

West Bengal State Electricity Distribution Company Limited

(A Government of West Bengal Enterprise)



INVITATION OF e-TENDER FOR

Supply and delivery of Single Tension Hardware fittings for Wolf Conductor to Divisional store of Burdwan North Division Dist.: Purba Bardhaman in West Bengal

Tender notice no:

DM/BDN/Local Item/24-25/05/1456 Date:27.12.2024

Name of the work:

Supply and delivery of 1314 sets Single Tension Hardware fittings for Wolf Conductor to Divisional store of Burdwan North Division Dist.: Purba Bardhaman in West Bengal

Office Of The Divisional Manager
Burdwan North Division
2nd Floor, Administrative Building
Power House complex, Frazer Avenue
Burdwan - 713101
Email: dm.burdwanrural@wbasedcl.in



West Bengal State Electricity Distribution Company Limited

(A Government of West Bengal Enterprise)
Office of the Divisional Manager, Burdwan North Division.
Administrative Building, 2nd floor, Power House, Bardhaman,
District – Purba Bardhaman Pin-713101

Mobile No.: 8900797130

Email: dm.burdwanrural@wbsecl.in

NOTICE INVITING e-TENDER

NIT No.: DM/BDN/Local Item/24-25/05/1456

Date: 27.12.2024.

SUBJECT: Supply and delivery of 1314 set Single Tension Hardware fittings for Wolf Conductor to Divisional store of Burdwan North Division, Dist: Purba Bardhaman in West Bengal

NAME OF THE SCHEME: Supply and delivery of Single Tension Hardware fittings for Wolf Conductor.

The Divisional Manager, Burdwan North Divisional Office, WBSEDCL invites e-Tender only from the bonafide, experienced & resourceful manufacturer or suppliers of Single Tension Hardware fittings for Wolf Conductor to any Power Sector/Other Govt. Organisation including WBSEDCL, And Commercial QR as detailed in clause 5.2 below. [Submission of Bid through online].

Sl N o	Name of the work	Estimated Value (Rs.)	Earnest Money (Rs.)	Completion Time
1	Supply and delivery of 1314 set Single Tension Hardware fittings for Wolf Conductor Drawing Ref: Attached as Annexure B	Rs.12,87,720.00(Rupees Twelve Lakh Eighty Seven Thousand Seven Hundred Twenty only) excluding GST.	Rs. 25,755.00 /- (Rupees Twenty Five Thousand Seven Hundred Fifty Five Only)	30 (Thirty) Days

1. In the event of e-filing intending bidder may download the tender document from the website <https://wbtenders.gov.in> directly with the help of Digital Signature Certificate. Necessary Earnest money will be collected in online mode through <https://wbtenders.gov.in>
2. Both Technical Bid and Financial Bid should be submitted in technical and financial folder concurrently duly digitally signed by the Bidders through the website <https://wbtenders.gov.in>.
3. Technical Document and Financial Bid should be submitted online on or before the Date & Time Schedule" stated in Table.
4. The FINANCIAL OFFER of the prospective bidders will be considered only if the TECHNICAL DOCUMENT of the bidders found qualified by the Tender Inviting Authority(WBSEDCL). The decision of the Tender Inviting Authority (WBSEDCL) will be final and absolute in this respect. The list of Responsive and Non-Responsive Bidders will be displayed in the website.
5. Eligibility criteria for participation in the tender:
 - 5.1. **Technical Requirement:-** Intending bidders should have credential to similar nature of work in any Power Sector/Other Govt. Organisation including WBSEDCL, who have successfully completed 01 no. similar nature nature of work not less than 80 % of the estimated cost or 02 nos similar nature nature of work not less than 60 % of the estimated cost in last 2 years or should must complete similar nature of work where total accumulated values of order not less than twice of the estimated cost in previous financial year.
 - 5.2. **Commercial Requirement:-**Bidder shall submit copy of IT return-last three year.
 - 5.3. All intending bidders are required to produce valid documents as manufacturer/ authorized distributor of mentioned manufacturer.
 - 5.4. A pre-bid meeting shall be conducted in the chamber of the Divisional Manager, Burdwan North Division, at least three days before the start of the bidding date. This pre-bid meeting is intended to provide any and all clarifications

regarding the tender process and to demonstrate the product sample along with providing clarification on technical aspects of the product. **Any bidder who shall not participate in the pre-bid meeting, may face complications during any stage of the tender process, which may result in the cancellation of their participation by competent authority as per norms.**

