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BUREAU OF INDIAN STANDARDS

A G E N D A

Name of The Committee	No. of Meeting	Date and Time	Day	Venue: Virtual (Webex)
In service Vehicle Inspection, Certification and Garage Equipment Sectional Committee, TED 31	**TENTH (10th)**	**26st Sept 2024** from **10: 30 AM** onwards	**Thursday**	**Meeting Link:** https://bismanak.webex.com/bismanak/j.php?MTID=m4203b3a887620ab809fcedf6f1e4d1ae **Meeting No.:** 2517 844 7729 **Password:** dbQckjmX862

CHAIRPERSON: Dr Manish Jaiswal, Director, NATRAX **HEAD (TED):** Shri A.P.D Dwivedi
MEMBER SECRETARY: Shri Gaurav Jayaswal

ITEM 0 WELCOME ADDRESS

0.1 Welcome Remarks by Head (TED)
0.2 Opening Remarks by the Chairperson

ITEM 1 CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The Minutes of the 9th Meeting of In service Vehicle Inspection, Certification and Garage Equipment Sectional Committee, TED 31 held in online mode through Webex Video Conferencing Platform, on 21st May 2024, were circulated through BIS Portal.

1.2 No comments with regards to decision of committee have been received. The committee may formally confirm the minutes.

ITEM 2 SCOPE & COMPOSITION OF THE SECTIONAL COMMITTEE

2.1 Scope of In service Vehicle Inspection, Certification and Garage Equipment Sectional Committee is as follows:

"*a) Standardization in the field of inspection and certification of vehicles including visual inspection for periodical technical inspection and associated garage equipment.*
b) Co-ordination of work with ISO/TC 22."

The committee may please note.

2.2 The present composition of this Sectional Committee, TED 31 is given in **Annex- 1** .The list shows the attendance of the members in the last three consecutive meetings. The representation of members who have not attended the last 2 meetings of the Sectional Committee is to be reviewed as per guidelines.

In view of the above, the Committee may deliberate and decide on further continuation/deletion of representation of these organizations.

2.3 Co-options

2.3.1 No New Co-option requests have been received for membership in SC TED 31.

2.3.2 Mr. Anurag Jain through email dt. 03/09/2024 informed that Name of M/s **Actia India Private Limited** has been changed to M/s **Deva Autotronics Private Limited**. The committee may deliberate and decide.

2.4 Panels Working Under Purview of SC TED 31

Sl. No.	Panel	Composition	Deliverables / Decisions	Status of Progress made
1.	Panel 1: Pollution Under Control	1. Shri A. A. Deshpande, ARAI (**Panel Convener**) 2. ICAT 3. GARC 4. AVL 5. SMS 6. Rosmerta 7. MSIL 8. MAHA	1. Examination of Documents related to the subject "Pollution Under Control"	Document TED 31 (20653) on the subject "Pollution under Control" is under publication. The committee may please note.
2.	Panel 2: Garage Equipments	1. Mr. Gururaj Ravi, MSIL **(Panel Convener)** 2. SNAPON 3. PRECISION Equipment 4. BOSCH 5. Automotive Skills Development Council (ASDC) {*Shri Anil Chikkara agreed to give contact details of suitable representatives from ASDC*} 6. SIAM 7. ACMA 8. Any other members co-opted by Panel	1. Revision of Jacks Standards (Revision of IS 4552-1,2) 2. Drafting of Terms of reference of Panel 3. Finalization of Panel Composition 4. Discussion on NWIP on Automotive Washing Machines	Email dt. 27-08-2024 Was sent to Mr. Anil Chikkara for getting contact details of M/s ASDC. The contact details have been received and an email has been sent to the specified representative from M/s ASDC for becoming member of Panel 2.

		Convener and approved by Chairperson, TED 31		Response is awaited. Email dt. 11-09-2024 has been written to Bharadwaj M Krishnamurthy from M/s Bosch for providing nominations for co-option in this panel. However response is still awaited. Email dt. 28-08-2024 was sent to Panel convener (MSIL) for providing the contact details of M/s SNAPON and M/s PRECISION Equipment but contact details could not be received. Subsequent to this, Email was also written to ACMA dt. 02-09-2024 for sharing contact details of M/s SNAPON and M/s PRECISION Equipment however contact details of the nodal person from these organization is still awaited. Email dt. 21/08/2024 was received from the

