Reasoned Document: Specification and Schedule of Technical Requirement (STR) for Manufacture and Supply of Elastomeric Bearing to Indian Railway for use on Railway Bridges/ROB

S.No.	Firm's Name	Attachment	Subject matter with para of STR	Comments/suggestionby stakeholder	Remarks by RDSO
1.0	M/s. DECG International	Email received on 8th May, 2025	1.0 Specification of Manufacture and Supply of Elastomeric Bearings: Clause No. 2: The specification for manufacturing and supply of Elastomeric Bearing for Railways for use on railway bridges /ROB shall be IRC: 83 (Part-II): Latest Edition, with additional provisions in the following Para- Para 7.7.1 of IRC:83 (Part-II)-2018 shall be read as: For the purpose of grading level of acceptance testing (Clause 7.9), lots will be classified as below: A lot size of 24 or larger number of Bearings shall be defined as a large lot. A lot size of less than 24 bearings shall be defined as small lot. *When the number of bearings for a project is large and phased production is permitted,*	The specification for manufacturing and supply of Elastomeric Bearing for Railways for use on railway bridges /ROB shall be IRC: 83 (Part-II): Latest Edition, with additional provisions in the following Para- Para 7.7.1 of IRC:83 (Part-II)-2018 shall be read as: For the purpose of grading level of acceptance testing (Clause 7.9), lots will be classified as below: A lot size of 75 or larger number of Bearings shall be defined as a large lot. A lot size of less than 75 bearings shall be defined as small lot. *When the number of bearings for a project is large(More than 500 nos.) and phased production is permitted, bearings supplied in any one phase will be considered as a large lot.*	The existing provisions are in line with the IRC provision (IRC: 83-2018, Part-II). Hence, no change in required.

			bearingssupplied in any one phase will be considered as a large lot. Notwithstanding the provision of clause of IRC 83 (part-II), it is hereby specified that for every lot of less than 24 Bearings i.e. small lot, one extra bearing shall be manufactured and out of the lot, one bearing will be selected at random for carrying out material tests.	Notwithstanding the provision of clause of IRC 83 (part-II), it is hereby specified that for every lot of less than 75Bearings i.e. small lot, one extra bearing shall be manufactured and out of the lot, one bearing will be selected at random for carrying out material tests.	
			2.0 Procedure for Registration of Firms for Manufacture and supply of Expansion Joints: Clause No. 3.1(ii): Space required for manufacturing, testing and storage viz. manufacturing floor, Godown, store, office and test lab etc.	Minimum space required for manufacture of Elastomeric Bearing should not be less than 45,000 square feet with availability of 2 cranes of minimum capacity 5 MT, and 1 crane of minimum 10 MT capacity. The Design Engineer should be at least post graduate (M.Tech.) from any IIT/NIT. Similarly the Production Manager must be B.Tech. From any recognized Institute. Manufacture must have a separate laboratory for testing of the materials.	(i)Space and Crane requirement depends upon the production capacity. The adequacy of the space and lifting arrangement etc. is checked during the CCA. So, the existing provision seems enough. (ii)Competent manpower related provisions already exist in Para 5.1. (iii) Testing facilities are already provided in Para 6.3 and 6.4 either in-house or outsourced.Therefore , no additional change is needed.
			3.0 Qualifying Criteria: Clause No. 4.1 Note-(i): Previous experience shall be considered only for the work completed successfully	Previous experience shall be considered only for the work completed during the last Three financial years and up to the date of application in the	The provision of work completed during the last three years may be restrictive in nature. Hence the provisions as proposed hold good.

			during the last five financial years and up to the date of application in the current financial year.	current financial year.	
			4.0 General and Infrastructural Requirements: Clause No. 5.3: A proper procedure for maintenance of records for receipt and consumption of raw material should be in vogue or developed so as to allow verification by railway's representative. The firm shall maintain list of consumption of raw material including test records for a period of at least preceding five years. The record should be maintained in such a way that raw material traceability can be ensured with specific elastomeric bearing manufactured and supplied by firm.	A proper procedure for maintenance of records and consumption of raw material should be in vogue or developed so as to allow verification by railway's representative. The firm shall maintain list of consumption of raw material including test records for a period of at least preceding Three years. The record should be maintained in such a way that raw material traceability can be ensured with specific expansion joint manufactured and supplied by firm.	The provision of maintaining traceability record for the three years may be a relaxed criteria for a safety related item. Hence, existing provision need not to be changed.
			4.0 General and Infrastructural Requirements: Clause No. 5.4: Adequate power supply should be arranged through distribution agencies with back up through captive generation. Electricity bill not older than 6 months shall be submitted	Adequate power supply should be arranged through distribution agencies with back up through captive generation. Electricity bill not older than 3 months shall be submitted along-with application at the time of registration.	The proposed provision of Electricity bill not older than 6 months is in line with the ISO Doc. No. QO-F-8.1-7 Version No. 1.9.