5.5. All bidder are here by requested to submit drawing along with specification during technical bid.

5.6. **All intending bidders are required to also produce the following: -**

- i) Valid copies of current G S.T. certificate,
- ii) ESI registration wherever applicable,
- iii) Current Challan for depositing Professional Tax (PT) if applicable.
- iv) EPF registration certificates if applicable.
- v) Certificate of compliance of statutory obligations (to be documented through e-filing).
- vi) Copy of IT return for last three financial years, PAN Card, as applicable.
- vii) Documents in support of credential: Copy of orders along with SRV.
- viii) Performance Certificate as Prime Contractor for execution of similar nature of works for last three years and details of works in hand if applicable.
- ix) Bids shall remain valid for a period not less than 120 (One hundred twenty) days after date of bid opening of tender. Bid valid for a shorter period shall be rejected by the Tender Inviting Authority as non-responsive. If the bidders withdraw the bid before the period of bid validity without giving any satisfactory explanation for such withdrawals, the Bid Information regarding any past and current litigation with WBSEDCL/WBSETCL/Govt./PSU in which the bidder is involved, the party is concerned and disputed amount, wherever applicable.
- x) **Drawing and GTP of the Material to be supplied. GTP should also need to be supplied during delivery.**

6. No mobilization / secured advance will be allowed.

7. Bids shall remain valid for a period not less than 120 (One hundred twenty) days after date of bid opening of tender. Bid valid for a shorter period shall be rejected by the Tender Inviting Authority as non-responsive. If the bidders withdraw the bid before the period of bid validity without giving any satisfactory explanation for such withdrawals, the Bid security as deposited will be forfeited forthwith without assigning any reason thereof.

8. Date & Time schedule: -

Sl. No.	Particulars	Date and time
1	Date of uploading of NIT and Tender Documents (online).	27.12.2024 after 16:00 hrs
2	Documents sell/ downloading start date (Online)	31.12.2024 after 11:00 hrs
3	Pre Bid Meeting Date	02.01.2025 at 14:00 hrs
4	Bid submission upload start date (Online)	06.01.2025 at 10:00 hrs
5	Bid submission upload close date (Online)	16.01.2025 upto 14:00 hrs
6	Date for opening of Technical bid (online) for the Bidders	20.01.2024 at 11:00 hrs
7	Date of uploading the Final List of Technically Qualified Bidders after Technical Bid Evaluation (online).	To be notified later
8	Date, for opening of Financial Bid (online).	To be notified later

9. Earnest Money: Earnest Money Deposit (EMD) shall have to be mandatorily in online mode through the website <https://wbetenders.gov.in> via Net-banking through payment Gateway or via RTGS/NEFT payment, as elaborated in the section "Instruction to Bidders" of the bid document. There is no option for offline submission of EMD through DD/Pay order/Banker's cheque etc.

a) A bidder desirous of taking part in a tender invited by offices of WBSEDCL shall login to the e – Procurement portal of Government of West Bengal <https://wbetenders.gov.in> using his login Id and password.

b) The bidder shall select the tender to bid and initiate payment of EMD. Following payment option are available for paying EMD amount through on line mode.

i) Net banking through Payment gateway

ii) RTGS/NEFT Payment: on selection of RTGS/NEFT as the payment mode, the Procurement portal will show a pre-fired challan having the details to process RTGS/NEFT transaction. The bidder will print the challan and use the prefilled information to make RTGS/NEFT payment using his bank account. once the payment is made, the bidder will come back to the e-procurement portal to continue the bidding process after expiry of a reasonable time to enable the RTGS/NEFT process to be completed.

c) General Instruction for Online payment:

- i) The bidder will have to mandatory pay through Net-banking facility once Net banking mode is opted for payment.
- ii) Status of NEFT/RTGS payment through challan for a bid may take time for bank settlement which is updated in 24 hrs (approx) as such bidders opting to pay through NEFT/RTGS mode shall make payment well before 24Hrs. to avoid any complicity.
- iii) In case actual EMD amount as per NIT is more than the one shown in e-tender portal, bidders will have to opt for NEFT/RTGS mode (challan mode). In that case the total actual EMD amount is to be paid only through NEFT/RTGS mode (challan mode).
- iv) The bank account used for payment of EMD by the bidders shall be maintained operative until the completion of tendering process. All refunds will be made mandatorily to the Bank A/C from which the payment of EMD has been initiated.