				panel convener stating his recommendations on subjects (*standards for review*) assigned to Panel 2 (Table Attached as **Annex- 3** of the agenda). The panel meeting however is yet to be conducted. The committee may deliberate and decide.
3.	Panel 3: Lighting	1. Dr. Madhusudan Joshi, iCAT (**Panel Convener**) 2. Renault Nissan 3. VolksWagen 4. Hella India lighting 5. ARAI 6. MSIL	1. Dr Madhusudan Joshi from iCAT was requested to organize a demonstration of the Headlight Testing Facility at iCAT for both conventional as well as electric vehicles for the interested members of the SC TED 31 Committee. 2. Panel 3 was requested to prepare a draft on the method for I&C team members present onsite to quickly	In accordance with the decisions of the 9th meeting of SC TED 31, an Email dt.28-09-2024 was sent to Dr Madhusudan Joshi (Panel Convener) to confirm a suitable date on which iCAT can organize a demonstration of its Headlight testing Facility for Interested Committee members of SC TED 31. 1st reminder dt.02-09-2024, IInd reminder dt.12-09-2024 was also sent.

			identify if unregulated light sources are being fitted on the headlamps.	Response however is still awaited. Email (Co-option) dt 29-08-2024 has been sent to M/s Volkswagon and M/s Hella India with a reminder dt. 13/09/2024. Response is still awaited. The response is awaited.
4.	Panel 4: Braking Efficiency	1. Mr. Jayant Bhalerao , ARAI (**Panel Convener**) 2. MAHA 3. ACTIA 4. Hero Motocorp 5. SIAM 6. Mr. Kiran Mulki, NATRAX 7. MSIL 8. NIAIMT 9. Rosmerta 10. ICAT 11. Mr. Anil Chikkara, (In Personal Capacity)	1. Discussion on Draft Standard for Braking Efficiency of L Category Vehicles as submitted by M/s Hero MotoCorp. 2. Draft Standard to be developed for Braking Efficiency on M&N Category Vehicles. 3. Limit to be discussed on Braking Efficiency and revising the limit as given in AIS 128. 4. Discussion on Draft as	The panel meeting is yet to conducted. The committee may deliberate and decide.

			submitted by M/s AVL on Electronic Parking Provisions. 5. The Committee also requested BIS to share the data collected at I&C test centres on various categories of vehicles running on road as shared by Shri B Bhanot with SIAM and BIS.	
5.	Panel 8: End of Life Vehicles	1. Shri Guru raj Ravi, MSIL (**Panel Convener**) 2. ARAI 3. SIAM 4. ACMA 5. GARC 6. NATRAX 7. ICAT 8. Material Recycling Association of India (*The committee requested the chairperson to provide the contact details of MRAI*) 9. Recycling Companies as suggested by Panel Convener	1. Drafting of Working Draft based on AIS 129 2. Drafting of Terms of reference of Panel 3. Finalization of Panel Composition	Email dt.02-09-2024 & reminder dt.12-09-2024 for Co-option has been sent to MRAI. The response is awaited. Email dt. 21/08/2024 was received from the panel convener along with the draft based on AIS 129 (Attached at **Annex- 2** of the agenda). The same was circulated to all the panel members (*whose contact details were available*)

				via email dt. 27/08/2024 for their comments. Comments (*in form of updated draft*) through email dt. 29/08/2024 from Shri Santosh Gawade, ARAI were received and the same have been forwarded to the panel convener. Meanwhile the Copy of ISO 22628 was also requested by the panel convener and the same was shared with him. The panel 8 meeting however is yet to be conducted. The committee may deliberate and decide.

The committee may review the subject and composition of the panels.

ITEM 3 ISSUES ARISING OUT OF THE MINUTES OF THE LAST MEETING

Actions taken on the Minutes of previous meeting is given below:

Item No.	Subject	Decision of in committee in Previous meetings	Proceedings in Last (9th) Meeting	Current Status
1.	**Standardization under the subject**	**5th meeting** The committee observed that IS 14554 and IS 9057 were formulated a	**Status in 9th Meeting:** Recommendations from M/s AVL	The document TED/31/20653 is under publication.

	'Pollution Under Control'	long time back and the introduction of BS VI norms necessitated the formulation of new standards. Based on Sh. Deshpande's suggestion, the committee decided to formulate a draft Indian Standard based on AIS 137(Part 8) **6th meeting** ARAI informed that Ministry of Road Transport & Highways (MoRTH) has already issued a notification regarding emission norms for PUC testing of BS VI compliant vehicles vide G.S.R. 881(E). Additionally, AIS 137 (Part 8) is also approved by Automotive Industry Standards Committee & published. The committee requested Sh. Santosh (ARAI) to provide a draft standard based on AIS 137 (part 8) so that same can be adopted as Indian Standard. **7th Meeting status** Draft document from ARAI is received and the same has been circulated to committee members vide Mail dated: 28 June 2022. ARAI informed through mail dt. 21.06.22 that, with the adoption of above draft Indian Standard by BIS	and M/s ARAI on Sr No 10,13,16 and 17 of Annex 3 of agenda of last (8th) Meeting is also awaited. Draft document TED/31/20653 was sent for wide circulation of 60 days. No Comments have been received from members on the Wide Circulation draft. The committee may deliberate and decide. **Decision in 9th Meeting** The committee decided to send the document TED/31/20653 for printing.	

