

बिड दस्तावेज़ / Bid Document

बिड विवरण/Bid Details	
बिड बंद होने की तारीख/समय /Bid End Date/Time	04-07-2025 13:00:00
बिड खुलने की तारीख/समय /Bid Opening Date/Time	04-07-2025 13:30:00
बिड पेशकश वैधता (बंद होने की तारीख से)/Bid Offer Validity (From End Date)	90 (Days)
मंत्रालय/राज्य का नाम/Ministry/State Name	Ministry Of Heavy Industries And Public Enterprises
विभाग का नाम/Department Name	Department Of Heavy Industry
संगठन का नाम/Organisation Name	Bharat Heavy Electricals Limited (bhel)
कार्यालय का नाम/Office Name	10090001-edn Bangalore
कुल मात्रा/Total Quantity	4
वस्तु श्रेणी /Item Category	Fixture Single Suit Empty Cubical (BHEL Material code: ED6841305981) , Fixture Double Suit Empty Cubical (BHEL Material code: ED6841505666) , Fixture Triple Suit Empty Cubical (BHEL Material code: ED6841505674) , Fixture Quadtriple Suit Empty Cubical (BHEL Material code: ED6841505682)
GeMARPTS में खोजी गई स्ट्रिंग्स / Searched Strings used in GeMARPTS	Fixture for Empty Cubical Assemblies
GeMARPTS में खोजा गया परिणाम / Searched Result generated in GeMARPTS	Oil filter assembly for wheel loader
अधिसूचना के लिए चयनित प्रासंगिक श्रेणियाँ / Relevant Categories selected for notification	<ul style="list-style-type: none"> Metal Frame
एमएसएमई के लिए अनुभव के वर्षों और टर्नओवर से छूट प्रदान की गई है/MSE Exemption for Years of Experience and Turnover	No
स्टार्टअप के लिए अनुभव के वर्षों और टर्नओवर से छूट प्रदान की गई है /Startup Exemption for Years of Experience and Turnover	No
विक्रेता से मांगे गए दस्तावेज़/Document required from seller	Additional Doc 1 (Requested in ATC) *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer

बिड विवरण/Bid Details	
क्या आप निविदाकारों द्वारा अपलोड किए गए दस्तावेजों को निविदा में भाग लेने वाले सभी निविदाकारों को दिखाना चाहते हैं? संदर्भ मेनू है/Do you want to show documents uploaded by bidders to all bidders participated in bid?	No
बिड से रिवर्स नीलामी सक्रिय किया/Bid to RA enabled	No
क्रेता के लिए उपलब्ध आईटीसी/ITC available to buyer	Yes
बिड का प्रकार/Type of Bid	Two Packet Bid
प्राथमिक उत्पाद श्रेणी/Primary product category	Fixture Single Suit Empty Cubical (BHEL Material code: ED6841305981)
तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय /Time allowed for Technical Clarifications during technical evaluation	2 Days
निरीक्षण आवश्यक (सूचीबद्ध निरीक्षण प्राधिकरण /जेम के साथ पूर्व पंजीकृत एजेंसियों द्वारा)/Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM)	No
Payment Timelines	Payments shall be made to the Seller within 90 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC)
मूल्यांकन पद्धति/Evaluation Method	Item wise evaluation/
मध्यस्थता खंड/Arbitration Clause	No
सुलह खंड/Mediation Clause	No

ईएमडी विवरण/EMD Detail

आवश्यकता/Required	No
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ईपीबीजी विवरण /ePBG Detail

आवश्यकता/Required	No
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विभाजन/Splitting

बोली विभाजन लागू नहीं किया गया/ Bid splitting not applied.

एमआईआई खरीद वरीयता/MII Purchase Preference

एमआईआई खरीद वरीयता/MII Purchase Preference	No
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एमएसई खरीद वरीयता/MSE Purchase Preference

एमएसई खरीद वरीयता/MSE Purchase Preference	Yes
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1. Purchase preference will be given to MSEs having valid Udyam Registration and whose credentials are validated online through Udyam Registration portal as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail themselves of the Purchase preference, the bidder must be the manufacturer / OEM of the offered product on GeM. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises and hence resellers offering products manufactured by some other OEM are not eligible for any purchase preference. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service and Buyer will decide eligibility for purchase preference based on documentary evidence submitted, while evaluating the bid. If L-1 is not an MSE and MSE Seller (s) has / have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such MSE Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total quantity. The buyers are advised to refer the OM No. F.1/4/2021-PPD dated 18.05.2023 [OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if seller is validated on-line in GeM profile as well as validated and approved by Buyer after evaluation of documents submitted.

2. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

If the buyer has mentioned MSE purchase preference in ATC then service provider is required to upload necessary documents for MSE purchase preference for verification by the buyer during evaluation.