d) Refund/ Settlement of EMD Amount:

- i) For unsuccessful bidders, EMD amount submitted against the tender shall be refund automatically, through an automated process, by NIC portal on receipt status of any bid.
- ii) For successful bid(s), EMD will be refunded from WBSEDCL authority after completion of tendering process and following due procedures.
- iii) The bank account used for payment of EMD by the bidders shall be maintained operative until the completion of tendering process. All refunds will be made mandatorily to the bank A/C from which the payment of EMD has been initiated.
- iv) For any queries related to payment and refunds, bidders will have to communicate with ICICI customer Support, viz. 033_40267512/13 since payment gateway facility used by e-tender portal is maintained by Corner, if not created earlier.

e) Forfeiture of EMD Amount:

WBSEDCL reserves the right to forfeit the EMD of the successful bidder, in the event of his failure within the period stipulated in the bid document, to-

- i) Accept LOI/Order unconditionally.
 - ii) Submit and/or sign contract agreement.
 - iii) Submit Indemnity Bond
 - iv) Furnish contract performance guarantee, if required as per the order.
10. The bidder shall submit along with the offer necessary documents in support of their previous such type of work/the tender/ similar items to WBSEDCL/Other Power Utilities/Other Govt. Departments in earlier occasions and financial capabilities to the extent of the estimated financial amount of their offer.
 11. WBSEDCL reserves its right to take decision keeping its financial interest.
 12. If the offer is submitted without or inadequate Earnest Money, the bid will not be opened. In case of incomplete offer, the tender will be liable for rejection and Earnest Money Deposit will be forfeited. The offer shall remain valid for a minimum period of 120 days from the next day of opening of the tender.
 13. Any evidence of unfair Trade Practices including over charging, price fixing, cartel etc. as defined in various statutes, will automatically disqualify the bidders.
 14. The Tender Inviting Authority (WBSEDCL) does not bind itself to accept the lowest bidder and reserves the right to accept or reject, split any / all offer without assigning any reason whatsoever and is not liable for any cost that might have incurred by the Bidder at any stage of the Bidding. Tender inviting authority(WBSEDCL) also reserves right to

accept/cancel/withdraw the concerned NIT in full or part due to unavoidable circumstances and no claim in this respect shall be entertained.

15. Any bidder against whom FIR/Complaint is lodged with Police by WBSEDCL shall not be eligible to participate in the bidding process.
16. Other information as well as terms and conditions, which are not covered above, will be available in Instructions to Bidders, General Conditions of Contract of this tender.
17. Any further information may be had from the website: www.wbsedcl.in and the following office: Office of the Divisional Manager, Burdwan North Division.
18. The Bidder, at his own responsibility and risk is encouraged to visit and examine the site of works and its surroundings and obtained all information that may be necessary for preparing Bid and entering into an agreement for the work / works as mentioned in the NIT, before submitting offer with full satisfaction. The costs for visiting the working site shall be at the bidder own expense.
19. At any stage during scrutiny, if it is found that the credential or any other papers which the Bidder uploaded during Bidding process, found incorrect / manufactured / fabricated, that bid will be considered a nonresponsive and outright rejected with forfeiture of Earnest Money and action will be taken as per stipulation of IT Rules in force.
20. Before issuance of Formal Order / Work order, the tender accepting authority may verify the credential & other documents of the lowest bidder so uploaded online if found necessary. If it is found such document incorrect / manufactured / fabricated, Letter of Acceptance / Work order will not be issued in favor of the bidder under any circumstances and action will be taken accordingly.
21. **Intimated Lowest bidder should must submit sample of material within 7 days** of intimation from our end, which will be inspected by tender committee, only after satisfactory sample approval, formal order will be issued. During delivery vendor must maintain same quality otherwise material will be rejected.
22. The Tender Inviting Authority reserves the right to cancel the NIT due to unavoidable circumstances and no claim in this respect will be entertained
23. **Warranty:** Product should be covered under one year warranty from the date of supply.
24. **Other Terms & Conditions etc.** not mentioned here specifically shall be guided by the prevailing Bid documents & Guidelines of WBSEDCL.
25. **Controlling Officer:-** Divisional Manager, Burdwan (North) Division.
26. **Supervising Officer:-** Any authorised Officer of Burdwan (North) Division.
27. **Nodal Officer:-** Any authorised Officer of Burdwan (North) Division.
28. **Bill Processing Authority:-** Bill Certifying, Processing & Passing Authority- concerned Officers of Burdwan (North)
29. **Bill Paying Authority:-** Assistant Manager (F&A) of Burdwan (North) Division.
30. **Delivery address:-** Divisional Store, Burdwan (North) Division, Burdwan.