		following 4 nos. Indian Standards may be repealed: 1) IS 14554 : 1998 - Automotive Vehicles – Exhaust Emissions - Apparatus For The Measurement Of Carbon Monoxide Concentration From Vehicles Equipped With Spark Ignition Engines At Idling – Specification 2) IS 9057 : 1998 - Automotive Vehicles - Exhaust Emissions - Carbon Monoxide Concentration At Idling For Vehicles Equipped With Spark Ignition Engines - Method Of Measurement (Second Revision) 3) IS 14553 : 2008 - Automotive Vehicles — Apparatus For The Measurement Of Opacity (Smoke) Of Exhaust Gas From Vehicles Equipped With Compression Ignition Engines — Specification (First Revision) 4) IS 8118 : 2008 - Automotive Vehicles — Opacity (Smoke) Of Exhuast Gas From Vehicles Equipped With Compression Ignition Engines Operating		

		Under Free Acceleration — Method Of Measurement (Third Revision) **Decision of 7th Meeting** Committee noted the status of the document prepared by ARAI. Committee authorized member secretary to circulate the draft in P-Draft in BIS format for 30 days and if no comment is obtained in 30 days circulation period, the document to be processed for Wide circulation of 60 days. Committee further decided that comments received (if any) on above document during the P-Draft/W-draft circulation period, can be put up to ARAI first before bringing before the Panel for further deliberation if any. Committee agreed to withdraw IS 14554, IS 9057, IS 14553, IS 8118 after publication of Indian standard, based on AIS 137 (Part-8). **Status in 8th Meeting:** Draft document TED/31/20653 was circulated in P- draft dt. 19/10/2022. Comments were received from ARAI, MSIL, AVL & Ashok Leyland, which were discussed in panel		

		meeting dt. 20th Jan 2023 & sub- panel meeting dt. 20th Feb 2023. Minutes of panel & sub-panel meeting is attached at ANNEX 2 & ANNEX 3, respectively. Committee may deliberate. **Decision in the 8th Meeting:** Committee agreed on panel recommendations. Committee requested M/s AVL and M/s ARAI to discuss the comments mentioned at Sr No 10,13,16 and 17 of Annex 3 of agenda and submit their recommendation to BIS for further considerations. Further committee decided to process the draft document TED/31/20653 after incorporating the agreed comments, in wide circulation for 60 days.		
2.	**Standardization under the subject 'Braking Efficiency'**	**Status in 8th Meeting:** Comment received from Sh. Lalit is attached in Annex – 4 of the agenda of 8th meeting. In the 7th Meeting committee requested SIAM's views on comments received from Mr Lalit. **Input from SIAM is awaited.**	**Status in 9th Meeting:** Draft Document on Electronic Parking provision has been received from Shri Ansari, AVL and the same is attached as **Error! Reference source not found.**.	Panel 4 meeting is yet to be conducted. The committee may deliberate and decide.

		Draft document on braking efficiency of two wheelers was received from Mr. Piyush Chaudhary from Hero MotoCorp. It was circulated with Committee members vide mail dated 21/12/2022. Draft document is attached at Annex 5 of the agenda of 8th meeting. Comments were received from Shri Raj Rengarajan (from MAHA India Automotive testing Equipment pvt. Ltd.) & Shri Alman Dey (from NIAMIT) on draft documents, which are attached at ANNEX - 6 & ANNEX – 7 of the agenda of 8th meeting, respectively. Committee may deliberate on draft document and comments received. **Decision in the 8th Meeting:** Shri Dipak Shaw (on behalf of SIAM) briefed the draft document to committee members. Committee requested SIAM to check whether weight mentioned in the formula is GVW or total weight. In committee view, it should be total weight. Committee noted the observation submitted by	Clarification of SIAM to check whether weight mentioned in the formula is GVW or total weight is awaited. The committee may deliberate and decide. **Decision in 9th Meeting:** The committee noted that Shri Ansari from AVL has submitted the Draft Document on Electronic Parking provision and requested Panel 4 to deliberate the draft and give its recommendation. In addition to the above, The committee also assigned the work of discussing the draft standard for braking efficiency of L category vehicles to Panel 4 as submitted by Hero MotoCorp and to develop a draft standard for braking efficiency for M&N category vehicles. Panel 4 was also tasked with discussing and revising the braking efficiency	

