HW0986094
3. APPLY ONE COAT OF PRIMER SPEC. MIL-P-8585 AND 2 COATS OF ENAMEL LIGHT GRAY (COLOR 26440 OF FED-STD-595) SPEC. TT-E 529.

GENERAL TOLERANCES LINEAR DIMENSIONS UP TO 18 ±0.15 > 18 TO 80 ±0.25 > 80 ±0.4 ANGLES ±30°	CASTING TOLERANCES LINEAR DIMENSIONS ±(0.5%+1MM) THICKNESS ±8% (MIN. ±0.5mm) ANGLES ±2°	FORGING TOLERANCES LINEAR DIMENSIONS UP TO 18 ±0.5-0.3 > 18 TO 80 H1 -0.5 > 80 H2 -0.8 ANGLES ±1°	UNLESS OTHERWISE SPECIFIED ROUND EDGES 0.3 AND CHAMFER 0.3x45° SURFACE MARKED --- REQUIRE STOCK MATERIAL TO BE REMOVED AT ASSEMBLY
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GMS NO./GRSP NO. 17821818028-00	STATUS OF DRG.
AGREED	DATE
NCT S.JOSHI	SD/- 10.11.03
MTE ASHISH	SD/- 10.11.03

GRADE OF UNTOL.DIM. :-	M/CG-C/M/F AA0230208
WELDING-A/B/C/D	AA0621104
GAS CUTTING	T3-AA0621101

TYPE OF PRODUCT SRGM 76/62  
OR  
NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD. HARDWAR	DRN. P.SINGH	SIGN. SD/-	DATE 22.05.03	NO.OF VAR.
	CHD. O.P.S	SD/-	05.06.03	-
	APPD.V.K.K	SD/-	11.11.03	-

REV. 02	DATE 16.12.19	ALTERED SANDEEP	REV. 01	DATE 03.07.19	ALTERED SANDEEP
CHECKED RAHUL		CHECKED RAHUL			
ZONE WEIGHT CORRECTED.		ZONE ISOMETRIC VIEW ADDED & GRAPHIC CORRECTED AND WEIGHT CORRECTED FROM 1.7 KG. TO 0.48 KG.			

DEPT. DFP	SCALE N.T.S	WEIGHT (KG) 0.2	REF. TO ASSY DRG. 17821818028-00	ITEM NO. 4	NO.OF ITEMS -
CODE 6580					

TITLE COVER HOUSING	DRAWING NO. 27821812463	REV. -
	SHEET NO. 01	NO OF SHEETS 01

PROPRIETARY DATA OF LTD MELARA SPA  
 LIMITED RIGHTS OF TECHNICAL DATA  
 THE TECHNICAL DATA HEREIN IS SUBJECT TO THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT BETWEEN LTD MELARA SPA AND BHARAT HEAVY ELECTRICALS LTD  
 THE TECHNICAL DATA CONTAINED HEREIN IS RESTRICTED AS TO USE, REPLICATION OR DISCLOSURE AS PER TERMS AND CONDITIONS OF THE LICENSE AGREEMENT  
 INVENTORY NO. SIGN & DATE 127618463-01 REF. DRG. NO.

**Buyer Added Bid Specific Additional Terms & Conditions (ATC)**

<b>1.</b>	<b>PRE QUALIFICATION CRITERIA: AS PER ENCLOSED PQR CHECKLIST</b>
<b>2.</b>	<b>SCOPE OF SUPPLY: AS PER ANNEXURE - A</b>
<b>3.</b>	<b>PRICE BASIS:</b> Price in INR should be quoted for FOR BHEL HEEP HARIDWAR basis
<b>4.</b>	<p><b>TAXES &amp; DUTIES:</b></p> <p><b>4.1</b> The Supplier/Vendor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods &amp; services consumed and output goods &amp; services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit along with the applicable overheads @5% and interest on the total value (i. e. amount paid by BHEL + overhead)</p> <p>However, provisions regarding <b>GST</b> on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p> <p><b>4.2 GST (Goods and Services Tax)</b></p> <p><b>4.2.1</b> Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.</p> <p><b>4.2.2</b> The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL &amp; its Supplier/Vendor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL &amp; its Supplier/Vendor.</p> <p><b>4.2.3</b> Supplier/Vendor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Supplier/Vendor.</p> <p><b>4.2.4</b> Supplier/Vendor has to submit GST registration certificate of the concerned state. Supplier/Vendor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.</p> <p><b>4.2.5</b> Supplier/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.</p> <p><b>4.2.6</b> Supplier/Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, Supplier/Vendor has to provide scan copy of invoice &amp; GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.</p>