Office of the Divisional Manager,
Burdwan North Division.
Administrative Building ,
2nd floor, Power House, Bardhaman,
District – Purba Bardhaman Pin-713101

Tender Inviting Authority (for WBSEDCL):-

Am
27.12.19
Divisional Manager
Burdwan North Division
WBSEDCL

**TECHNICAL SPECIFICATION FOR TENSION HARDWARE FITTINGS FOR T&C TYPE DISC
INSULATOR COMPRISING OF CROSS-ARM STRAP BOLTED TYPE TENSION CLAMP TO BE USED
FOR ACSR WOLF & ACSR DOG CONDUCTOR**

1.0 SCOPE :

- i) The Specification covers the design, manufacture, testing (preferably at manufacturer's works before supply) and delivery of the combined unit of Cross Arm Strap bolted type Tension Clamp including loading, unloading anywhere in West Bengal.
- ii) The combined units offered shall be complete with all components which are necessary (excepting disc insulator) or usual for their effective performance and easy maintenance and inter changeability at site. Such parts shall be deemed to be within the scope of contract.

2.0 GENERAL REQUIREMENTS

- i) Ball diameter should be 16 mm.
- ii) Hardware Fittings with ultimate tensile strength of 70 KN should be used for ACSR Wolf and Dog conductors.
- iii) The Fittings shall be free from defects, corrosion protected and shall meet the requirements of Galvanizing Test etc as per IS.
- iv) All forging and casting shall be of good finish and free from flaws and other defects. The edges of the fittings such as the tongue, clevis and holes shall be rounded.
- v) All parts of different fittings which provide the interconnection shall be made such that sufficient clearance is provided at the connection point to ensure free movement. All tongue and clevis connection shall be free in this manner but care shall be taken that too much clearance for the tongue & clevis is avoided.
- vi) Spring washer should be electro galvanized- Coating thickness as per IS: 1573-1986.

U bolt, Hexagonal Bolt, Nut, Plain Washer and all other ferrous parts shall be Hot dip Galvanized. In case of Hot Dip Galvanization, minimum Value of Mass of zinc coating should be 610 g/m².

The split pin to be used on the cotter pin shall be of Humpback type & shall be made of Stainless Steel conforming to IS: 5522-1992 with a minimum hardness of 160 HV.

3.0 STANDARD

The Combined units shall conform to the provisions of Indian Standards relevant to each individual component except where specified otherwise

The following I.S. amended upto date shall be the guideline for manufacture & testing.

i)	IS 2486 (Part 1) : 1993	: Specification for metal fittings of insulators for overhead power lines with nominal voltage greater than 1000 V.
ii)	IS 2486 (Part 2) : 1989 IS : 2486 (Part III) - 1989	: Specification for Insulator fittings for overhead power lines with nominal voltage greater than 1000 V.
iii)	IS 4759 : 1996	: Specification for hot-dip zinc coatings on structural steel and other allied products .
iv)	IS : 6745 - 1872	: Determination of mass of zinc coating on zinc coated iron and steel articles.
v)	IS : 2633 - 1986	: Method for testing uniformity of coating on zinc coated.
vi)	IS:1573 - 1986	: Specification for electroplated coatings of zinc on iron and steel.

MATERIALS AND OTHER REQUIREMENTS :

CROSS-ARM STRAPS (fig-2):

Cross-arm straps shall be manufactured from MS Flat hot dip galvanized and to connect the cross-arm/bracket of the structure at one end and the Ball Clevis at the other end.

It should be complete with three hexagonal bolts, nuts, spring washers and Cotter pin at the threaded end to lock the unit. Minimum Threaded portion of the bolt shall be 30mm.

