

30002/DTK/19 TF/ENQ- 55 /E3ES

30 Mar 2022

FOR ATTENTION OF ALL BIDDERS

There is an important instruction regarding place of submission of Bid due to lockdown and restricted movement of goods and services across the border, in view of Covid-19 on page No 4 of this RFP, amending the clause 2 of this RFP to that Extent.

INVITATION OF QUOTATION FOR SUPPLY OF CONSTRUCTIONAL/ CAT 'B'/ MISC STORES

Dear Sir/Madam,

INVITATION OF QUOTATION

1. This Project requires stores as per Appendix 'A' accordingly invites OTE for the purpose. The RFP can be downloaded from CPP Website : <https://eprocure.gov.in/eprocure/app>. The consignor can submit their offer by downloading the enquiries and sending it by Speed Post/Courier/Hand.
2. Quotations are invited in physical form containing 'T'-Bid (Technical bid) as per Appx 'B' and 'Q'-Bid (Price Bid) as per Appx 'C' for the above items. Please note that quotation will be received by the Headquarters Chief Engineer (P) Dantak, C/o 99 APO upto 1700 Hrs (BST) on 20 Apr 2022. 'T'-Bid will be opened on 25 Apr 2022 at 1200 Hrs (BST). After opening of 'T'-Bid and its evaluation 'Q'-Bid will be opened for the successful bidders on 27 Apr 2022.
3. Firms or their duly authorized representative who have submitted their quotation and who wish to be present at the time of opening of quotation may visit the office of Headquarters Chief Engineer (P) Dantak, C/o 99 APO at the above mentioned time and date for viewing the quotation opening process.
4. Bidding procedure shall be single stage-two bid system and bid documents are to be prepared in two parts as under:-
 - Part-I (Technical Bid : 'T' Bid) at Appendix 'B'.
 - Part-II (Price Bid : 'Q' Bid) at Appendix 'C'.
5. **Part-I Technical Bid ('T' Bid) : Appendix 'B'.**
 - 5.1. The technical bid comprising of the following details shall be forwarded in a separate envelope by the Manufacture/Authorized Dealer/ consignor duly mentioning the Name of the firm, Enquiry reference and date of opening etc on top of the envelope.
 - (a) Details such as Name of firm, Address Contact number GSTIN number, Email, PAN No and other Registration details with HQ DGBR / Project Dantak / Any other BRO Project / Ministry of Defence Govt of India / Govt of Bhutan as per format enclosed at Appendix 'B' to the enquiry be provided. Original Manufacturers, PSUs and consignor enlisted with Central Purchase Organization and National Small Industries Corporation also to provide details of their registration in Appendix 'B'.
 - (b) In case if the firm is not enlisted / Registered with HQ DGBR or Project Dantak as a registered contractor/ consignor or with Ministry of Defence Govt of India or Govt of Bhutan or CPO or NSIC, details of EMD alongwith original copy of EMD be provided as per Ser No 9 of Appx 'B'. PSUs, Original Manufacturers, Original Manufacturers of Bhutan registered with Dantak/ HQ DGBR/ RGoB are exempted from submission of EMD on producing of necessary document/certificates, in this regard.
 - (c) Firm/ Consignor should have completed minimum one supply order of similar items alongwith completion cert to any Govt agency/BRO projects in last three years w.e.f the date of this enquiry are eligible. Copy of such supply order to be mandatorily enclosed with 'T' Bid failing which the firm will not be considered for opening of 'Q' Bid.
 - 5.2 **Eligibility Criteria for Technical Evaluation**
 - 5.2.1 The manufacturers/ consignor who have submitted the following documents in their 'T' Bid will only be eligible technically and for opening of their 'Q' Bid:-
 - (a) Fulfillment of criteria & submission of documents as laid down at Para 5.1.
 - (b) Complete details as per Appendix 'A' of enquiry.
 - (c) Enlistment / Registration details with HQ DGBR / Project Dantak / Ministry of Defence, Govt of Bhutan/CPO/NSIC be clearly mentioned or EMD be submitted by non enlisted/non registered firms. EMD shall be deposited in case if the consignor is registered with any other Project of BRO.
 - (d) Original manufacturers of Bhutan will have to submit EMD in case if they are not enlisted/ registered with HQ DGBR/Project Dantak or Government of Bhutan.
 - 5.3. The bidder should meet all the technical evaluation criteria in order that the bid is considered to be technically responsive and the bidder qualifying to have its commercial bid opened.
 6. **Part-II Price Bid ('Q' Bid): Appendix 'C'.**
 - 6.1 The price bid ('Q' Bid) shall be forwarded in a separate envelope by the Manufacturer/ Authorised Dealer/ Consignor duly mentioning the name of the firm, Enquiry reference and date of opening on top of the envelope.