		MAHA India on braking efficiency. Sh. Ansari from AVL pointed out that Electronic Parking provision is not added in the draft, committee requested AVL to provide a draft document on electronic parking for further discussion. Recommendations of SIAM of 40% braking efficiency were accepted subject to ARAI comments as mentioned above.	limits as given in AIS 128.	
3.	**Standardization under the subject "Intensity of Head Light"**	**Status in 8th Meeting:** Suggestion from Dr Joshi is awaited regarding suitable correlation in terms of intensity of light instead of wattage prescribed in Rule 62 of CMVR. **Decision in the 8th Meeting:** Dr Joshi briefed that sometimes in the field non standards light sources are fitted in headlamp and these headlamps are not approved as per CMVR. These non- standard source cause nuisance on the road and is painful for the road traffic. He pointed that this problem is mainly observed in high duty application. He presented a presentation and proposed 3 methods for solution. Presentation is enclosed.	**Status in 9th Meeting:** The committee may discuss the way forward for Panel on "Intensity of Head Light" for studying feasibility of drafting the Indian Standard on intensity of head light in line with requirements of Rule 62 (CMVR) as well as formulating the draft standard for head light beam taking assistance from AIS 128 as outlined. **Decision in 9th Meeting:** Dr Madhusudan Joshi from iCAT was requested to organize a demonstration of	Email has been sent to dt.28-09-2024, 1st reminder dt.02-09-2024, IInd reminder dt.12-09-2024 to provide a suitable date on which iCAT can organize a demonstration of its Headlight testing Facility for Interested Committee members of SC TED 31. Response is however awaited. The committee may deliberate and decide.

		Committee deliberated on the proposals at length. Further committee requested ICAT to arrange demonstration of proposed set ups within 1 month, to demonstrate them to concern committee members. Chairman pointed out that testing of EVs in I&C is also a concern. Most of I& C people don't know how to measure the provisions mentioned in GSR. He requested ICAT to make a demonstration for EVs testing also. AVL also explained about their device which can be used to measure wattage, committee requested AVL also to demonstrate their equipment as well when ICAT organizes the demonstration. AVL catalogue is also enclosed.	the Headlight Testing Facility at iCAT for both conventional as well as electric vehicles for the interested members of the SC TED 31 Committee. Panel 3 was requested to prepare a draft on the method for I&C team members present onsite to quickly identify if unregulated light sources are being fitted on the headlamps.	
4.	**Mandatory & Optional Tests**	**5th meeting** The committee requested MAHA India to present a draft paper on the subject of constituting a panel on mandatory tests, secondary tests and optional tests. **6th meeting** The committee requested MAHA India to present a draft paper on vehicle inspection	**Status in 9th Meeting:** The committee may discuss the further course of action for Panel on Mandatory and Optional Tests. **Decision in 9th Meeting:** The Committee requested BIS to share the data collected at I&C test centres on	Data collected at I&C test centres on various categories of vehicles running on road as shared by Shri B Bhanot with SIAM and BIS has been shared with panel 4 convener. The committee may please note.

		based on EU directives and norms in other countries by next meeting of the committee. **7th Meeting status** Draft paper received from MAHA is attached as ANNEX-4 Sh. Raj Rengarajan is requested to brief the committee **Decision of 7th Meeting** Committee observed that document shared by MAHA include machineries in detail however it does not have detail about limit on suspension, side slip test, noise etc. Chairman will collect the data for suspension and side slip of different type of vehicles and will share with committee members. Further committee decided that chairman will hold a panel meeting after 2 month to discuss the same. **Status in 8th Meeting:** A letter was sent to MoRTH for allowing BIS to share the data with committee members for standard formulation. No objection certificate is attached from MoRTH vide letter dated 02/03/23.	various categories of vehicles running on road as shared by Shri B Bhanot with SIAM and BIS to Panel 4 Members.	

		Committee may deliberate further course of action. **Decision in the 8th Meeting:** Chairman presented the analysis report, which he carried on 3Wheelers, LCV and HCV/MCV for braking efficiency, side slip, horn test, exhaust noise, parking brake efficiency and shock absorber efficiency. He informed that the data was obtained from various I&C centers throughout India and in total more than 1 lakh vehicles data was used to prepare the analysis report. He explained the analysis report in detail and sought the committee members inputs on the same. SIAM was requested to discuss it internally and submit its views to BIS on the limits to be prescribed for above parameters before the panel meeting**.** It was decided that a panel meeting will be held to discuss and finalize the limits and draft document. Data will be shared by Chairman with SIAM.		