CROSS-ARM STRAPS to be used for	Minimum Ultimate strength (Tensile strength)
---------------------------------	--

23-12-24
Div. Manager
Burdwan North Division
W.B.S.E.D.C.L.
Assistant Manager (F&A)
Burdwan North Division
W.B.S.E.D.C.L.
Page-1 of 6

24/12/24
Asst. Manager (HR & A)
Burdwan North Division
W.B.S.E.D.C.L.

ACSR Wolf Conductor	70 KN
ACSR Dog Conductor	70 KN

Dimensions shall be in accordance with IS: 2486 (Part-2) unless otherwise specified.

Tongue and Clevis (fig-4):

All forgings shall be of good finish and free from any flaws and any other defects which may cause decrement of efficiency while in operation. Connection/attachment with other component of the unit shall provide reasonable clearance/ensure free movement at the connecting/attaching point. **Care should be taken to avoid too much clearance while used with insulators.**

Bolted type Tension Clamp (fig-3) :

All forgings & castings shall be of good finish and free from flaws or any other defects which may cause decrement of efficiency while in operation. The edges on the outside of the fittings and the grooves shall be smooth & rounded. Sharp radius of curvature, ridges etc. which may lead to localised pressure or cause damage to the conductors in service shall be avoided. The clamp shall permit the conductor to slip before the failure of conductor occurs.

Tension clamps for ACSR Wolf/Dog conductor shall be three bolted type with minimum one no. keeper. Ultimate tensile strength of Tension clamps should not be less than 70 KN .The material for Tension clamps & keeper should be high strength Aluminium Alloy.The slip strength should not be less than 95% UTS of the respective conductor.

Tension clamps shall be fitted with rivet, flat washer, cotter pin, 'U' bolts & nuts, flat washers & spring washers.

5.0 MARKING:

Tension Hardware Fittings suitable for ACSR Wolf/Dog Conductor should be supplied in a string. Tension Clamp shall be legibly & indelibly marked with Name or Trade mark of manufacturer, year of manufacture, 70 KN and suitable identification marking of the property 'WBSEDCL'.

The marking should be engraved/embossed.

6.0 TESTS AND TEST CERTIFICATES :

Type Test

Along with the bid, the bidder has to submit Type Test Reports on same fittings carried out within last five years from the date of opening of techno-commercial bid of the tender from any NABL accredited Laboratory having NABL logo. Otherwise the tender may be rejected.

The following shall constitute the Type Test for Tension Clamps

1. Visual Examination
2. Verification of dimensions
3. Mechanical Test (Slip Strength Test)
4. Ultimate Tensile Strength Test
5. Chemical Composition Test
6. Galvanizing/Electroplating Test (for ferrous parts)

The following shall constitute Type Tests on tension hardware fittings except Clamp:

1. Visual Examination
2. Verification of dimensions
3. Mechanical Test
4. Galvanizing Test
5. Chemical Composition Test

ACCEPTANCE TEST

The following shall constitute acceptance test for Clamps:

1. Visual Examination
2. Verification of dimensions

Handwritten: 23-12-24
Stamp: Divisional Manager (F&A)
 Burdwan North Division
 W.B.S.E.D.C.L.
Signature: 2/1/24
 Assistant Manager (F&A)
 Burdwan North Division
 W.B.S.E.D.C.L.

3. Mechanical Test (Slip Strength Test)
4. Ultimate Tensile Strength Test
5. Galvanizing Test (for ferrous parts)
6. Chemical Composition Test

Acceptance Test for tension hardware fittings except Clamp

1. Visual Examination
2. Verification of dimensions
3. Ultimate Tensile Strength Test
4. Galvanizing Test
5. Chemical Composition Test

8.0 TOLERANCE :

Tolerance shall be as per IS: 2486 (Part-I).

9.0 GUARANTEE:

In the event of any defect in the equipment/materials arising out of faulty design, materials, workmanship within a period of 12 (twelve) months of commissioning or 18 (eighteen) months from the date of last despatch of any integral part of the equipment/materials whichever is earlier the supplier shall guarantee to replace or repair the same to the satisfaction of the purchaser.

If the supplier fail to do so within a reasonable time, WBSEDCL reserves the right to effect repair or replacement by any other agency and recover charges for repair or replacement from the supplier.