मूल्यांकन विधि(मदवार मूल्यांकन विधि) / Evaluation Method (Item Wise Evaluation Method)

Contract will be awarded schedulewise and the determination of L1 will be done separately for each schedule. The details of item-consignee combination covered under each schedule are as under:

मूल्यांकन अनुसूचियां / Evaluation Schedules	वस्तु/श्रेणी / Item/Category	मात्रा / Quantity
Schedule 1	Fixture Single Suit Empty Cubical (Bhel Material Code: Ed6841305981)	1
Schedule 2	Fixture Double Suit Empty Cubical (Bhel Material Code: Ed6841505666)	1
Schedule 3	Fixture Triple Suit Empty Cubical (Bhel Material Code: Ed6841505674)	1
Schedule 4	Fixture Quadtriple Suit Empty Cubical (Bhel Material Code: Ed6841505682)	1

Fixture Single Suit Empty Cubical (BHEL Material Code: ED6841305981) (1 pieces)

तकनीकी विशिष्टियाँ /Technical Specifications

क्रेता विशिष्टि दस्तावेज़ /Buyer Specification Document	Download
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इनपुट कर क्रेडिट(आईटीसी) तथा रिवर्स प्रभार (आरसीएम)/Input Tax Credit(ITC) and Reverse Charge(RCM) Details

जीएसटी पर इनपुट कर क्रेडिट /ITC on GST	जीएसटी उपकर कर क्रेडिट /ITC on GST Cess
100%	NA

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.N o.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Kathirvel.P	560026,MANAGER STORES,- GI Bharat Heavy Electricals Limited Electronics Division, Mysore Road, Bangalore - 560026 Karnataka India	1	30

Fixture Double Suit Empty Cubical (BHEL Material Code: ED6841505666) (1 pieces)**तकनीकी विशिष्टियाँ /Technical Specifications**

क्रेता विशिष्टि दस्तावेज़ /Buyer Specification Document	Download
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इनपुट कर क्रेडिट(आईटीसी) तथा रिवर्स प्रभार (आरसीएम)/Input Tax Credit(ITC) and Reverse Charge(RCM) Details

जीएसटी पर इनपुट कर क्रेडिट /ITC on GST	जीएसटी उपकर कर क्रेडिट /ITC on GST Cess
100%	NA

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Kathirvel.P	560026,MANAGER STORES,- GI Bharat Heavy Electricals Limited Electronics Division, Mysore Road, Bangalore - 560026 Karnataka India	1	30

Fixture Triple Suit Empty Cubical (BHEL Material Code: ED6841505674) (1 pieces)

तकनीकी विशिष्टियाँ /Technical Specifications

क्रेता विशिष्टि दस्तावेज़ /Buyer Specification Document	Download
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इनपुट कर क्रेडिट(आईटीसी) तथा रिवर्स प्रभार (आरसीएम)/Input Tax Credit(ITC) and Reverse Charge(RCM) Details

जीएसटी पर इनपुट कर क्रेडिट /ITC on GST	जीएसटी उपकर कर क्रेडिट /ITC on GST Cess
100%	NA

परेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	परेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Kathirvel.P	560026,MANAGER STORES,- GI Bharat Heavy Electricals Limited Electronics Division, Mysore Road, Bangalore - 560026 Karnataka India	1	30

Fixture Quadtriple Suit Empty Cubical (BHEL Material Code: ED6841505682) (1 pieces)

तकनीकी विशिष्टियाँ /Technical Specifications

क्रेता विशिष्टि दस्तावेज़ /Buyer Specification Document	Download
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इनपुट कर क्रेडिट(आईटीसी) तथा रिवर्स प्रभार (आरसीएम)/Input Tax Credit(ITC) and Reverse Charge(RCM) Details

जीएसटी पर इनपुट कर क्रेडिट /ITC on GST	जीएसटी उपकर कर क्रेडिट /ITC on GST Cess
100%	NA

प्रेषिती/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.No.	प्रेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Kathirvel.P	560026,MANAGER STORES,- GI Bharat Heavy Electricals Limited Electronics Division, Mysore Road, Bangalore - 560026 Karnataka India	1	30

क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें/Buyer Added Bid Specific Terms and Conditions

1. Scope of Supply

Scope of supply (Bid price to include all cost components) : Only supply of Goods

2. Generic

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.

3. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

4. Generic

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

5. Generic

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.

6. Buyer Added Bid Specific ATC

Buyer Added text based ATC clauses

A. Payment Timelines:

Type of Bidder	Payment Terms (Number of days)
Micro & Small Enterprises (MSEs)	45 days from CRAC date
Medium Enterprises	60 days from CRAC date
Non MSME	90 days from CRAC date

B. Contact Details:**Engineering Dept.**

Mr. Kathirvel P/ Engineer
e-mail: kathirvel@bhel.in
Tel: 080 26998111

Tender Dept.

Mr. Dinesh Kumar Bhagat/ Manager
e-mail: dkbhagat@bhel.in
Tel: 080 26998108

अस्वीकरण/Disclaimer

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. If any clause(s) is / are incorporated by the Buyer regarding following, the bid and resultant contracts shall be treated as null and void and such bids may be cancelled by GeM at any stage of bidding process without any notice:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process. (However, in bids for [attached categories](#), trials are allowed as per approved procurement policy of the buyer nodal Ministries)
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.
15. Buyer added ATC Clauses which are in contravention of clauses defined by buyer in system generated bid template as indicated above in the Bid Details section, EMD Detail, ePBG Detail and MII and MSE Purchase Preference sections of the bid, unless otherwise allowed by GeM GTC.
16. In a category based bid, adding additional items, through buyer added additional scope of work/ additional terms and conditions/or any other document. If buyer needs more items along with the main item, the same must be added through bunching category based items or by bunching custom catalogs or bunching a BoQ with the main category based item, the same must not be done through ATC or Scope of Work.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

All GeM Sellers / Service Providers are mandated to ensure compliance with all the applicable laws / acts / rules including but not limited to all Labour Laws such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972 etc. Any non-compliance will be treated as breach of contract and Buyer may take suitable actions as per GeM Contract.