**4.2.7** Supplier/Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.

**4.2.8** Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Supplier/Vendor: -

- a) Supply of goods and/or services have been received by BHEL.
- b) Original Tax Invoice has been submitted to BHEL.
- c) Supplier/Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.
- d) In cases where e-invoicing provision is applicable, Supplier/Vendor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.
- e) Supplier/Vendor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return.
- f) Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the Supplier/Vendor.
- g) Supplier/Vendor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.

**4.2.9** Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from Supplier/Vendor's bill or otherwise as deemed fit.

**4.2.10** TDS as applicable under GST law shall be deducted from Supplier/Vendor's bill.

**4.2.11** Supplier/Vendor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permits, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.

**4.2.12** Supplier/Vendor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of Supplier/Vendor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.

**4.2.13** In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/altere/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Supplier/Vendor's due payment.

**4.2.14** Any denial of input credit to BHEL or arising of any tax liability on BHEL due to noncompliance of GST Law by the Supplier/Vendor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Supplier/Vendor.

	<p><b>4.2.15</b> In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the Supplier/Vendor.</p> <p><b>4.2.16 Variation in Taxes &amp; Duties:</b> Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability. In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its Supplier/Vendor only and within the contractual delivery period only.</p> <p>a) In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/ Supplier/Vendor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p> <p><b>4.3 Income Tax:</b> <b>TDS/TCS</b> as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from Supplier/Vendor's bill.</p>
5.	<b>MATERIAL DISPATCH CLEARANCE CERTIFICATE: AS PER ENQUIRY</b>
6.	<b>INSPECTION / INSPECTION &amp; TESTING AT SUPPLIERS WORKS: AS PER APPROVED QAP.</b>
7.	<b>DELIVERY PERIOD: AS PER ANNEXURE - A</b>
8.	<b>TRANSIT INSURANCE:</b> Transit Insurance of material is in Supplier/Vendor's scope. Supplier/Vendor shall insure the material at their cost for transportation.
9.	<p><b>a) PAYMENT TERMS:</b></p> <p>i. <b>FOR NON-MSME BIDDERS:</b> 100% PAYMENT ALONG WITH TAXES, FREIGHT &amp; INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 90 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS. (MSME MEANS MICRO, SMALL &amp; MEDIUM ENTERPRISES) (THIS IS IN SUPERSESSION OF 10 DAYS' TIME AS PROVIDED IN CLAUSE 12 OF GEM GTC).</p> <p>ii. <b>FOR MSE BIDDER:</b> FOR MSES (COVERED UNDER MSME ACT), 100% PAYMENT ALONG WITH TAXES, FREIGHT &amp; INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 45 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS OR AS PRESCRIBED IN THE RELEVANT ACT. BENEFITS OF MSE (SUCH AS EMD WAIVER, TENDER FEE EXEMPTION, PRICE PREFERENCE, PAYMENT PREFERENCE ETC.) WILL BE GIVEN ONLY TO THOSE MSE VENDORS WHO ARE MANUFACTURERS OF OFFERED ITEMS AGAINST THE NIT. NO MSE BENEFITS SHALL BE PROVIDED TO AGENTS / STOCKISTS /DEALERS / TRADERS ETC. FOR THE ITEMS OFFERED BUT NOT MANUFACTURED BY THEMSELVES."</p> <p>iii. <b>FOR MEDIUM ENTERPRISES:</b> 100% PAYMENT ALONG WITH TAXES, FREIGHT &amp; INSURANCE WILL BE MADE AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AND WITHIN 60 DAYS FROM THE DATE OF RECEIPT SUBJECT TO SUBMISSION OF NON-DISCREPANT DOCUMENTS AS PER TERMS AND CONDITIONS OF PURCHASE ORDER.</p>