6.2. Part-II Price Bids ('Q' Bid). Price Bid shall be quoted by bidder as per the format attached as Appendix 'C'.

6.3. 'Q'-Bid evaluation. Price Bid of non qualified bidders, based on evaluation of 'T' Bid, will not be opened.

6.4 Price Bids shall only be furnished in attached format forming part of the bid documents.

7. 'T' Bid and 'Q' Bid be submitted in two separate envelopes duly superscribed and both these sealed covers are to be put in a bigger cover which should be sealed and duly superscribed. Consignor/ bidders who offer the Enquiry documents of 'T' Bid and 'Q' Bid in a single envelope will be rejected. On top of both 'T' Bid and 'Q' Bid, details such as Name of Manufacturer/ Consignor of the items, Enquiry Reference and date of opening etc will be mentioned clearly.

8. No conditional offer other than conditions mentioned above will be entertained.

9. All necessary licenses, consents and permissions for import/ export from Govt/Semi Govt/ Civic agencies for the performance of obligations under this supply orders shall be arranged by the seller/ consignor.

10. The supplier/ consignor shall provide and pay for usage of labour, utilities, transportation and other miscellaneous services necessary for proper execution and completion of supply order at the designated FOR.

11. The complete expenses on preparation and submission of quotation shall be borne by the firms and it shall have no claim on this account.

Earnest money and security deposit.

12. Manufacturer/Firms who are NOT enlisted as per Para 5.1 (b) of this RFP will have to submit Earnest Money of Amount in Rs 8,400/- (Rupees Eight Thousand Four Hundred Only) in the form of fixed Deposit receipt, or Bank guarantee from any of the commercial banks drawn in favour of Chief Engineer, Project Dantak payable at SBI Hasimara having validity/maturity period of Six Months and will be enclosed with Technical Bid. Earnest Money of un-successful firms/ Consignor shall be returned to them immediately on placing of Supply Order.

13. **Performance Security Deposit.** Performance Security deposit in the form of Bank Gurrantee or Demand Draft should be submitted by your firm @ 3% of the value of Supply Order amount within 30 days of receipt of the Supply Order, to HQ 19 BRTF, Phuentsholing. The Fixed Deposit Receipt or Bank Guarantee Bond be prepared having validity/maturity period of six months in favour of HQ 19 BRTF Payable at SBI, Hasimara. On receipt of Performance Security, the EMD will be returned to the firm. The performance Security will be released after one month of release of completed payment against the supply order. If required, the extension of validity of performance Security Deposit will be sought accordingly. Original Manufacturers/ PSUs/ Approved Producers and the firms who are enlisted with HQ Project Dantak or HQ DGBR are exempted from deposition of Performance Security Deposit.

(a) **Clause for Evaluation of L1.** To determine the L1, the quoted rates of consignor who have been found technically "Substantially Responsive". 'Q' Bid shall be evaluated as under:-

(i) Ranking of the commercial bid will be based on the lowest cost of each total items which will comprise of Basic Cost of item, Freight insurance, except levies, Taxes and Duties levied by Central/ State Local Govts such as Octroi/ Entry Tax, etc as quoted by the Bidder in his 'Q' Bid. All these elements shall mandatorily be indicated separately.

(ii) Any Taxes and Duties not mentioned clearly in 'Q'-Bid will not be counted and the Bidder shall not have any claim on account of such omissions on his part.

(iii) **GST/Sales Tax are not applicable for Project Dantak.** Sales tax exemption certificate will be issued to consignor. For any query regarding exemption of GST on import of goods and services from India to Bhutan, kindly refer to the following websites for detail information.