[यह बिड सामान्य शर्तों के अंतर्गत भी शासित है /This Bid is also governed by the General Terms and Conditions](#)

जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्यवाई का आधार होगा।/In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, 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. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

---धन्यवाद/Thank You---



ಭಾರತ್ ಹೆವಿ ಎಲೆಕ್ಟ್ರಿಕಲ್ಸ್ ಲಿಮಿಟೆಡ್
भारत हेवी इलेक्ट्रिकल्स लिमिटेड

PHONE : 080 – 26998108

E-MAIL : dkbhagat@bhel.in

Bharat Heavy Electricals Limited

(A Government of India Undertaking)

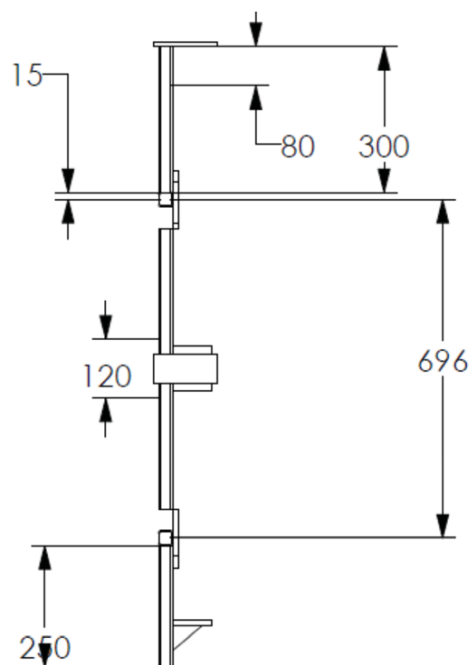
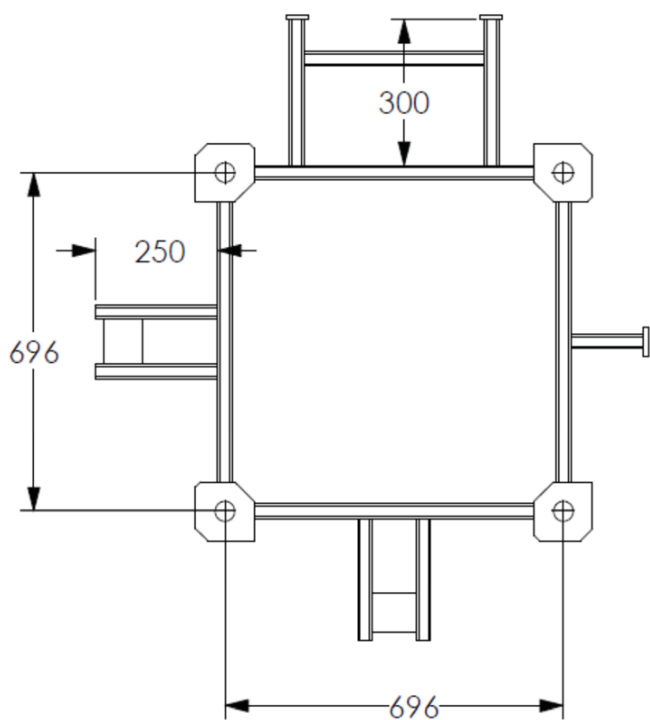
ELECTRONICS DIVISION


P. B. No. 2606, Mysore Road, Bangalore - 560 026

Technical Specification

Schedule	Specification for Fixture Single Suit Empty Cubical (BHEL Material Code: ED6841305981)	Total Quantity required
1	Refer Drawing No: PS/309/25-26/TOOL009-01	01 No.

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QTY	ITEM NO	DESCRIPTION	DRAWING NO	VAR.	MATERIAL CODE	A	UNIT WT(Kgs)	
					ED6841305981		As per the Drawing QTY.	
1	TOOL 009	FIXTURE SINGLE SUIT EMPTY CUBICAL	PS/309/25-26/TOOL009-01		MATERIAL.SPEN.	C		
					30mm Box channel (SS)		1	
		BHARAT HEAVY ELECTRICALS LIMITED ELECTRONICS DIVISION, BANGALORE			NAME	SIGN.	DATE	No. OF VAR
	DRN			Md.Sahajahan Kabir				
	CHECKED			P.Kathirvel				
	APPD			N.Yaswanth				
DEPT:PS		FOR UNSPECIFIED TOLERANCES REFER ED 0230499	SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.		ITEM NO.	No. OF ITEM
CODE:309			NTS					
TITLE: FIXTURE SINGLE SUIT EMPTY CUBICAL 6				DRAWING NO. PS/309/25-26/TOOL009-01				REV.
				SHEET NO.1		NO. OF SHEETS:1		

TOOL (TROP)/12/2025-FDN-P&TS (Computer No. 188888)

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BHEL	PLANT STANDARD	ED 023 04 99
A4 - 15	ELECTRONICS DIVISION	REV NO 04
		PAGE 0 OF 3

REVISION HISTORY SHEET

REV NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	09/11/93	1st ISSUE		MRV, SHG	N.J
01	11/09/95	Clause 5.0 added, Clause 6.0 was earlier 5.0	BVQI Audit Feedback	MRV, SHG	N.J
02	11/10/96	Clause 2, 3.1, 3.3 revised, 3.1.1, 3.1.2 added	BVQI Audit Feedback	MRV, SHG	N.J
03	10/01/97	Clause 3.2.3 added	F.B From QS	SHG	N.S
04	13/02/02	Reaffirmation	-	CCR	NS
04	29/12/21	Reaffirmation	-	M S KABIR	Sanjay R Godbole

APPROVED:
SRG

PREPARED: ISSUED: DATE:
MSK ENGG SERV. 15-02-22.