	<p>iv. PLEASE NOTE THAT VENDOR TO ADHERE TO THE PAYMENT TERMS AS PER ABOVE. NO DEVIATION IN PAYMENT TERMS SHALL BE ACCEPTED. VENDOR TO SUBMIT THEIR OFFER ACCORDINGLY.</p> <p>v. However, GST amount shall be reimbursed in line with compliance to Cl. No. 4 (Taxes &amp; Duties) above.</p> <p>vi. IT MAY BE NOTED THAT STANDARD PAYMENT TIMELINE/TERMS AS MENTIONED/PRINTED IN THE GEM BID SHALL NOT BE APPLICABLE. PAYMENT TERMS SHALL BE AS PER ABOVE ONLY.</p> <p><b>b) NO INTEREST PAYABLE TO CONTRACTOR:</b> No interest shall be payable on the security deposit or any other money due to the contractor”.</p>
<p><b>10.</b></p>	<p><b><u>DOCUMENTS REQUIRED ALONG WITH DISPATCH OF MATERIAL/BILLING DOCUMENTS:</u></b></p> <p>The following documents are required to be sent with material dispatch/Billing Documents:</p> <ul style="list-style-type: none"> <li>• Original Tax Invoice (As per Cl. No. 4 above).</li> <li>• Copy of LR.</li> <li>• GST COMPLIANCE CERTIFICATE</li> <li>• Warranty / Guarantee Certificate.</li> <li>• Certificate of compliance</li> <li>• TEST CERTIFICATES/ OEM COC/AD COC AS PER ENQUIRY</li> </ul>
<p><b>11.</b></p>	<p><b><u>BANK DETAILS FOR EMD &amp; PERFORMANCE SECURITY SUBMISSION: NO APPLICABLE</u></b></p>
<p><b>12.</b></p>	<p><b><u>EMD:</u></b> Applicable / Not Applicable.</p>
<p><b>13.</b></p>	<p><b><u>PERFORMANCE SECURITY:</u></b> Applicable / Not Applicable.</p>
<p><b>14.</b></p>	<p><b><u>BREACH OF CONTRACT, REMEDIES AND TERMINATION:</u></b></p> <p><b>14.1</b> The following shall amount to breach of contract:</p> <ol style="list-style-type: none"> <li>I. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time.</li> <li>II. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.</li> <li>III. The Supplier/Vendor delivers equipment/ material not of the contracted quality.</li> <li>IV. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause.</li> <li>V. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract.</li> <li>VI. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL’s written permission resulting in termination of Contract or part thereof by BHEL.</li> <li>VII. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor.</li> <li>VIII. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor.</li> <li>IX. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were</li> </ol>

of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.

- X. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

**Note-** Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

#### **14.2 Remedies in case of Breach of Contract.**

- i Wherein the period as stipulated in the notice issued under clause 14.1 has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
- ii Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of encasing the security instruments like performance bank guarantee etc. available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.
- iii wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
- iv In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.
- v) If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
  - a) from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract.
  - b) If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.

- vi) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier/Vendor.
- vii) It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.
- viii) In addition to the above, imposition of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

**Note:**

- 1) The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:
  - (a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.
  - (b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

**LD against delay in executed supply in case of Termination of Contract:**

LD against delay in executed supply shall be calculated in line with LD clause no. 18.0 below, for the delay attributable to Supplier/Vendor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of supply till termination of contract.

Method for calculation of "LD against delay in executed supply in case of termination of contract" is given below.

- i. Let the time period from scheduled date of start of supply till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii. Let the value of executed supply till the time of termination of contract = X
- iii. Let the Total Executable Value of supply for which inputs/fronfs were made available to Supplier/Vendor and were planned for execution till termination of contract = Y
- iv. Delay in executed supply attributable to Supplier/Vendor i.e.  $T2 = [1 - (X/Y)] \times T1$
- v. LD shall be calculated in line with LD clause (clause 18.0) of the Contract for the delay attributable to Supplier/Vendor taking "X" as Contract Value and "T2" as period of delay attributable to Supplier/Vendor.