GUARANTEED TECHNICAL PARTICULARS FOR TENSION HARDWARE FITTINGS FOR T & C TYPE DISC INSULATOR COMPRISING OF CROSS-ARM STRAP BOLTED TYPE TENSION CLAMP TO BE USED FOR ACSR WOLF & ACSR DOG CONDUCTOR

1.	Name & Address of the Firm	
2.	Type of Insulator Fittings	T & C type
3.	Diameter of Ball	16 mm
4.	Ultimate Tensile Strength	
a)	Bolted Type Tension Clamp	70 KN
b)	Complete Fittings	70 KN
5.	Whether dimension other than specified are in accordance to IS: 2486 (Part-II)-1989	
6.	Material used	
a)	Cross arm Strap	Mild Steel, hot dip galvanized
b)	Ball Clevis	Forged Steel and hot dipped galvanized
c)	Tongue Clevis	Forged Steel and hot dipped galvanized
d)	Bolted type Tension Clamp & keeper	High Strength Aluminium Alloy (LM-6)
g)	U-Bolts & Nut	MS, Hot Dip Galvanized
h)	Hexagonal Bolt & Nut	MS, Hot Dip Galvanized
i)	Spring Washer	Spring Steel, Electro Galvanized
j)	Plain Washer	MS Hot Dip Galvanized
k)	Split Pin, R-type Cotter pin	Stainless Steel
7	Zinc conforming to grade	As per IS 209: 1992

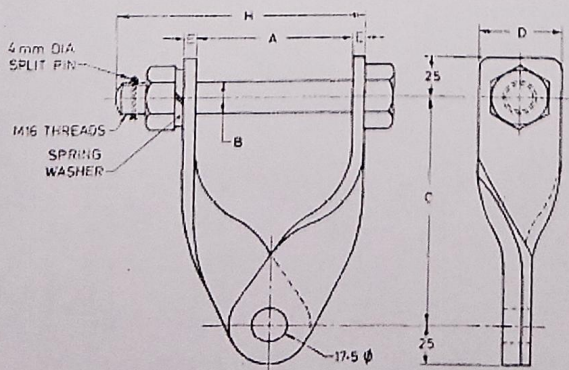
12/03/2014
Divisional Manager
Burdwan North Division
W.B.S.E.D.C.L.

Page 3 of 6
Assistant Manager (R&A)
Burdwan North Division
W.B.S.E.D.C.L.

22/11/14
Asstt. Manager (HR & A)
Burdwan North Division
W.B.S.E.D.C.L.

8	Weight and Dimension (per set)	
a)	Gross weight of complete fittings	
b)	Weight of Clamp & keeper	
c)	Weight of Cross Arm Strap	
d)	Weight of Ball Clevis	
e)	Weight of Tongue Clevis	
f)	Weight of Nut, Bolts, Rivet, U-Bolt & accessories	
g)	Weight of non ferrous parts	
h)	Minimum Guaranteed weight of Fittings	
i)	Whether galvanizing conform to IS-2633/1964	
9.	Packing details	
a)	Net Weight	
b)	Gross Weight	
c)	Contents of each Pack	
d)	Type of Packing	
9.	Tolerance in dimension, if any	IS:2486 Part I
10.	Marking	Name or Trade mark of manufacturer, year of manufacture, 70 KN and suitable identification marking of the property 'WBSEDCL', Scheme Name-IPDS on AL Clamp by engraved/embossed
11.	Guarantee	<u>12 (twelve) months of commissioning or 18 (eighteen) months from the date of last dispatch of any integral part of the equipment/materials whichever is earlier the supplier shall guarantee to replace or repair the same to the satisfaction of the purchaser.</u>

CROSS ARM STRAP (fig-2)



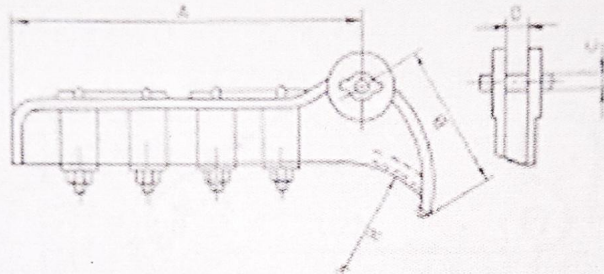
A	B (Dia)	C	D	E	H
100	16	140	35	6	145

Divisional Manager
Burdwan North Division
W.B.S.E.D.C.L.