PROCEDURE FOR ALLOWABLE TOLERANCE FOR UNSPECIFIED TOLERANCE
ON DRAWINGS

1.0 SCOPE:

This standard specifies the tolerance not specified in ASSEMBLY and FABRICATED COMPONENT drawings.

2.0 GENERAL:

This standard shall be referred in all Mechanical Drawings (for all assembly and fabricated components) prepared subsequent to issue of this standard.

All the dimensions are in mm unless otherwise specified.

3.0 UNSPECIFIED TOLERANCE: Tolerance shall be as under unless other wise specified in DRAWINGS.

3.1 Tolerance on machining :(for machining with chips of all metals and non-metallic such as ceramics, plastic materials etc.,)

Reference is taken from Corporate Standard AA 023 02 08
Table 1 - Medium Class of Deviation for Linear Dimensions is to be followed unless otherwise specified.

Class of Deviation	Range of Nominal Dimensions									
	Above Upto and Including	0.5	3	6	30	120	315	1000	2000	
		3	6	30	120	315	1000	2000	4000	
Medium		±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	± 2	
Coarse		-	±0.2	±0.5	±0.8	±1.2	± 2	± 3	± 4	

APPROVED:
SRG

PREPARED: MSK ISSUED: DATE:
ENG G SERV. 15-02-22.

BHEL	PLANT STANDARD	ED 023 04 99
A4 - 14	ELECTRONICS DIVISION	REV NO 04
		PAGE 2 OF 3

3.2.1. Tolerance on non-machining: (for sheet metal fabrication, bus bar bending) - Reference is taken from Corporate standard AA 062 11 04.

Degree of accuracy B is to be followed for sheet metal forming and Degree of accuracy C is to be followed for bus bar forming unless otherwise specified.

Degree of Accuracy	Range of Nominal Dimensions						
	Over Upto & Including	30	120	300	1000	2000	4000
B		± 1	± 2	± 3	± 4	± 6	± 8
C		± 2	± 3	± 4	± 6	± 8	± 10

A permissible variation of ± 1 mm applies to dimensions upto 30 mm.

TOLERANCE ON BENDING OPERATION: PARALLELISM: ± 2 mm for 500 mm

3.2.2. Tolerance on sheared dimensions (cut lengths) for sheared Plates: - Reference is taken from Corporate standard AA023 04 09.

Thickness		Nominal Dimensions Range		
Above	upto	upto 1000	1000 - 2500	2500 - 5000
-	3	± 1	± 2	± 2
3	6	± 2	± 2	± 3

3.2.3 ALLOWABLE TOLERANCE FOR BEND TWIST AND BOW IN SHEET

METAL FORMING AND BENDING OPERATIONS: UPTO 20 mm.

3.3 TOLERANCE ON ASSEMBLY OF CUBICLE OUTER DIMNS: ± 2.0 mm

3.3.1 BOLTED ASSEMBLY FOR INTERIOR DIMENSIONS: ± 2.0 mm

3.3.2 BOLTED ASSEMBLY FOR STRAIGHTNESS, FORM & POSITION: ± 2.0 mm

3.3.3 WELDED ASSEMBLY FOR LINEAR & ANGULAR DIMENSIONS: As per Corporate Standard: AA 062 11 04 CLASS A.

- 3.4 WELDED ASSEMBLY FOR FORM & POSITION: As per Corporate Standard AA 062 11 05 CLASS E.
- 4.0 ANGULAR TOLERANCE: As per Corporate Standard AA 023 02 08
- 5.0 Tolerance for mounting of components in Regulation/ Control Cubicles.
- 5.1) For location and mounting arrangement of components, the General Arrangement Drawing for the cubicle is to be referred.
- 5.2) The relative arrangement of component shall be as per General Arrangement Drawing. The minimum distance between two adjacent rows of components shall not be less than 10 mm.
- 5.3) Mounting of components on C-channel are sliding type can be varied by ± 10 mm for every 100 mm distance. However, a minimum gap as per clause 5.2 is to be maintained.
- 5.4) A minimum of 10 mm distance is to be kept between component assembly and side/top/ end covers.
- 6.0 GENERAL PRACTICES
- Unless otherwise specified:
Remove all sharp corners.
Bending radius shall be equal to material thickness.