**15. BILL TO/ SHIP TO ADDRESS:**

<b><u>Shipping Address as below:</u></b>	<b><u>Billing address as below:</u></b>
Shipping Section, Central Plant Stores, HEEP, BHEL, Haridwar-249403 Uttarakhand, HARIDWAR, UTTARAKHAND-249403, India	HEAVY ELECTRICALS EQUIPMENT PLANT, BHEL, RANIPUR, HARIDWAR, Haridwar, Uttarakhand, 249403 GST No.: 05AAACB4146P1ZL

**16. GUARANTEE/WARRANTY:** Standard Guarantee / Warrantee period of 1 year is applicable from the date of receipt of material at BHEL Haridwar as per Gem GTC

<p><b>17.</b></p>	<p><b><u>MICRO AND SMALL ENTERPRISES (MSE):</u></b>  Any Bidder falling under MSE category shall furnish the following details &amp; submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer.</p> <table border="1" data-bbox="293 268 1500 474"> <thead> <tr> <th>Type under MSE</th> <th>SC/ST owned</th> <th>Women owned</th> <th>Others (excluding SC/ ST &amp; Women Owned)</th> </tr> </thead> <tbody> <tr> <td>Micro</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Small</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Note:</b> If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.</p> <p>a) MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F. No. 21(8)/2011-MA dtd. 09/11/2016 office of AS &amp; DC, MSME) only if they submit along with the offer, attested copies of either UDYAM Registration. Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. Non-submission of supporting document in GeM portal will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if the above required documents are not uploaded at the time of bid submission. Documents submitted by the bidder shall be verified by BHEL for rendering the applicable benefits.</p> <p><b><u>DIVISION BETWEEN MSE AND NON MSE L1 WILL BE AS BELOW:</u></b>  If price quoted by MSE vendor is within the price band of L1+15%, then 25% quantity of the respective item (rounded off to nearest number) shall be offered to MSE vendor subject to matching the L1 prices. if the quantity required is 1 number (as such non-divisible), MSE quoting with in price preference of L1+15% shall be offered 100% quantity subject to matching the L1 prices.</p> <p>MSE/MII: the supplier needs to submit/update MSE/MII credentials on gem portal during profile updation / offer submission stage. the MSE data submitted is cross verified by gem with govt. of INDIA UDYAM/NSIC database through API integration on real time basis and for mii, a self-declaration is being given and authenticated by AADHAR OTP. if the seller fails to claim MSE/MII provision on gem portal at profile updation / bid submission stage, the said seller will become ineligible for getting the MSE/MII benefits for that bid automatically. the vendor can always</p>	Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)	Micro				Small			
Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women Owned)										
Micro													
Small													
<p><b>18.</b></p>	<p><b><u>LIQUIDATED DAMAGE:</u></b>  If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract/PO, the Buyer/BHEL will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever.</p>												
<p><b>19.</b></p>	<p><b><u>INTEGRITY PACT (IP):</u></b> Applicable/ Not Applicable</p>												

**20. PREFERENCE TO MAKE IN INDIA:** Applicable

For this procurement, the local content to categorize a Supplier/Vendor as a Class I local supplier/ Class II local Supplier/Non-Local Supplier and purchase preferences to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017" Dt. 19.07.2024 issued vide Order No. P-45021/2/2017-PP(BE-II)-Part(4)Vol.II. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the GeM Bid, the same shall be applicable even if issued after issue of this GeM Bid, but before opening of Part-II bids against this GeM Bid.

Suppliers who have qualified and received incentive under PLI scheme will be deemed CLASS-II local suppliers unless they are already CLASS I local suppliers) to encourage indigenization.

**Kindly submit MAKE IN INDIA certificate as per attached format only**

**PENAL PROVISIONS FOR FALSE SELF DECLARATION OF MII, IN CASE OF CONTRACT MORE THAN RS 10 CRS.**

For contracts valuing more than Rs. 10 crores, local content (in cases of self-certification submitted by bidders at the time of tendering) will be re-verified during execution of contract by cost/ chartered accountant, and in case of defaults, penalty upto 10% of the contract value shall be imposed.

For this procurement, the local content to categorize a supplier as a CLASS I local supplier/ CLASS II local supplier/ non-local supplier and purchase preference to class i local supplier, is as defined in public procurement (preference to MAKE IN INDIA), order 2017 dated 19.07.2024 issued by DPIIT. in case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the nit, the same shall be applicable even if issued after issue of this NIT, but before opening of PART-II bids against this NIT.