(aa) www.cbec.gov.in/htdocs-cbec/gst/index.

(ab) www.cbec.gov.in/resources/htdocs-cbec/gst/notfctn-42-igst-rate-english.pdf

(ac) www.cbec.gov.in/resources/htdocs-cbec/gst/notfctn-300CGST-rate-english.pdf.

(iv) **For Indian Consignor Only.** As supply to Project Dantak located outside India, no GST is applicable. Indian consignor / Bidder shall attach undertaking certificate as per the following format mandatorily :-

UNDERTAKING CERTIFICATE

"It is certified that the goods / materials given in the Enquiry No 30002/DTK/19TF/ENQ-55 / E3ES dt 30 Mar 2022 of HQ CE (P) Dantak will be supplied by me / our firm as export and for use in Bhutan. It is declared that no GST cost has been included by me in the rates quoted in above mentioned enquiry".

Signature with date :
Name of the bidder :
Name of firm with address:

- (v) Certificate on account of GST as per Rule No 16 (1) of IGST Act 2017 will be issued on receipt of stores as format of certificate is as given under:-

GST : ZERO RATED SUPPLY CERTIFICATE

1. It is certified that the goods supplied by your firm against SO No 30003/DTK/19TF/SO /E3ES dated ____ 2022 for the cost of Rs _____/- (Rupees _____ only) is a zero rated supply as per **GST Rule No 16 (1) of IGST Act 2017** as the goods were supplied as an export and to be used in Bhutan by this Project.
2. It is further certified that no amount was paid to your firm by this Project on account of GST

Consignee Unit

(b) **Force Majeure Clause.** Should any force majeure circumstance arise, each of the contracting party shall be excused for the non fulfillment or for the delayed fulfillment of any of its contractual obligations, if the affected party within 10 days of its occurrence informs in a written form the other party. Force majeure shall mean fires, floods, natural disasters or other acts such as war, turmoil, strikes, sabotage explosions, and quarantine restriction beyond the control of either party. **In the event of either party being rendered unable by Force Majeure to perform any obligations required to be performed by them under the purchase order the relative obligations of the party affected by such force majeure shall upon notification to the other party be suspended for the period during which force majeure event lasts. The cost and loss sustained by the either party shall be borne by the respective parties. If the force majeure conditions persist for a period exceeding two (2) months, the Purchaser reserves the right to cancel the purchase order in full or in part.**

Consignee, Delivery & Delivery Period.

14. Supply will have to be completed within **45 days** from the date of effect of supply order. The stores are required to be delivered as per Appendix 'A' attached to this enquiry to the consignee **504 SS & TC (GREF), Phuentsholing, Bhutan.** The responsibility for loading and unloading of stores including transit loss shall rest with the consignor. The firm who are unable to supply the desired items within original delivery period due to any reason and are contemplating/seeking extension of original delivery period must send their request by email giving detailed reason for seeking original delivery period extension and the request should reach seven clear working days before expiring of original delivery period failing which the supply order will be considered to be terminated and firm will be responsible for the same.

Discount

15. Discount, if any, offered thereon shall be clearly specified.

Price Adjustment

16. No adjustment in the rates after the date of opening of the quotation on account of any increase/decrease in the cost of input or on account of any statutory increase in any taxes or duty is admissible.

17. **Prices.** All the rates/prices mentioned in the purchase order shall remain firm throughout the delivery/ shipment of the goods/ performance of the services. Price escalation on any score whatsoever will NOT be entertained.

Manufacturer/Authorized Consignor /Distributor

18. In case your firm is an original manufacturer of the product or an authorized consignor/ distributor, a certificate to this effect shall be enclosed alongwith product catalogue and company price list, Discount, if any offered thereon shall be specified clearly. If the product is proprietary in nature, certificate to this effect that the firm is sole manufacturer/ consignor /distributor of the product shall be enclosed with the offer.