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भारत हेवी इलेक्ट्रिकल्स लिमिटेड

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Bharat Heavy Electricals Limited

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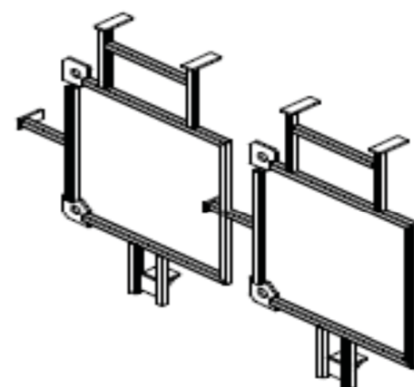
ELECTRONICS DIVISION

P. B. No. 2606, Mysore Road, Bangalore - 560 026

Technical Specification

Schedule	Specification for Fixture Double Suit Empty Cubical (BHEL Material Code: ED6841505666)	Total Quantity required
2	Refer Drawing No: PS/309/25-26/TOOL009-02	01 No.

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BHARAT HEAVY ELECTRICALS LIMITED
ELECTRONICS DIVISION, BANGALORE

	NAME	SIGN.	DATE	No. OF VAR
DRN	Md.Sahajahan Kabir			
CHECKED	P.Kathirvel			
APPD	N.Yaswanth			

DEPT:PS	FOR UNSPECIFIED TOLERANCES	SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM
CODE:309	REFER ED 0230499	NTS				
TITLE:			7	DRAWING NO.		REV.
				SHEET NO.1		NO. OF SHEETS:1

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BHEL	PLANT STANDARD	ED 023 04 99
A4 - 15	ELECTRONICS DIVISION	REV NO 04
		PAGE 0 OF 3

REVISION HISTORY SHEET

REV NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00 01	09/11/93 11/09/95	1st ISSUE Clause 5.0 added, Clause 6.0 was earlier 5.0	BVQI Audit Feedback	MRV, SHG MRV, SHG	N.J N.J
02	11/10/96	Clause 2, 3.1, 3.3 revised, 3.1.1, 3.1.2 added	BVQI Audit Feedback	MRV, SHG	N.J
03	10/01/97	Clause 3.2.3 added	F.B From QS	SHG	N.S
04	13/02/02	Reaffirmation	-	CCR	NS
04	29/12/21	Reaffirmation	-	M S KABIR	Sanjay R Godbole

APPROVED:
SRG

PREPARED:	ISSUED:	DATE:
MSK	ENGG SERV.	15-02-22.

PROCEDURE FOR ALLOWABLE TOLERANCE FOR UNSPECIFIED TOLERANCE
ON DRAWINGS

1.0 SCOPE:

This standard specifies the tolerance not specified in ASSEMBLY and FABRICATED COMPONENT drawings.

2.0 GENERAL:

This standard shall be referred in all Mechanical Drawings (for all assembly and fabricated components) prepared subsequent to issue of this standard.

All the dimensions are in mm unless otherwise specified.

3.0 UNSPECIFIED TOLERANCE: Tolerance shall be as under unless other wise specified in DRAWINGS.

3.1 Tolerance on machining :(for machining with chips of all metals and non-metallic such as ceramics, plastic materials etc.,)

Reference is taken from Corporate Standard AA 023 02 08
Table 1 - Medium Class of Deviation for Linear Dimensions is to be followed unless otherwise specified.

Class of Deviation	Range of Nominal Dimensions									
	Above Upto and Including	0.5	3	6	30	120	315	1000	2000	
		3	6	30	120	315	1000	2000	4000	
Medium		±0.1	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	± 2	
Coarse		-	±0.2	±0.5	±0.8	±1.2	± 2	± 3	± 4	

APPROVED:
SRG

PREPARED:
MSK

ISSUED: DATE:
ENGG SERV. 15-02-22.

3.2.1. Tolerance on non-machining: (for sheet metal fabrication, bus bar bending) - Reference is taken from Corporate standard AA 062 11 04.

Degree of accuracy B is to be followed for sheet metal forming and Degree of accuracy C is to be followed for bus bar forming unless otherwise specified.

Degree of Accuracy	Range of Nominal Dimensions						
	Over Upto & Including	30	120	300	1000	2000	4000
B		± 1	± 2	± 3	± 4	± 6	± 8
C		± 2	± 3	± 4	± 6	± 8	± 10

A permissible variation of ± 1 mm applies to dimensions upto 30 mm.

TOLERANCE ON BENDING OPERATION: PARALLELISM: ± 2 mm for 500 mm

3.2.2. Tolerance on sheared dimensions (cut lengths) for sheared Plates: - Reference is taken from Corporate standard AA023 04 09.

Thickness		Nominal Dimensions Range		
Above	upto	upto 1000	1000 - 2500	2500 - 5000
-	3	± 1	± 2	± 2
3	6	± 2	± 2	± 3

3.2.3 ALLOWABLE TOLERANCE FOR BEND TWIST AND BOW IN SHEET

METAL FORMING AND BENDING OPERATIONS: UPTO 20 mm.