**20.1 Compliance to Restrictions under Rule 144 (xi) of GFR 2017:**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: -

- a. An entity incorporated established or registered in such a country; or
- b. A subsidiary of an entity incorporated established or registered in such a country; or
- c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d. An entity whose beneficial owner is situated in such a country; or
- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

IV. The beneficial owner for the purpose of (III) above will be as under:

- 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.
- 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.  
In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals.
- 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
- 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person. Note:

- (i) The bidder shall provide undertaking for their compliance to this Clause.

Registration of the bidder with Competent Authority should be valid at the time of submission of bids and at the time of acceptance of the bids.

**21. Settlement of Dispute**

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Supplier/Vendor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Engineer for amicable resolution by the parties. Designated Engineer (to be nominated by BHEL for settlement of disputes arising out of the contract) who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Supplier/Vendor who shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not.

If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Supplier/Vendor being dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per Clause 21.1

### **21.1 Conciliation:**

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in - "Procedure for conduct of conciliation proceedings" (as available in [www.bhel.com](http://www.bhel.com))).

**Note:** Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding "Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/ Entities/agencies are to encourage mediation under the Mediation Act. 2023. The said Act has not yet been notified by the Government. Therefore, the clause "Settlement of Disputes" shall be modified accordingly as and when the Mediation Act 2023 gets notified.

### **21.2 ARBITRATION:**

21.2.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 21.1 herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Arbitral Institution (to be identified by the contract issuing agency (eg. "IIAC" (India International Arbitration Centre) for Delhi/NCR offices) and such dispute to be

adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.

- 21.2.2 A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Region, Power Sector/ Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.
- 21.2.3 After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institutions as identified by the contract issuing agency) and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd. Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.
- 21.2.4 The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.
- 21.2.5 The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be HARIDWAR.
- 21.2.6 Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at HARIDWAR.
- 21.2.7 Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.
- 21.2.8 It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.
- 21.2.9 In case the disputed amount (Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.
- 21.2.10 In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause 21.2.9. Disputes having cumulative value of less than 10 crores shall be resolved through

	<p>arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.</p> <p><b>21.3 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:</b></p> <p>In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs &amp; Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 05/0003/2019-FTS-10937 dated 14-122022 as amended from time to time.</p>
<p><b>22.</b></p>	<p><b>JURISDICTION</b></p> <p>Subject to clause 21 of this contract, the Civil Court having original Civil Jurisdiction HARIDWAR shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.</p> <p><b>GOVERNING LAWS</b></p> <p>The contract shall be governed by the Law for the time being in force in the Republic of India.</p>
<p><b>23.</b></p>	<p><b>Force Majeure</b></p> <p>23.1 "Force Majeure" shall mean circumstance which is:</p> <ul style="list-style-type: none"> <li>a) beyond control of either of the parties to contract,</li> <li>b) either of the parties could not reasonably have provided against the event before entering into the contract,</li> <li>c) having arisen, either of the parties could not reasonably have avoided or overcome, and</li> <li>d) is not substantially attributable to either of the parties</li> </ul> <p>And</p> <p>Prevents the performance of the contract,</p> <p>Such circumstances include but shall not be limited to:</p> <ul style="list-style-type: none"> <li>i. War, hostilities, invasion, act of foreign enemies.</li> <li>ii. Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war.</li> <li>iii. Riot, commotion or disorder by persons other than the contractor's personnel and other employees of the contractor and sub-contractors.</li> <li>iv. Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors.</li> <li>v. Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity.</li> <li>vi. Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc.</li> <li>vii. Epidemic, pandemic etc.</li> </ul>