Freight/ Warranty

19. **Freight** Packaging and freight will be complete responsibility of the consignor. Damages/ losses in transit shall be the responsibility of the consignor upto the delivery location specified by the respective consignees. No Defence vehicles will be provided to transport the stores. Stores will be securely packed without any additional cost to the Govt to avoid losses or damages during transit so as to reach this consignee, in perfect serviceable and fit for use condition. The consignor shall remain responsible for adequacy of packages during transit. The packages shall be marked with the Supply order and other necessary details for easy identification at the consignee's end. The consignor will be responsible for unloading at FOR and to ensure that the stores are delivered in sound condition without any damage.

20. **Warranty/Guarantee.** The stores supplied against the supply order shall bear a warranty against defective materials for a period of **Two** years or as specified by the company/ consignor/firm (whichever is higher) from the date of completion of the supply order. In case of manufacturing failure or defect in any component within the warranty period, the consignee shall inform the consignor for joint inspection. Within a period of one week of the receipt of such information, the rejected material shall be removed and replaced by the consignor at the site at his own expense and no extra payment shall be made on this account. All stores to be supplied should be free from all defects and faults in material workmanship and manufacture. They should be of the highest grade and consistent with the established and generally accepted standards for material of the type used and in full conformity with the specifications, drawings or samples and shall, if operable, operate properly.

Contd--4/

The Consignor shall be bound to furnish a clear written warranty regarding the same. In the event of the ultimate consignee in Bhutan not finding the stores in accordance with the order, the Consignor will be required to replace them free of cost inclusive of all freight and handling charges. Such replacement will be done within ninety days to the claim report raised by the Consignee. These standard conditions will also apply in respect of replaced stores.

TERMINATION OF PURCHASE ORDER

21. **Termination for Non-performance.** The Purchaser without prejudice to any other remedy for breach of purchase order, by giving a written notice for non-performance to the Seller, may terminate the purchase order in whole or in part for following reasons:-

- (a) In case a specified delivery schedule is not adhered to or the progress of the manufacturer or supply of the item is not satisfactory and is not in accordance with the progress schedule.
- (b) In case Seller fails to deliver any or all part of the goods within the time period specified in the purchase order.
- (c) If the Seller fails to perform any other obligation under the purchase order.
- (d) If the Seller, in the either of the above condition, does not cure his failure within a stipulated period of 30 days (or such a longer period may authorize by the Purchaser in writing) after receipt of notice of non-performance from the Purchaser.
- (e) In case Seller fails to deliver any or all part of the goods as per specifications, stipulated in the Purchase Order.

Contact Address:

22. For any further information/clarification on the subject the following Officer may be contacted during the office hours (i.e. 0830 Hrs to 1700 Hrs BST except Sunday/Holidays):-

SO-1 (Res)
Headquarters
Chief Engineer
Project Dantak
Tele No .009752351082/86/88
FAX No . 009752351285

23. The accepting officer does not bind himself to accept the lowest quotation or any other quotation and reserves the right to accept or reject any of the quotation either in part or in full without assigning any reasons what so ever therefo.

24. No purchase against this enquiry is guaranteed.

25. The quantities of stores given is/are guidelines and may be enhanced or decreased upto +/- 25% according to our requirement at the time of placing of supply order.

26. Quotation received after the expiry of time and date specified in **Para 02** above will not be entertained.

27. **Payment will be made on receipt of stores in full as there is no provision for making advance payment.**

28. **Repeat Order Clause.** The Consignee may order upto 50% qty of SO within six months from the date of successful completion of the supply against this contract and at the same cost, terms and conditions of the contract. The Consignor is bound to supply the material, if found fulfilling all conditions as mentioned in Para 9.7.22 of DPM 2009.

29. **Sample Approval** The firm shall produce one sample of the item for approval to the consignee within 20 days of this Supply Order only the approved samples will be supplied in bulk as per the quantity given in Supply Order. Samples may be approved by producing actual samples or through a catalogue of desired make as per SO.

30. **Inspection** The stores supplied may be inspected by the BOO detailed by the CFA or his authorized rep at time of delivery and should be strictly according to the specifications provided in the supply order. In case the items are found not according to specifications/satisfaction of the Inspecting Officer, the stores are liable to be rejected and will have to be replaced **within 30 days** without any additional cost by the consignor /firms.

