

Reasoned document of draft specification no. 0.08.00.117 (Rev. 00) for 'Specification for reduction of cab noise in HHP diesel-electric locomotives

Draft specification no. 0.08.00.117 (Rev. 00) 'Specification for reduction of cab noise in HHP diesel-electric locomotives' as per ISO procedure was uploaded on RDSO website for one month for comments/ suggestions. The draft specifications was also sent to Zonal Railways, production units and IIT/KGP for comments and suggestions.

IIT/KGP vide letter dated 13.06.2021 submitted their comments. However no comments has been received from zonal Railways, production units and any other party so far. Reasoned Statement based on comments received on draft spec is tabulated below:

Clause of Spec.	Description	Comments by the IIT/ KGP	Comments from Zonal Railways	Comments from Production Units	Comments from Any other party	Stipulation in the Draft spec. with reason
8.1 A a	Noise reduction value of 50 mm thickness of the material shall be 0.65 or better.	In section 8.1 A a. Noise reduction Coefficient instead of Noise Reduction should be written.	-- NIL--	-- NIL--	-- NIL--	Agreed, Accordingly para 8.1 A a has been revised as: "Noise reduction coefficient value of 50 mm thickness of the material shall be 0.65 or better.
9.13	Noise measurement shall be taken under self-loading condition and maximum throttle (8th Notch), on static condition of locomotive.	In section 9.13 Noise measurement shall be taken under self full loading condition...instead of Noise measurement shall be taken under self loading condition.	-- NIL--	-- NIL--	-- NIL--	Agreed, Accordingly para 9.13 has been revised as: "Noise measurement shall be taken under self full loading condition and maximum throttle (8th Notch), on static condition of locomotive.
Annexure-2	See Annexure-2 of draft spec no. 0.08.00.117 (Rev. 00)	In the Table provided in Annexure-2, the 3rd column on construction shows the material type of a particular vendor M/s L&L Products used by IIT Kharagpur. Either the particular be mentioned in the specifications or all references of D-VP-52 and D-VN-52 be replaced with sound absorber combo and sound barrier combo, respectively.	-- NIL--	-- NIL--	-- NIL--	Agreed, Accordingly, D-VP-52 and D-VN-52 has been replaced with sound absorber combo and sound barrier combo respectively on all places in Annexure-2.
		In the table of test standards in row 3, 200 Degree be replaced by 200 Degree Celcius.	-- NIL--	-- NIL--	-- NIL--	Agreed, Accordingly, 200 Degree has been replaced by 200 Degree Celcius

Following changes are proposed based on review in RDSO.

Clause of Spec.	Contents as per draft specification	Revised content	Reason for change
1.0	As per Title 49, Part 229.121 of CFR Standard (USA), used for locomotive cab noise, Average sound level inside the cab shall be less than or equal to 85 dB(A), when tested for static noise.	Average sound level inside the cab shall be less than or equal to 85 dB(A), when tested for static noise.	Revised content is complete itself to describe the noise level requirements in driver cab as well as in compliance to 'Make in India' policy.
3.6	'AAR' means Association of American Rail-roads.	Deleted	Not required
3.8	'CFR' means Code of Federal Regulations (USA)	Deleted	Not required
4.0	Noise inside the driving Cab, when tested as per CFR standard Title 49, Part 229.121 for static noise, shall be ≤ 85 dB(A).	Noise level inside the driving cab, when tested as per the test requirements given in Para 9.0 for static noise, shall be ≤ 85 dB(A).	Revised content is complete itself to describe the noise level requirements in driver cab as well in compliance to 'Make in India' policy.
7.7	Density of acoustic insulation materials in GSM shall be provided with the offer.	Density of acoustic insulation materials in GSM (grams per square meter) shall be provided with the offer.	Full form of GSM has been added for clarity.
8.2.1	Noise Reduction Coefficient (NRC) and Transmission Loss: As per ISO 10534/ ASTM E 1050/ ASTM E 2611.	Noise Reduction Coefficient (NRC) and Transmission Loss: As per ISO 10534/ ASTM E 1050/ ASTM E 2611 or Equivalent Indian Standards.	'Equivalent Indian Standard' added in all material test requirements of RDSO of Para 8.2 In terms of latest guidelines & 'Make in India policy
8.2.2 a	Toxicity/ Hazardous: As per IEC 62321: 2013/2015: Material shall be ND Grade.	Toxicity/ Hazardous: As per IEC 62321: 2013/2015 or Equivalent Indian Standard: Material shall be ND Grade.	

8.2.2 c	Flammability/ Melting behavior: As per UL-94/ ASTM 3801/ ISO 15061/ FMVSS 302	Flammability/ Melting behavior: As per UL-94/ ASTM 3801/ ISO 15061/ FMVSS 302 or Equivalent Indian Standards.	
8.2.2 d	Water absorption: As per ASTM D 570: Shall not disintegrate	Water absorption: As per ASTM D 570 or Equivalent Indian Standard: Shall not disintegrate.	
8.2.2 e	Odor report: As per SAE J 1351:2015 (Grade 2 or less)	Odor report: As per SAE J 1351:2015 (Grade 2 or less) or Equivalent Indian Standard.	
8.2.2 g	Resistance to fungi: As per ASTM G 21: The acceptable growth rating is Zero (0).	Resistance to fungi: As per ASTM G 21 or Equivalent Indian Standard: The acceptable growth rating is Zero (0).	
9.6	SLMs used to perform measurements for compliance with FRA regulations must meet the performance specifications in the appropriate ANSI/IEC Standards	SLMs used to perform measurements for compliance with FRA or equivalent Indian regulations must meet the performance specifications in the appropriate ANSI/IEC or equivalent IS Standards.	Equivalent Indian Standard' added in all material test requirements of RDSO of Para 8.2 In terms of latest guidelines & 'Make in India policy
9.16	New Para	Noise measurement details should be recorded in noise measurement sheet placed at Annexure- 4.	New para has been added to standardize the parameters to be checked during regular/ prototype inspection of HHP loco after application of acoustic scheme.
13.0	New Para	<u>Declaration of confidentiality of submitted documents by manufacturers</u> While submitting a new proposal/design, manufacturer must classify their documents confidentiality declaration such as: This document and its contents are the property of M/s XYZ (Name of the vendor) or its subsidiaries. This document contains confidential proprietary information. The reproduction, distribution, utilization or the communication of this document or any part thereof, without express authorization is strictly prohibited. Offenders will be held liable for the payment of damages. Indian Railways/RDSO is granted right to use, copy and distribute this	New para has been added as a declaration/ statement to be given by contractor regarding confidentiality of submitted documents.

		document for the use of inspection, operation, maintenance and repair etc.	
14.0	New Para	<u>PREFERENCE TO MAKE IN INDIA :</u> The Government of India policy on “make in India” shall apply.	New para has been added in terms of ‘Make in India’ policy.
Annexure-4	New Annexure	Sound level measurement sheet	New annexure has been added in compliance to para 9.16 and to standardize the parameters to be checked during regular/ prototype inspection of HHP loco after application of acoustic scheme.