	<p>23.2 The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.</p> <p>23.3 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.</p> <p>23.4 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.</p> <p>23.5 Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not</p> <ul style="list-style-type: none"> <li>i. Constitute a default or breach of the Contract.</li> <li>ii. Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.</li> </ul> <p>23.6 BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Supplier/Vendor cannot consider deemed short-closure after 1 year of imposition of Force Majeure.</p>
<p><b>24.</b></p>	<p><b>Non-Disclosure Agreement:</b> <del>Applicable</del> / Not Applicable</p>
<p><b>25.</b></p>	<p><b>Cartel Formation</b></p> <p>The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines</p>
<p><b>26.</b></p>	<p><b>Fraud Prevention Policy</b></p> <p>Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.</p>
<p><b>27.</b></p>	<p><b><u>Suspension of Business Dealings with Suppliers / Contractors:</u></b></p> <p>The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site <a href="http://www.bhel.com">www.bhel.com</a>.</p> <p>If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, malpractices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal</p>

	<p>Code, 1860 (Bhartiya Nyaya Samhita 2023) or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on <a href="http://www.bhel.com">www.bhel.com</a> and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage:</p> <p><a href="https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors">https://www.bhel.com/guidelines-suspension-business-dealings-supplierscontractors</a></p>		
<p><b>28.</b></p>	<p>Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection. In the event of any Technical or Commercial queries, the same may please be addressed to the following BHEL concerned before Part I opening-</p> <table border="1" data-bbox="285 596 1487 737"> <tr> <td data-bbox="285 596 899 737"> <p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p> </td> <td data-bbox="899 596 1487 737"> <p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p> </td> </tr> </table>	<p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p>	<p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p>
<p>Manager/PPX-DABG Email id- akshukla@bhel.in Ph. No. - +91-01334285076</p>	<p>Add Engr. II/ PPX-DABG Email id- anupamk@bhel.in Ph. No.- +91- 01334285076</p>		
<p><b>29.</b></p>	<p>Order of Precedence: In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:</p> <ol style="list-style-type: none"> <li>a) Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL.</li> <li>b) Buyer Added Bid Specific ATC</li> <li>c) GeM Bid Technical Conditions of Contract (TCC)</li> <li>d) GeM GTC</li> </ol>		
<p><b>30.</b></p>	<p><b>NOTE:</b></p> <ol style="list-style-type: none"> <li>1. In the event of our customer order covering this tender being cancelled /placed on hold /otherwise modified, BHEL would be constrained to accordingly cancel / hold / modify the tender at any stage of execution.</li> <li>2. BHEL may negotiate the L1 rate, if not meeting our budget / estimated cost. BHEL may re-float the tender opened, if L1 price is not acceptable to BHEL even after negotiation. Any deviation from the conditions specified in tender may lead to rejection of offer.</li> <li>3. Any change in applicable rates of Tax or any other statutory levies (Direct / Indirect) or any new introduction of any levy by means of statute and its corresponding liability for the deliveries beyond the agreed delivery date for reasons not attributable to BHEL will be to vendors account. BHEL will not reimburse the same and any subsequent claim in this respect will be summarily rejected.</li> <li>4. BHEL reserves its right to reject an offer due to unsatisfactory past performance by the respective Vendor in the execution of any contract to any BHEL project / Unit.</li> <li>5. The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the banned firms /principal/agents, shall be rejected. The list of banned firms is available on BHEL web site <a href="http://www.bhel.com">www.bhel.com</a>.</li> <li>6. Recovery / deduction as applicable as per Direct and Indirect taxes as notified by Govt. Of India from time to time will be made and information/certificate for such deduction/recoveries shall be provided by BHEL to the vendor.</li> </ol>		