ITEM 4 NEW WORK ITEM PROPOSAL (NWIP)

4.1 NWIP on Automatic Two Wheeler Washing Machine

4.1.1 The committee in its last (9th) meeting discussed the New Work Item Proposal and decided to send this subject for detailed examination to Garage Equipment Panel (TED 31/P-2). The panel 2 meeting is yet to be conducted. The committee may please note.

4.2 NWIP on End of Life Vehicle

4.2.1 During its 9th meeting, the committee decided to create a new panel (TED 31/P-8) to draft a new standard for End of Life Vehicles, using AIS 129 as a reference. The draft, based on AIS 129, was submitted by the panel convener to BIS via email on August 21, 2024. The draft was subsequently circulated to all panel members (*whose contact details were available with BIS Secretariat*) on August 27, 2024. (*Draft is also attached as **Annex- 2***).

Comments (*in form of updated draft*) through email dt. 29/08/2024 from Shri Santosh Gawade, ARAI were received and the same have been forwarded to the panel convener.

The panel 8 meeting however is yet to be conducted by panel convener. The committee may deliberate and decide.

ITEM 5 REVIEW OF INDIAN STANDARDS

5.1 No Standard is due for review in FY 2024-25. The committee may please note.

ITEM 6 PRESENT PROGRAM OF WORK

Present program of work of SC TED 31 as available on BIS Portal is as follows:

TED31 : In service Vehicle Inspection, Certification and Garage Equipment Sectional Committee

Scope : a) Standardization in the field of inspection and certification of vehicles including visual inspection for periodical technical inspection and associated garage equipment. b) Co-ordination of work with ISO/TC 22.

Liaison :

Published Standards

SI. No.	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 13111 : 1991 Reviewed In : 2017	Automotive vehicles garage equipments - Terms and definitions	February, 2017	-	Indigenous
2	IS 13353 : 1992 Reviewed In : 2018	Automotive vehicles - Garage equipments - Technical parameters	January, 2018	-	Indigenous
3	IS 14554 : 1998 Reviewed In : 2017	Automotive vehicles - Exhaustemissions - Apparatus for the measurement of carbon monoxide concentration from vehicles equipped with spark ignition engines at idling - Specification	December, 2017	-	Indigenous
4	IS 4552 (Part 1) : 1993 Reviewed In : 2019	Automotive vehicles - Portable jacks for automobiles: Part 1 mechanical jacks - Specification (First Revision)	January, 2019	-	Indigenous
5	IS 4552 (Part 2) : 1993 Reviewed In : 2019	Automotive vehiclesportablejacksfor automobiles: Part 2 hydraulic jacks - Specification (First Revision)	January, 2019	-	Indigenous

6	IS 8411 : 1977 Reviewed In : 2020	Specification for foot tyre inflators for road vehicles	December, 2020	-	Indigenous
7	IS 8457 : 1977 Reviewed In : 2013	Specification for tyre pressure gauges for automobiles (Pocket Type)		-	Indigenous
8	IS 9057 : 1998 Reviewed In : 2017	Automotive vehicles - Exhaust emissions - Carbon monoxide concentration at idling for vehicles equipped with spark ignition engines - Method of measurement (Second Revision)	December, 2017	-	Indigenous

Standards Under Develpoment

Projects Approved

SI. No.	Doc No	TITLE

No Records Found

Preliminary Draft Standards

SI. No.	Doc No	TITLE

No Records Found

Drafts Standards in WC Stage

SI. No.	Doc No	TITLE

No Records Found

Draft Standards Completed WC Stage

SI. No.	Doc No	TITLE

No Records Found

Finalized Draft Indian Standard

SI. No.	Doc No	TITLE
1	TED 31 (20653)	PUC EQUIPMENT GAS ANALYZER AND SMOKE METER SPECIFICATION AND TEST METHODS

Finalized Draft Indian Standards under Print

SI. No.	Doc No	TITLE

No Records Found

Total Published Standards:8

Total Standards Under development : 1

Aspect Wise Report

Product:	4
Code of Practices :	1
Methods of Test :	2
Terminology :	1
Dimensions :	0
System Standard :	0
Safety Standard :	0
Others :	0
Service Specification :	0
Process Specification :	0
Unclassified :	0

Total :8

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	TITLE

No Records Found

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	TITLE
1	IS 4552 (Part 1) : 1993 Reviewed In : 2019	Automotive vehicles - Portable jacks for automobiles Part 1 mechanical jacks - Specification First Revision
2	IS 4552 (Part 2) : 1993	

	Reviewed In : 2019	Automotive vehiclesportablejacksfor automobiles Part 2 hydraulic jacks - Specification First Revision
3	IS 8411 : 1977 Reviewed In : 2020	Specification for foot tyre inflators for road vehicles
4	IS 8457 : 1977 Reviewed In : 2013	Specification for tyre pressure gauges for automobiles Pocket Type

The committee may please note.