31. **LD** The consignor shall be liable to pay liquidated damages and not as a penalty, a sum equivalent to ¼% (Half Percent) of the contract/supply order price per week of delay or part thereof. The consignor liability of liquidated damages shall not exceed maximum of 10% (Ten percent) of the contract price. If the delivery is delayed beyond 10 weeks, the consignee may at his own option, terminate the contract / supply order.

32. **Validity** The rates should be valid for 120 days wef the date of submission of the offer.

33. Items should be of same Make/Brand as mentioned in the appendix attached.

34. Mentioning of GSTIN Nos and quoting rates in words is compulsory, without which enquiry will not be considered for placing supply order. Clear description/specification of items is also mandatory.

35. Rates be quoted for items as per specification in enquiry only.

36. **EMD.** In case not supply of stores against this supply order, than EMD/ Performance security/ Bank Guarantee will be ceased by department.

37. In addition to the existing facility/provision of receiving bids at HQ CE (P) Dantak and as mentioned in clause 2 of this RFP, a facility has been created on Indian side border town of Jaigaon to facilitate submission of bids by Indian Bidders due to lockdown and restricted movement of goods and services across the Indo-Bhutan borders. The bidders can exercise following option and address:-

(a) **Existing facility at HQ CE (P) Dantak Thimphu:-**

(i) **If sending bids by post:-**

HQ CE (P) Dantak
PIN – 931 708
C/o 99 APO

(ii) **Manual Submission** - Dropping of bids in tender Box kept in HQ CE (P) Dantak premises.

(b) **Additional facility at Jaigaon:-**

(i) **If sending bids by post:-**

OIC Liaison Cell
Supervisor Mess, HQ 19 BRTF (GREF)
Jaigaon (W.B.)
PIN – 736 182
Contact details/ Phone No – 9970889254

(ii) **Manual submission:-**

Submit the bid documents to the OIC liaison Cell at Jaigaon.

Address:-

OIC Liaison Cell
Supervisor Mess, HQ 19 BRTF (GREF)
Jaigaon (W.B.)
PIN – 736 182
Contact details/ Phone No - 9970889254

Please take acknowledgement from OIC Liaison Cell in case of manual submission at Jaigaon

Note:- Last date and time for submission of bids will be same for both the location and bids from both the places will be collected and opened on fixed date by the nominated BOO at HQ CE (P) Dantak.

Your's faithfully,



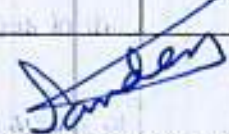
(Sandeep Saxena)
Lt Col
SO-1 (Res)
for Chief Engineer

Contd....6/-

LIST OF STORES**HQ CE (P) Dantak ENQ No 30002/19TF/DTK/ENQ- 55 /E3ES dt 30 Mar 2022**

Ser No	Nomenclature	A/U	Qty
Stores to be supplied to 504 SS&TC (GREF), Phuentsholing, Bhutan			
1	<p>Strip Seal Expansion joint 12 Mtrs length (As per drawing No SD/ 205)</p> <p>(a) Type -M steel extrusion 16ϕ x 152 LG. Anchor studs staggered at 200 mm c/c</p> <p>(b) Link Bars @ 200mm c/c Welded with the Deck Reinforcement</p> <p>(c) DRT wall reinforcement (indicative)</p> <p>(d) Wearing coat (indicative)</p> <p>(e) Gusset plate 12 thick.</p> <p>(f) Weld of length 100mm</p> <p>(g) Hex bolt 12ϕ x 5 LG and washer/ lock washer & nut 12ϕ</p> <p>(h) Field welding length 200mm (minimum)</p> <p>(j) The Specification for Materials Fabrication, Handling Storage Installation Test and Standards shall be as per the specification conforming to the requirements of IRC:SP: 69-2011</p> <p>(k) The steel for Edge beam shall conform to steel Grade RST 37.2 of German Standard or Equivalent as per IRC:SP:69-2011 clause 7.5.2.1</p> <p>(l) Chloroprene of strip Seal shall conform to clause 7.5.2.2 of IRC:SP:69-2011</p>	Set	04
2	<p>Elastomeric Bearing size 500 x 360 x 96 mm (as per Drawing No SD/ 203).</p> <p>(a) The design of elastomeric bearings is applicable to the bridges in the zone indicated below (Refer : cl 222 of IRC : 6-1966 (1985 Reprint).</p> <p>(b) Row material: chloroprene (CR) shell only be used in manufacture of Bearing</p> <p>(c) Grade of Raw elastomer of proven use in elastomeric bearings with low crystallisation rates and adequate shelf life (e.g. Neoprene WRT, Bayprene 110 or equivalent) shall be used. No reclaimed rubber or vulcanized wastes shall used. The raw elastomer content of the compound shall not be lower than 60%. The ash content shall not exceed 5%. (as per tests conducted in accordance with ASTM D-297). EPDM and other similar candidate elastomers for bridge bearing use shall not be permitted.</p> <p>(d) Fabrication testing and acceptance of bearings shall be in accordance with IRC: 83 (Part II) 1987.</p> <p>(e) Elastomeric bearing should not be used in areas where the minimum temperature goes below(-) 10^o C</p>	Nos	16
3	<p>Drainage Spout size 210 x 210mm/ L 210 x W 210 x D 90</p> <p>Make : Galvanized/ GI/ Mild Steel/ Equivalent</p>	Nos	12