3.3 TOLERANCE ON ASSEMBLY OF CUBICLE OUTER DIMNS: ± 2.0 mm

3.3.1 BOLTED ASSEMBLY FOR INTERIOR DIMENSIONS: ± 2.0 mm

3.3.2 BOLTED ASSEMBLY FOR STRAIGHTNESS, FORM & POSITION: ± 2.0 mm

3.3.3 WELDED ASSEMBLY FOR LINEAR & ANGULAR DIMENSIONS: As per Corporate Standard: AA 062 11 04 CLASS A.

- 3.4 WELDED ASSEMBLY FOR FORM & POSITION: As per Corporate Standard AA 062 11 05 CLASS E.
- 4.0 ANGULAR TOLERANCE: As per Corporate Standard AA 023 02 08
- 5.0 Tolerance for mounting of components in Regulation/ Control Cubicles.
- 5.1) For location and mounting arrangement of components, the General Arrangement Drawing for the cubicle is to be referred.
- 5.2) The relative arrangement of component shall be as per General Arrangement Drawing. The minimum distance between two adjacent rows of components shall not be less than 10 mm.
- 5.3) Mounting of components on C-channel are sliding type can be varied by ± 10 mm for every 100 mm distance. However, a minimum gap as per clause 5.2 is to be maintained.
- 5.4) A minimum of 10 mm distance is to be kept between component assembly and side/top/ end covers.
- 6.0 GENERAL PRACTICES
- Unless otherwise specified:
Remove all sharp corners.
Bending radius shall be equal to material thickness.



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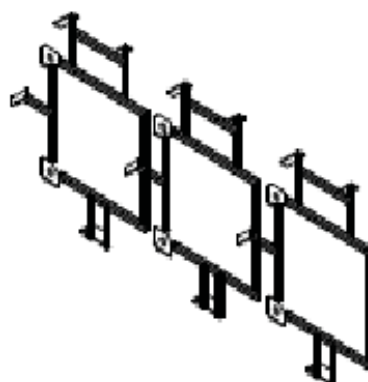
ELECTRONICS DIVISION

P. B. No. 2606, Mysore Road, Bangalore - 560 026

Technical Specification

Schedule	Specification for Fixture Triple Suit Empty Cubical (BHEL Material Code: ED6841505674)	Total Quantity required
3	Refer Drawing No: PS/309/25-26/TOOL009-03	01 No.

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BHEL	PLANT STANDARD	ED 023 04 99
A4 - 15	ELECTRONICS DIVISION	REV NO 04
		PAGE 0 OF 3

REVISION HISTORY SHEET

REV NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	09/11/93	1st ISSUE		MRV, SHG	N.J
01	11/09/95	Clause 5.0 added, Clause 6.0 was earlier 5.0	BVQI Audit Feedback	MRV, SHG	N.J
02	11/10/96	Clause 2, 3.1, 3.3 revised, 3.1.1, 3.1.2 added	BVQI Audit Feedback	MRV, SHG	N.J
03	10/01/97	Clause 3.2.3 added	F.B From QS	SHG	N.S
04	13/02/02	Reaffirmation	-	CCR	NS
04	29/12/21	Reaffirmation	-	M S KABIR	Sanjay R Godbole

APPROVED:
SRG

PREPARED:	ISSUED:	DATE:
MSK	ENGG SERV.	15-02-22.

PROCEDURE FOR ALLOWABLE TOLERANCE FOR UNSPECIFIED TOLERANCE
ON DRAWINGS

1.0 SCOPE:

This standard specifies the tolerance not specified in ASSEMBLY and FABRICATED COMPONENT drawings.

2.0 GENERAL:

This standard shall be referred in all Mechanical Drawings (for all assembly and fabricated components) prepared subsequent to issue of this standard.

All the dimensions are in mm unless otherwise specified.

3.0 UNSPECIFIED TOLERANCE: Tolerance shall be as under unless other wise specified in DRAWINGS.

3.1 Tolerance on machining :(for machining with chips of all metals and non-metallic such as ceramics, plastic materials etc.,)

Reference is taken from Corporate Standard AA 023 02 08
Table 1 - Medium Class of Deviation for Linear Dimensions is to be followed unless otherwise specified.

Class of Deviation	Range of Nominal Dimensions									
	Above Upto and Including	0.5	3	6	30	120	315	1000	2000	
		3	6	30	120	315	1000	2000	4000	
Medium		± 0.1	± 0.1	± 0.2	± 0.3	± 0.5	± 0.8	± 1.2	± 2	
Coarse		-	± 0.2	± 0.5	± 0.8	± 1.2	± 2	± 3	± 4	

APPROVED:
SRG

PREPARED: MSK ISSUED: DATE:
ENG SERV. 15-02-22.

3.2.1. Tolerance on non-machining: (for sheet metal fabrication, bus bar bending) - Reference is taken from Corporate standard AA 062 11 04.

Degree of accuracy B is to be followed for sheet metal forming and Degree of accuracy C is to be followed for bus bar forming unless otherwise specified.

Degree of Accuracy	Range of Nominal Dimensions						
	Over Upto & Including	30	120	300	1000	2000	4000
B		± 1	± 2	± 3	± 4	± 6	± 8
C		± 2	± 3	± 4	± 6	± 8	± 10

A permissible variation of ± 1 mm applies to dimensions upto 30 mm.

TOLERANCE ON BENDING OPERATION: PARALLELISM: ± 2 mm for 500 mm

3.2.2. Tolerance on sheared dimensions (cut lengths) for sheared Plates: - Reference is taken from Corporate standard AA023 04 09.

Thickness		Nominal Dimensions Range		
Above	upto	upto 1000	1000 - 2500	2500 - 5000
-	3	± 1	± 2	± 2
3	6	± 2	± 2	± 3

3.2.3 ALLOWABLE TOLERANCE FOR BEND TWIST AND BOW IN SHEET

METAL FORMING AND BENDING OPERATIONS: UPTO 20 mm.