ITEM 7 DATE AND PLACE FOR THE NEXT MEETING

ITEM 8 ANY OTHER BUSINESS

ANNEX- 1
(*Item 2.2*)

COMPOSITION OF IN-SERVICE VEHICLE INSPECTION, CERTIFICATION AND GARAGE EQUIPMENT SECTIONAL COMMITTEE, TED 31

7th Meeting	29th August 2022	Webex
8th Meeting	31st March 2023	Webex
9th Meeting	21st May 2024	Webex

Sl. No.	NAME OF ORGANIZATION	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Attendance			
			7th	8th	9th	Total
1)	National Automotive Test Tracks, Dhar	Shri Manish Jaiswal **(Chairman)** Shri Kiran N Mulki (A)	-	-	1	1/1
2)	Actia India Private Limited, Noida	Shri Anurag Jain (P) Shri Arvind Saxena (A)	N	N	Y	1/3
3)	Ashok Leyland Limited, Chennai	Shri Ved Prakash Gautam (P) Shri N Kumaran (A)	N	Y	Y	2/3
4)	Ashri Automotive Consultants, New Delhi	Shri Ashish Kumar	-	-	Y	1/1
5)	Association of State Road Transport Undertakings, New Delhi	Shri R.R.K. Kishore (P) Shri Sachin Motiram Chachare (A)	-	Y	Y	2/2
6)	Automotive Research Association of India, Pune	Shri Jayant Bhalerao (P) Shri Nitin B Dhande (A) Shri Santosh Gawade (YP)	Y	Y	Y	3/3
7)	AVL India Private Limited, Pune	Shri Munsarif Izhar Ansari (P) Shri Iftekhar hasan (A)	-	Y	Y	2/2
8)	Central Institute of Road Transport, Pune	Shri S. N. Dhole (P) Shri S. N. Gutte (A) Shri D. Pendharkar (YP)	N	N	N	0/3
9)	Central Pollution Control Board, New Delhi	Shri Ankush Tewani (P)	-	-	-	-
10)	Global Automotive Research Centre, Oragaram	Dr. A. S. Ramadha (P) Shri V Gokul (A) Shri S Thiravida Selvan (YP)	N	N	Y	1/3
11)	Hero Motocorp Limited, New Delhi	Shri Feroz Ali Khan (P) Shri Piyush Chowdhry (A) Shri Dipak Shaw (YP)	Y	Y	Y	3/3

12)	International Centre for Automotive Technology, Manesar	Shri Sunil Bakshi (P) Shri Sitikantha Padhy (A)	Y	Y	Y	3/3
13)	MAHA India Automotive Testing Equipment Private Limited, New Delhi	Shri Rengarajan Ulaganathan (P) Shri Syed Shahabuddin (A) Shri Mohammed Imran (YP)	Y	Y	Y	3/3
14)	Manatec Electronics Private Limited, Puducherry	Shri Muthazhagan .M (P) Shri Moorthy. A (A)	-	Y	N	1/2
15)	Maruti Suzuki India Limited, Gurugram	Shri Gururaj Ravi (P) Shri Raj Kumar Dwivedi (A)	N	Y	Y	2/3
16)	Ministry of Electronics and Information Technology, New Delhi	Dr Bharat Kumar Yadav (A)	N	N	Y	1/3
17)	National Institute For Automotive Inspection, Maintenance & Training (NIAIMT), Silchar	Shri Abhijit Kumar Mandal (P) Shri Amlan Dey (A)	-	-	1	1/1
18)	Rosmerta Technologies Limited, Gurugram	Shri Punit Talwar (P)	Y	Y	N	2/3
19)	SMS Autoline Equipments Private Limited, Chennai	Shri Sundara Ganesh R (P) Shri J.Shaffi Hussain (A)	-	Y	Y	2/2
20)	Society of Indian Automobile Manufacturers (SIAM), Delhi	Shri Mayank Bhatia (P) Shri Lokesh Mittal (A)	Y	Y	Y	3/3
21)	Volkswagen India Private Limited, Mumbai	Shri Shriniwas P Chakravarthy (P) Shri Sriram Rai (A)	Y	Y	Y	3/3

ANNEX- 2

Draft Received from Panel 8 Convener for End of Life Vehicles based on AIS 129

BUREAU OF INDIAN STANDARDS

(DRAFT FOR COMMENTS ONLY)