Registration No. of Firm
TIN No. of Firm
Firm Seal
Fax & Tele No.


(Sandeep Saxena)
Lt Col
SO -1 (Res)
for Chief Engineer

TECHNICAL BID ('T' BID)


HQ CE (P) Dantak ENQ No 30002/19 TF/DTK/ENQ- 55 /E3ES dt 30 Mar 2022
(As per Clause Para 5)

PARTICULAR OF FIRM		
SER NO	ITEMS	DETAILS
1.	Name of firms	
2.	Legal Status of the firm	Individual company (Incorporated un-incorporated)/ Partnership firm / public limited
3.	Address	
4.	Contact Telephone, Mobile & Fax No	
5.	E-mail address	
6.	GSTIN No	
7.	PAN No	
8.	Registration details :-	
	(a) Registration/ Enlistment No.	
	(b) With whom registered /enlisted	
	(c) Letter ref under which registered/enlisted.(Enclose copy)	
9.	EMD (For unregistered consignor / firm only) EMD in the form of cheque is not acceptable. EMD be submitted in the form of Fixed Deposit Receipt or Bank Guarantee only	Amount Rs 8,400/- Fixed Deposit Receipt or Bank Guarantee Number _____ Dated : _____
Date		(Signature of authorized rep of firm with seal)

Note:

1. Firm enlisted with HQ CE (Project) Dantak need not enclose photocopy of GSTIN No, PAN No and copy of letters reference under which registered. Rest all firms should enclose relevant photocopies.
2. Firms should enclose all relevant documents as mentioned under Para 5 of this Enquiry in addition to the above details, failing which the firm will be rejected during 'T' Bid evaluation.

(Signature of consignor)