			alongwithapplication at the time of registration.		
			5.0 Facilities required for manufacturing of Elastomeric/rubber component: Clause No. 6.3:	Following laboratory facilities for testing elastomeric bearing must be available with fabrication/firm. Provide quantity, make, model no., S. No., capacity, Year of manufacture/commissioning, Machine number etc. preferably in a chart form as applicable. 1.Automatic Spectrometer for Metal testing 2.Surface Roughness Tester. 3.Automatic Sand /Grit Ballasting Machine	(i) Automatic Spectrometer for Metal testing- Provision of material testing do exist as in-house or outsourced as per Para 6.1. (ii) Surface Roughness Tester included in the list under Para 6.3. (iii) Automatic Sand/Grit Blasting - already covered in Para 6.2.
			5.0 Facilities required for manufacturing of Elastomeric/rubber component: Clause No. 6.4, Note: If facility is in house, provide details of Equipment like, Make, Model, Number, Capacity, Year of manufacture/ commissioning and copy of test certificates issued earlier. If outsourced, submit copy of MOU with NABL/NABCB Lab and copy of some previous Test Certificates issued by NABL/NABCB Lab. The MOU should have validity of minimum 65 months.	If facility is in house, provide details of Equipment like, Make, Model, Number, Capacity, Year of manufacture/ commissioning and copy of test certificates issued earlier. If outsourced, submit copy of MOU with NABL/NABCB Lab and copy of some previous Test Certificates issued by NABL/NABCB Lab. The MOU should have validity of minimum 24 months.	The validity of MOU in existing STR is 60 months, additional 5 months have been considered adding the time prescribed for registration of vendors. Further, the suggested time of 24 months is not desirable as the frequency of quality audit is 5 years. So, the validity of MOU should be in sync with the quality audit frequency.

			6.0 Quality Audit: Clause No. 8.1: Quality Audit of the Registered Vendors will be done every five years. However, it may be planned by RDSO after completion of three years since registration or previous quality audit.	Quality Audit of the Registered Vendors will be done every seven years. However, it may be planned by RDSO after completion of five years since registration or previous quality audit.	Existing frequency of quality audit of 5 years is in line with the ISO provision(ISO Doc No. QO-D-8.1-13 Version No. 1.9 dated 19.03.2025). Hence no change is needed.
			Additional Recommendations:	1.Now a days the LRB(Lead Rubber Bearing) is widely used in bridges to bear Earthquake Forces. RDSO not yet issued any documents, detailed guidelines for material specifications , design criteria and analysis etc. It is requested that RDSO should issue detailed guidelines regarding LRB. 2.Fabricators should have the minimum in-house manufacturing and dispatching Capacity of 2000 tons per year for all types of Bearings, Expansion Joints. 3.The Railway is constructing lots of ROBs, to eliminate Level Crossings. Also Flyovers, Metros, Railway Bridges, additional ROBs and World class station buildings are under construction in city areas to facilitates the transportation	The suggested items are beyond the scope of this STR.

				within city and to reduce congestion. NHAI has already modified their Specifications for inclusion and construction of Noise Barriers along with Road over bridges, Fly overs. Now it is need of the time, that Railway should also include provision of Noise Barriers along-with construction of ROBs, Flyovers, Building, Railway Bridges and RDSO requested to issue necessary guidelines/specifications for their Provisions.	

Other changes proposed by RDSO

Sl. No.	Para No.	Change/addition/deletion	Reason
1.	6.4	New Para added as- **Test facilities for Steel.** Following laboratory facilities for testing of elastomer must be available in-house/outsourced with fabricator/firm. If facility is in house provide details of Equipment like Make, Model Number, quantity, serial number, Capacity, Year of manufacture/ commissioning and copy of test certificates issued earlier. If outsourced, submit copy of MOU with NABL Lab and copy of some previous Test Certificate issued by NABL Lab. The MOU should have validity of minimum 65 months. (i) Compressive & Tensile strength testing facility. (ii) Bend Stress testing facilities. (iii) Impact Strength testing facilities. (iv) Hardness Testing facilities.	Testing facility for Steel is added.

		(v) Chemical testing facilities for determination of chemical composition. (vi) Ultrasonic Testing facilities. (vii) Liquid penetration testing facilities.	
2.	7.10	New Para added as- Firm must have and maintain the ISO 9001 Certification, as per instructions issued by Ministry of Railway (Railway Board) vide letter No. 2014/CE-III/BR/Bridge workshop policy dated: 16/19.05.2025 and further circulated vide RDSO's letter No. CBS/G/Reg dated 26.05.2025. These letters can be accessed under B&S Directorate's Documents (Vendor registration guidelines) through Vendor interface on RDSO's website at following URL https://rdso.indianrailways.gov.in/view_section.jsp?lang=0&id=0,4,28,6551. To implement ISO 9001 Certification through Bureau of Indian Standard(BIS), RDSO has already signed an MOU with BIS.	Para regarding ISO 9001certification of firm has been added to implement the instructions of Railway Board issued vide letter No. 2014/CE-III/BR/Bridge workshop policy dated: 16/19.05.2025 and further circulated to vendors vide RDSO's letter No. CBS/G/Reg dated 26.05.2025.
3.	9.1	New Para added as- "It shall be mandatory to display the above details/information on the website within stipulated time. Displaying false information shall lead to outright delisting for two years as per Para 4.2.4 of RDSO ISO Apex Document No. QO-D-8.1-11 (as updated time to time)."	Sub-Para added to stop any false display of information to the customers.