भारतीय *मानक प्रारूप*

Draft *Indian Standard*

END OF LIFE VEHICLES

ICS: 03.220.20

Automotive Accessories and Garage Equipment Sectional Committee, TED 31	**Last date for receipt of comments is XX/XX/20XX**

Automotive Accessories and Garage Equipment Sectional Committee, TED 31

FOREWORD *(Formal Clause to be added later)*

The first part of the standard lays down the requirements for the collection and dismantling centres, while the second part (Parts 2(A) and 2(B)) of the standard lay down requirements for the vehicle manufacturers to comply with the RRR calculations, to restrict the heavy metals in their vehicles, to suitably code the plastic components and to provide dismantling information to the authorised collection and dismantling centres.

The significant differences between the European regulation (2000/53, 2005/64) and this IS are as follows:

1. Considering the significant population of two wheelers in India, it was decided to cover the 2-wheelers along with the M1 category vehicles in the scope. On the other hand, the European directive covers M1 and N1 category in the scope.

2. The inclusion of N1 category in India was debated at length. Based on the experience with implementation of M1 category, a decision will be taken for inclusion of N1 category vehicles.

3. The marking of the parts is limited to only plastic components unlike Europe where rubber components are also required to be marked.

4. The concept of an assessment to be carried out by appropriate agency before type approval certificate is issued to the manufacturer has been captured.

5. To the extent possible, the criteria for approval of extension and reference vehicle are defined for additional clarity in certification process.

6. EU directive covers spare parts also. However, in India, there is no regulation in existence controlling the after market parts. Hence this regulation does not cover any of the requirements for after market parts covered by EU.

7. **Need for Modernisation of Vehicle Fleet in India**

At present, India does not have a robust national policy on retirement of vehicles or end-of-life of vehicles. Hence, it is important to capitalise on the developments that the industry has catalysed in the country, over the last two decades. Vehicle users in India tend to continue the usage well beyond the expected life of the product. Such vehicles have higher emission content, lower fuel efficiencies and also have lower safety standards. The government with the OEMs can promote an incentive scheme to drive vehicle owners to replace older vehicles with new generation products. Whilst the new vehicles are cleaner and meeting stringent emission requirements, and a continuous plan is being evolved by the Government of India to further improve the emission performance of these newly manufactured vehicles. However, the benefits are not getting reflected in the ambient air quality due to the presence of a large number of old and ill maintained polluting vehicles.

8. Approach - Replacement based on Vintage of the Vehicle

In order to mitigate immediate air quality problems and decreasing the menace of road accidents, a one-time incentive scheme for retirement of old vehicles is required and there is a need for Modernizing the Vehicle Fleet. An age based fleet modernisation programme appears to be an effective option to tackle the problem of emission from in-use vehicles on a one-time basis.

Given the profile of vehicle population in India, the suggested scheme would offer an effective solution to the problem of vehicular pollution faced by India. And it would be apt to focus the first phase in the eight major States of India, namely Delhi, Maharashtra, West Bengal, Tamil Nadu, Karnataka, Gujarat, Telangana and Seemandhra.

The last owner of the vehicle will be issued a Certificate of Deposit (CoD) by Registered Vehicle Scrapping Facility; this certificate will be a tradable in nature.

9. Other Approach for supplementing the Fleet Modernisation Scheme

In order to discourage people from running old polluting vehicles, the rate of Road Tax and rate of premium on Motor Vehicle Insurance could be increased progressively with the age of the vehicle. As a pilot, it can be first

used for Commercial Vehicles, which have been languishing for more than a year, with market have been contracted significantly.

The composition of the Committee responsible for the formulation of this standard is given in Annex X (Will be added later).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (second revision)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*****

PART –1

Collection and Dismantling of End-of-Life Vehicles

1.0 SCOPE

IS XXXXX (Part 1) shall apply to all categories of vehicles and their last registered owners, Automobile collection centres, Automotive Dismantling, Scrapping and Recycling Facilities and recyclers of all types of automotive waste products.

2.0 REFERENCE

- G.S.R. 653 (E) dated 23rd September 2021 (subsequently amended vide G.S.R. 695 (E) dated 13th September 2022 and G.S.R. 212 (E) dated 15th March 2024)
- 2005/64/EC Directive : Type approval of motor vehicles with regard to their reusability, recyclability and recoverability
- 2009/1/EC Directive: Amendments to 2005/64/EC.
- 2000/53/EC Directive : End-of-life Vehicles
- ISO 22628:2002 (E) : Road Vehicles –Recyclability and recoverability – Calculation Method
- IS 9211 : 2003 : Terms and definitions of Road Vehicles
-

3.0 DEFINITIONS

For the purpose of this Part of the standard following definitions shall apply.