 (Sandeep Saxena)
 Lt Col
 SO-1 (Res)
 for Chief Engineer

PRICE BID ('Q' BID)**PRICE BID HQ CE (P) Dantak ENQ No 30002/19TF/DTK/ENQ-55 /E3ES dt.30 Mar 2022**

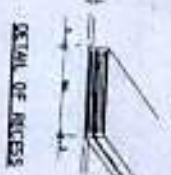
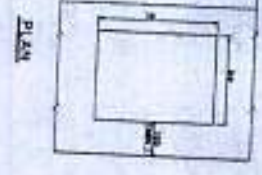
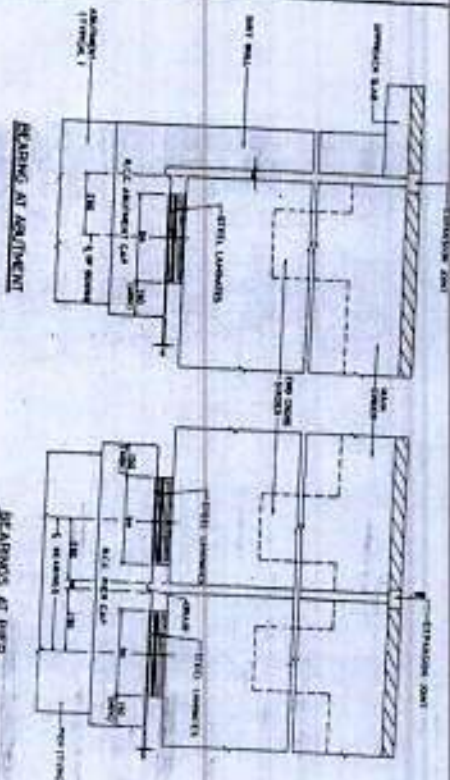
Ser No	Nomenclature	A/U	Qty	Basic Price (Unit)	Freight Charges	Total Amount
Stores to be supplied to 504 SS&TC (GREF), Phuentsholing, Bhutan						
1	<p>Strip Seal Expansion joint 12 Mtrs length (As per drawing No SD/ 205)</p> <p>(a) Type -M steel extrusion 16Ø x 152 LG. Anchor studs staggered at 200 mm c/c</p> <p>(b) Link Bars @ 200mm c/c Welded with the Deck Reinforcement</p> <p>(c) DRT wall reinforcement (indicative)</p> <p>(d) Wearing coat (indicative)</p> <p>(e) Gusset plate 12 thick.</p> <p>(f) Weld of length 100mm</p> <p>(g) Hex bolt 12Ø x 5 LG arid washer/ lock washer & nut 12Ø</p> <p>(h) Field welding length 200mm (minimum)</p> <p>(j) The Specification ford Materials Fabrication, Handling Storage Installation Test and Standards shall be as per the specification conforming to the requirements of IRC:SP:69-2011</p> <p>(k) The steel for Edge beam shall conform to steel Grade RST 37.2 of German Standard or Equivalent as per IRC:SP:69-2011clause 7.5.2.1</p> <p>(l) Chloroprene of strip Seal shall conform to clause 7.5.2.2 of IRC:SP:69-2011</p>	Set	04			
2	<p>Elastomeric Bearing size 500 x 360 x 96 mm (as per Drawing No SD/ 203).</p> <p>(a) The design of elastomeric bearings is applicable to the bridges in the zone indicated below (Refer : cl 222 of IRC : 6-1966 (1985 Reprint).</p> <p>(b) Row material: chloroprene (CR) shell only be used in manufacture of Bearing</p> <p>(c) Grade of Raw elastomer of proven use in elastomeric bearings with low crystallisation rates and adequate shelf life (e.g. Neoprene WRT, Bayprene 110 or equivalent) shall be used. No reclaimed rubber or vulcanized wastes shall used. The raw elastomer content of the compound shall not be lower than 60%. The ash content shall not exceed 5%. (As per tests conducted in accordance with ASTM D-297). EPDM and other similar candidate elastomers for bridge bearing use shall not be permitted.</p> <p>(d) Fabrication testing and acceptance of bearings shall be in accordance with IRC: 83 (Part II) 1987.</p>	Nos	16			

	(e) Elastomeric bearing should not be used in areas where the minimum temperature goes below(-) 10 ^o C						
3	Drainage Spout size 210 x 210mm/ L 210 x W 210 x D 90 Make : Galvanized/ GI/ Mild Steel/ Equivalent	Nos	12				

Registration No. of Firm
TIN No. of Firm
Firm Seal
Fax & Tele No.


(Sandeep Saxena)
Lt Col
SO -1 (Res)
for Chief Engineer

INSTALLATION INSTRUCTIONS



DEPTH IN (mm)	NO. OF LAYERS OF ELASTOMER	NO. OF STEEL LAMINATE	MINIMUM STRENGTH OF CONCRETE OR SUBSTRATE BELOW ELASTOMER
100	1	1	10 N/mm ²
150	1	1	15 N/mm ²
200	1	1	20 N/mm ²
250	1	1	25 N/mm ²
300	1	1	30 N/mm ²
350	1	1	35 N/mm ²
400	1	1	40 N/mm ²
450	1	1	45 N/mm ²
500	1	1	50 N/mm ²
550	1	1	55 N/mm ²
600	1	1	60 N/mm ²
650	1	1	65 N/mm ²
700	1	1	70 N/mm ²
750	1	1	75 N/mm ²
800	1	1	80 N/mm ²
850	1	1	85 N/mm ²
900	1	1	90 N/mm ²
950	1	1	95 N/mm ²
1000	1	1	100 N/mm ²