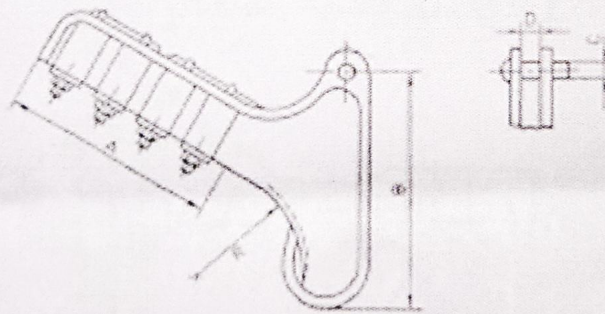
Assistant Manager (F&A)
Burdwan North Division
W.B.S.E.D.C.L.

Asstt. Manager (HR & A)
Burdwan North Division
W.B.S.E.D.C.L.

BOLTED TYPE TENSION CLAMP (fig-3)



TYPE A



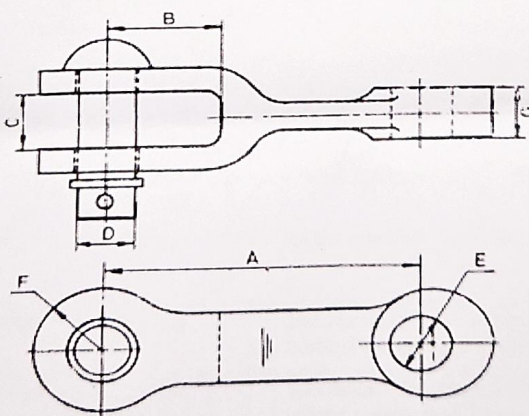
TYPE B

Material	Type of Clamp	Conductor Diameter		Distances					Number of U-Bolts
		Min	Max	A	B	C	D	E	
Malleable Iron	A	11.6	21.6	311.2	127.0	22.2	15.9	96.3	4
		16.5	25.4	412.8	203.2	28.6	15.9	160.3	5
		21.6	31.8	495.3	254.0	31.8	19.0	200.0	6
		24.4	35.8	565.2	254.0	35.1	19.0	203.2	7
	B	5.1	15.9	187.3	203.2	17.5	15.9	93.2	3
		12.2	21.3	234.6	292.1	22.2	15.9	136.3	4
		18.0	27.9	400.0	352.6	30.2	19.0	187.2	5
		19.0	32.5	501.6	381.0	34.9	19.0	206.4	6
Aluminium alloy	A	7.6	17.8	232.2	107.6	22.2	16	76.2	3
		15.2	21.6	330.2	152.4	25.4	16	114.3	4
		17.8	25.4	412.8	203.2	28.6	16	158.8	5
		19.3	30.0	475.3	228.6	31.8	19.0	241.3	6
		25.4	38.1	565.2	254.0	41.3	19.0	254.0	7
	B	5.1	11.7	181.8	149.2	19.0	16	69.8	2
		5.1	13.5	187.3	200.2	19.0	16	95.2	3
		7.6	17.3	231.1	260.6	22.2	16	120.6	4
		12.7	24.4	330.2	327.0	28.6	16	155.6	5
		19.0	32.5	463.6	381.0	34.9	19.0	206.4	6

Hm
 27.12.14
 Division Manager
 Burdwan North Division
 W.B.S.E.D.C.L.
 Assistant Manager (F&A)
 Burdwan North Division
 W.B.S.E.D.C.L.

A.K.B.
 Asstt. Manager (HR & A)
 Burdwan North Division
 W.B.S.E.D.C.L.

TONGUE AND CLEVIS (fig- 4)



Dimensions, mm

A	B	C	D	E	F	G
89	32	19	16	17.5	19	16
102	35	19	16	17.5	22	19
102	35	19	16	17.5	22	25
140	54	22	19	21	25	29
140	54	22	19	21	25	32
140	54	22	19	21	25	35
140	54	22	19	21	25	38

Mr
23-12-4
Divisional Manager
Burdwan North Division
W.B.S.E.D.C.L.

Assistant Manager (F&A)
Burdwan North Division
W.B.S.E.D.C.L.

Am B
23/12/4

Asst. Manager (HR & A)
Burdwan North Division
W.B.S.E.D.C.L.