	<p>7. Rest Terms and Conditions shall be as per GEM (Latest version- applicable at the time of issuance of enquiry) and enquiry ATC (Additional terms &amp; conditions).</p> <p>8. While generating invoice in GEM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.</p> <p>9. THE PRICE QUOTE BY BIDDER SHOULD BE INCLUSIVE OF GST.</p> <p>10. Vendor to upload/submit DIGITILY signed documents to BHEL B2B portal at the time of supply.</p> <p>11. The tender enquiry has been issued on GEM and BHEL portals for wider circulation. however, the offer is to be submitted through GEM portal only. also, all future corrigendum/corrigenda, addendum/addenda, amendments, time extensions, clarifications, etc. against the published gem bid shall be issued on gem portal only. Hence, the bidders are advised to check GEM portal only for latest updates/amendments/communications issued by BHEL against the current tender.</p> <p>12. Vendor to offer best delivery schedule in line with BHEL tender requirement. Delivery is not sacrosanct. However, offer of vendors may not be considered whose quoted delivery does not match with BHEL requirement.</p> <p>13. Data sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the data sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.</p> <p>14. In case vendor (The Proprieter, Partner(s), Director(s) of our Company/Firm) have any relation or relatives employed in BHEL, vendor to inform the same specifically in their offer.</p> <p>15. Bidder shall submit the following documents along with their bid for vendor code creation:</p> <ul style="list-style-type: none"> <li>• COPY OF PAN CARD</li> <li>• COPY OF GSTIN</li> <li>• COPY OF MSE CERIFICATE</li> </ul> <p>16. The bids received from same IP address shall be outrightly rejected and shall not be considered for further evaluation.</p>
<p><b>31.</b></p>	<p><b>Grievance Redressal Mechanism</b></p> <p>To promote transparency and ensure fair treatment of all bidders, a structured Grievance Redressal Mechanism is in place to address any concerns or issues arising during the tendering process or in subsequent business dealings with the company.</p> <p>Suppliers/Contractors are requested to follow the below escalation process for grievance resolution:</p> <ol style="list-style-type: none"> <li>1. First Level: Any grievance should initially be addressed to the designated Dealing Officer, whose contact details are provided in the Notice Inviting Tender (NIT)/Contract.</li> <li>2. Second Level: If the issue remains unresolved, it may be escalated by lodging a formal grievance through the SUVIDHA Portal: <a href="https://suvidha.bhel.in/suvidha/">https://suvidha.bhel.in/suvidha/</a></li> </ol> <p>Responses will be provided in accordance with the defined escalation matrix."</p>
<p><b>32.</b></p>	<p><b>CONFLICT OF INTEREST AMONG BIDDERS/ AGENTS</b></p>

"A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of procuring entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) They have controlling partner (s) in common; OR
- b) They receive or have received any direct or indirect subsidy/ financial stake from any of them; OR
- c) They have the same legal representative/agent for purposes of this bid; OR
- d) They have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder; OR
- e) Bidder participates in more than one bid in this bidding process. participation by a bidder in more than one bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/sub-assembly/ assemblies from one bidding manufacturer in more than one bid; OR
- f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. one manufacturer can also authorise only one agent/dealer. There can be only one bid from the following:
  - 1. The principal manufacturer directly or through one INDIAN agent on his behalf;  
AND
  - 2. INDIAN/FOREIGN agent on behalf of only one principal;  
OR
- g) A bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the bid; OR
- h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business."

**Treatment of cases regarding conflict of interest:**

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i. If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii. The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii. Procurement of goods directly from the manufacturers/suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/

	<p>supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorised distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.</p> <p>iv. A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.</p> <p><u>The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.</u> In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.</p>
<p><b>33.</b></p>	<p><b>For supply orders placed on Indian Suppliers:</b> Irrespective of the value of the invoice amount, the bidder / vendor should necessarily upload the despatch &amp; invoice details on BHEL SUVIDHA portal at <a href="https://suvidha.bhel.in/suvidha/">https://suvidha.bhel.in/suvidha/</a> , prior to despatch. All documents as per PO checklist, along with additional documents (if any), must be uploaded on the portal. It is mandatory that tax invoices with a net amount (including taxes) exceeding Rs five lakhs uploaded on the portal are digitally signed using a Class 3 Digital Signature Certificate (DSC) issued by a licensed Certifying Authority. Submission of invoice document in hard copy is allowed for invoices with a net amount (including taxes) equal to and upto Rs. five lakhs, in case they were not digitally signed and uploaded on the portal.</p> <p>The material will not be accepted inside BHEL in absence of the above. "</p>
<p><b>34.</b></p>	<p><b>Enclosure:</b></p> <ul style="list-style-type: none"> <li>• Annexure-A: ITEM DETAILS / SCOPE OF SUPPLY</li> <li>• PQR CHECKLIST</li> <li>• TECHNICAL CHECKLIST</li> <li>• DRAWINGS</li> <li>• MII FORMAT</li> <li>• COMMERCIAL &amp; QUALITY CHECKLIST</li> <li>• ATC</li> </ul>