3.3 TOLERANCE ON ASSEMBLY OF CUBICLE OUTER DIMNS: ± 2.0 mm

3.3.1 BOLTED ASSEMBLY FOR INTERIOR DIMENSIONS: ± 2.0 mm

3.3.2 BOLTED ASSEMBLY FOR STRAIGHTNESS, FORM & POSITION: ± 2.0 mm

3.3.3 WELDED ASSEMBLY FOR LINEAR & ANGULAR DIMENSIONS: As per Corporate Standard: AA 062 11 04 CLASS A.

- 3.4 WELDED ASSEMBLY FOR FORM & POSITION: As per Corporate Standard AA 062 11 05 CLASS E.
- 4.0 ANGULAR TOLERANCE: As per Corporate Standard AA 023 02 08
- 5.0 Tolerance for mounting of components in Regulation/ Control Cubicles.
- 5.1) For location and mounting arrangement of components, the General Arrangement Drawing for the cubicle is to be referred.
- 5.2) The relative arrangement of component shall be as per General Arrangement Drawing. The minimum distance between two adjacent rows of components shall not be less than 10 mm.
- 5.3) Mounting of components on C-channel are sliding type can be varied by ± 10 mm for every 100 mm distance. However, a minimum gap as per clause 5.2 is to be maintained.
- 5.4) A minimum of 10 mm distance is to be kept between component assembly and side/top/ end covers.
- 6.0 GENERAL PRACTICES
- Unless otherwise specified:
Remove all sharp corners.
Bending radius shall be equal to material thickness.



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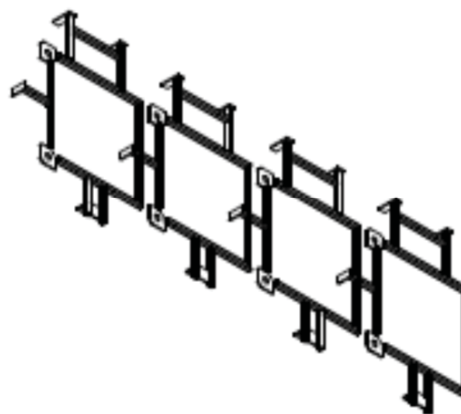
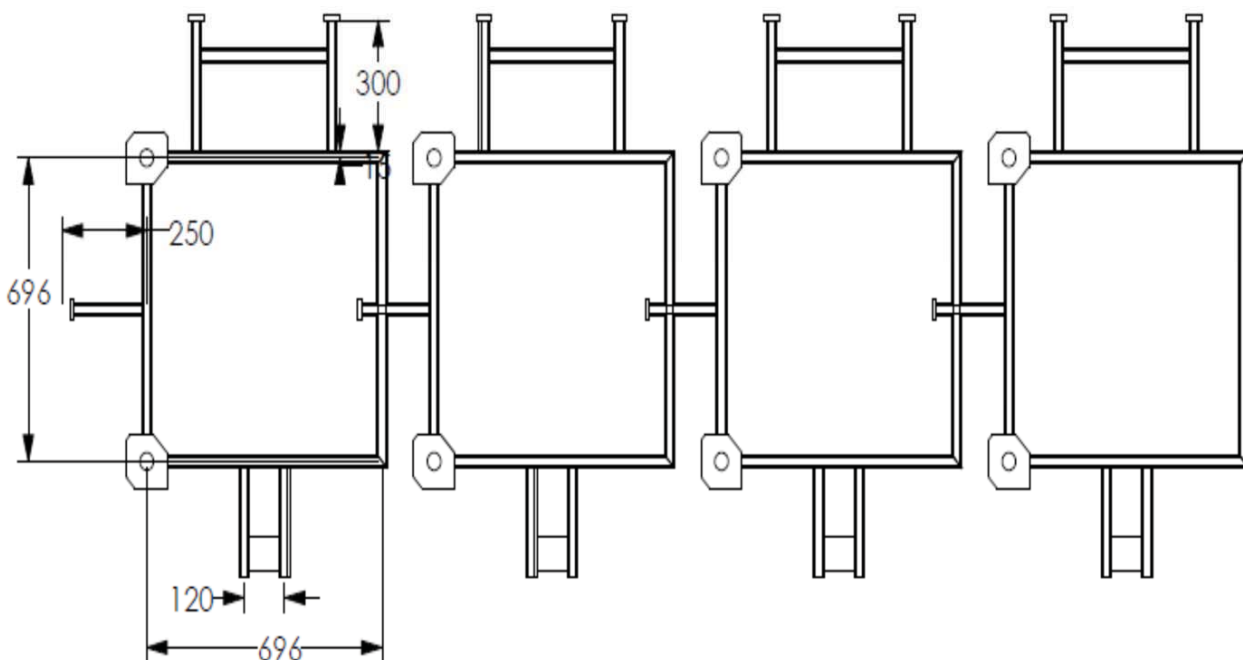
ELECTRONICS DIVISION


P. B. No. 2606, Mysore Road, Bangalore - 560 026

Technical Specification

Schedule	Specification for Fixture Quadtriple Suit Empty Cubical (BHEL Material Code: ED6841505682)	Total Quantity required
4	Refer Drawing No: PS/309/25-26/TOOL009-04	01 No.