1. Care shall be taken in packing, transportation, storage and handling to avoid any mechanical damage. Contamination with oil, grease and dirt, under exposure to sunlight and weather.
 2. The bearings shall be placed in a recess as shown in the drawing.
 3. The position of the bearings shall be accurately marked on pier/abutment top and the area where the bearings will be seated accurately leveled.
 4. The concrete surface shall be free from any loose material and cleaned of any grease, oil, paint etc. It shall be dry at the time of fixing of bearing. The surface shall be sand blasted, clean of all influence and leveled true.
 5. Bearings must be placed between true horizontal surfaces (maximum tolerance 0.2 per cent perpendicular to bond) and at true span position of pier/abutment lines marked on reference surfaces (maximum tolerance 3mm). Concrete surfaces shall be free from local irregularities (maximum tolerance 1:100 in height).
 6. Where bearings are installed prior to its concreting, the forms around the bearings shall be set so that the bearings shall be set in the concrete. The forms shall be set so that the bearings shall be set in the concrete. The forms shall be set so that the bearings shall be set in the concrete.
 7. The temporary forms shall be removed after the superstructure concrete has set. The sides of the bearings shall be cleaned of any deposit of cement slurry / concrete.
- MAINTENANCE**
1. The bearings shall be subjected to planned maintenance care.
 2. The exposed bearing surface shall be maintained clean and free from contamination with grease or oil, etc.
 3. Annual routine maintenance inspection or special maintenance inspection of all bearings shall be made to check for any surface cracking or signs of damage, deterioration or distress.
 4. Damaged bearings shall be replaced immediately. To avoid differences in stiffness, all adjacent bearings on the same line of support shall also be replaced and uniform seating of the main girders over all the new bearings shall be ensured.
 5. Procedure of jacking of girders shall be as indicated in notes of the cross girder drawing.

NOTES

1. Specifications including permissible tolerances for the Elastomeric Bearings shall be in accordance with IS 6389 Part III 1997 and standard specifications and code of practice for Road bridges Section 15 Part II, Elastomeric bearings.
2. The design of elastomeric bearings is applicable to the bridges in the zone indicated below (Refer to 222 of IRC:6-1969/1985 Revised):

Zone I and B	Applicability to bridges of bridges
Zone II and IV	all bridges up to total length of 80 m
Zone III and V	bridges more than 80 m length.
3. Raw material - Chlorosulfonated Polyethylene (CSPE) shall only be used in manufacture of bearings.
4. Grades of raw elastomer of proven use in elastomeric bearings, with low crystallisation rates and adequate shelf life (e.g. Neoprene WRT, butyl rubber, etc.) shall be used. No recycled rubber or substituted wastes shall be used. The raw elastomer content of the compound shall not be less than 60% by weight. The compound shall be conducted in accordance with ASTM D-2712/ENR and other similar composite elastomers for bridge bearing use shall not be permitted.
5. Fabrication, setting and acceptance of bearings shall be in accordance with IRC:83 (Part II) and IS 6389.
6. Elastomeric bearings should not be used in areas where the minimum temperature goes below -15°C.
7. Bearings shall be handled carefully. These shall be protected from bright sun light and extreme cold. First, they shall be stored nearby under cover till installation.
8. This drawing shall be read in conjunction with drawings for general arrangement, details of longitudinal girders and details for cross girders for the corresponding spans.
9. Bearings shall be provided only from approved manufacturers.

STANDARD DRAWINGS FOR ROAD BRIDGES
 GOVERNMENT OF INDIA
 MINISTER OF SURFACE TRANSPORT
 LUDHIANA, PUNJAB

R.C.C. T-BEAM AND SLAB SUPERSTRUCTURE
 WITH AND WITHOUT FOOTPATHS
 DETAILS OF ELASTOMERIC BEARINGS

REVISED BY	DATE	REVISION

प्रति निर्देश / Sandeep Saxena)
 निर्देशक / Li Col
 प्र. सं. - 1 (सं.)/SO-1 (Res)
 प्र. सं. / for CE