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QTY	ITEM NO	DESCRIPTION	DRAWING NO	VAR.	MATERIAL CODE	A	UNIT WT(Kgs)	
					ED6841505682		NA	
					MATERIAL.SPEN.	C	QTY.	
1	TOOL 009	FIXTURE QUAD TRIPLE SUIT EMPTY CUBICAL	PS/309/25-26/TOOL009-04		30mm Box channel (SS)		As per the drawing	
<div></div> <div>BHARAT HEAVY ELECTRICALS LIMITED ELECTRONICS DIVISION, BANGALORE</div>				NAME	SIGN.	DATE	No. OF VAR	
			DRN	Md.Sahajahan Kabir				
			CHECKED	P.Kathirvel				
			APPD	N.Yaswanth				
DEPT:PS		FOR UNSPECIFIED TOLERANCES REFER ED 0230499	SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.		ITEM NO.	No. OF ITEM
CODE:309			NTS					
TITLE: FIXTURE QUAD TRIPLE SUIT EMPTY CUBICAL 9				DRAWING NO. PS/309/25-26/TOOL009-04				REV.
				SHEET NO.1			NO. OF SHEETS:1	

TOOL(TRQD)/12/2025-EDN-P&T5 (Computer No. 188888)

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BHEL	PLANT STANDARD	ED 023 04 99
A4 - 15	ELECTRONICS DIVISION	REV NO 04
		PAGE 0 OF 3

REVISION HISTORY SHEET

REV NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	09/11/93	1st ISSUE		MRV, SHG	N.J
01	11/09/95	Clause 5.0 added, Clause 6.0 was earlier 5.0	BVQI Audit Feedback	MRV, SHG	N.J
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03	10/01/97	Clause 3.2.3 added	F.B From QS	SHG	N.S
04	13/02/02	Reaffirmation	-	CCR	NS
04	29/12/21	Reaffirmation	-	M S KABIR	Sanjay R Godbole

APPROVED:
SRG

PREPARED:	ISSUED:	DATE:
MSK	ENGG SERV.	15-02-22.

PROCEDURE FOR ALLOWABLE TOLERANCE FOR UNSPECIFIED TOLERANCE
ON DRAWINGS

1.0 SCOPE:

This standard specifies the tolerance not specified in ASSEMBLY and FABRICATED COMPONENT drawings.

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		3	6	30	120	315	1000	2000	4000	
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Coarse		-	± 0.2	± 0.5	± 0.8	± 1.2	± 2	± 3	± 4	

APPROVED:
SRG

PREPARED: MSK ISSUED: DATE:
ENG SERV. 15-02-22.

BHEL	PLANT STANDARD	ED 023 04 99
A4 - 14	ELECTRONICS DIVISION	REV NO 04
		PAGE 2 OF 3

3.2.1. Tolerance on non-machining: (for sheet metal fabrication, bus bar bending) - Reference is taken from Corporate standard AA 062 11 04.

Degree of accuracy B is to be followed for sheet metal forming and Degree of accuracy C is to be followed for bus bar forming unless otherwise specified.

Degree of Accuracy	Range of Nominal Dimensions						
	Over Upto & Including	30	120	300	1000	2000	4000
B		± 1	± 2	± 3	± 4	± 6	± 8
C		± 2	± 3	± 4	± 6	± 8	± 10

A permissible variation of ± 1 mm applies to dimensions upto 30 mm.

TOLERANCE ON BENDING OPERATION: PARALLELISM: ± 2 mm for 500 mm

3.2.2. Tolerance on sheared dimensions (cut lengths) for sheared Plates: - Reference is taken from Corporate standard AA023 04 09.

Thickness		Nominal Dimensions Range		
Above	upto	upto 1000	1000 - 2500	2500 - 5000
-	3	± 1	± 2	± 2
3	6	± 2	± 2	± 3

3.2.3 ALLOWABLE TOLERANCE FOR BEND TWIST AND BOW IN SHEET

METAL FORMING AND BENDING OPERATIONS: UPTO 20 mm.

3.3 TOLERANCE ON ASSEMBLY OF CUBICLE OUTER DIMNS: ± 2.0 mm

3.3.1 BOLTED ASSEMBLY FOR INTERIOR DIMENSIONS: ± 2.0 mm

3.3.2 BOLTED ASSEMBLY FOR STRAIGHTNESS, FORM & POSITION: ± 2.0 mm

3.3.3 WELDED ASSEMBLY FOR LINEAR & ANGULAR DIMENSIONS: As per Corporate Standard: AA 062 11 04 CLASS A.

- 3.4 WELDED ASSEMBLY FOR FORM & POSITION: As per Corporate Standard AA 062 11 05 CLASS E.
- 4.0 ANGULAR TOLERANCE: As per Corporate Standard AA 023 02 08
- 5.0 Tolerance for mounting of components in Regulation/ Control Cubicles.
- 5.1) For location and mounting arrangement of components, the General Arrangement Drawing for the cubicle is to be referred.
- 5.2) The relative arrangement of component shall be as per General Arrangement Drawing. The minimum distance between two adjacent rows of components shall not be less than 10 mm.
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- 5.4) A minimum of 10 mm distance is to be kept between component assembly and side/top/ end covers.
- 6.0 GENERAL PRACTICES
 - Unless otherwise specified:
 - Remove all sharp corners.
 - Bending radius shall be equal to material thickness.