3.1 **"Act"** means the Motor Vehicles Act, 1988 (59 of 1988);

3.2 **"Certificate of Deposit"** means the certificate issued by the Registered Vehicle Scrapping Facility to recognise the submission of the vehicle from the registered owner to the said Registered Vehicle Scrapping Facility for further treatment;

3.3 **"Certificate of Vehicle Scrapping"** means the certificate issued by an Registered Vehicle Scrapping Facility to recognize the final disposal of a vehicle.

3.4 **"Collection Centre"** means a facility or an area that may be used for the sole purpose of collecting and storing the End of Life Vehicles and sending it for further processing at the Scrapping Yard;

3.5 **"End-of-Life Vehicles"** means all vehicles which are no longer validly registered or declared unfit through Automated Fitness Centres or their registrations have been cancelled under Chapter IV of the Act or due to an order of a Court of Law or are self-declared by the legitimate registered owner as a waste vehicle due to any circumstances as specified in these rules;

3.6 **"Final Disposal"** means the treatment of the vehicle so that the vehicle is no longer capable of being used as such, the evidence for which is the cut out of the Chassis and the disposal of its engine;

3.7 **"Recycling"** means the reclamation and processing of waste in an environmentally sound manner for the original purpose or other

3.8 **"Registered owner of an End of Life Vehicle"** means, -

(i) owner of the vehicle as defined in clause (30) of section 2 of the Act; or

(ii) person who has gained ownership of the vehicle in a public auction in accordance with rule 57 of the Central Motor Vehicle Rules, 1989;

3.9 **"Registered Scrapper"** means a person, firm, society, trust or company owning and operating a Registered Vehicle Scrapping Facility

3.10 **"Registered Vehicle Scrapping Facility (RVSF)"** means any establishment which holds a 'Registration for Vehicle Scrapping' issued under Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021, for carrying out dismantling and scrapping operations.

3.11 **"Registration Authority"** means the officer not below the rank of the Commissioner (Transport) as designated by the Government of the State or Union territory for this purpose;

3.12 **"Scrapping"** means the entire process from receipt and record of the End-of-Life Vehicles' including depolluting, dismantling, segregation of material, safe disposal of non-reusable parts, and issuance of 'Certificate of Vehicle Scrapping' to the registered owner of a motor vehicle.

3.13 **"Scrapping yard"** means the designated location within the premises of the Registered Vehicle Scrapping Facility where End-of-life vehicles are processed for further treatment including recycling.

3.14 **"Treatment"** means any activity after the End-of-life vehicle has been handed over to a collection centre of a Registered Vehicle Scrapping Facility for depollution, dismantling, shearing, shredding, recovery or preparation for disposal of the shredder wastes, and any other operation carried out for the recovery or disposal of the End-of-life vehicle and its components;

3.15 **"Vehicle"** means a motor vehicle or vehicle as defined in clause (28) of section 2 of the Act.

4.0 POWERS AND DUTIES OF REGISTERED VEHICLE SCRAPPING FACILITY

4.1 The Registered Vehicle Scrapping Facility shall be provided connectivity and access to the VAHAN database of vehicle registration with password protected user ID and shall be authorized to make suitable entries regarding scrapping of the vehicle and issuance of
Certificate of Deposit and Certificate of Scrapping, either directly or through their collection centre.

4.2 .

4.3 The Registered Vehicle Scrapping Facility shall be provided the necessary connectivity to verify the records of the vehicles produced for scrapping with the database of the stolen vehicles, held by National Crime Records Bureau and it shall be duty of the Registered Vehicle Scrapping Facility to carry out such verification before scrapping a vehicle.

4.4 The Registered Vehicle Scrapping Facility shall undertake verification of the persons handing over the vehicle for scrapping to determine the bonafide of the vehicle owner or his authorized representative and retain a copy of the same for record for a minimum period of six months.

4.5 The Registered Vehicle Scrapping Facility shall be recognized as Facilitation Centre as per clause (cd) of rule 2 of the Central Motor Vehicles Rules, 1989 for Registered Vehicle Scrapping Facility purpose only

5.0 CONDITIONS OF ELIGIBILITY FOR REGISTERED VEHICLE SCRAPPING FACILITY

The State Government/ Union Territory Governments when granting authorization to any Registered Vehicle Scrapping Facility under Clause 6 shall take into account the following eligibility criteria, namely:-

5.1 The Registered Vehicle Scrapping Facility may be owned and operated by any legal entity, be it a person, firm, society, company or trust established in accordance with the laws having the following documents:

5.1.1 Certificate of Incorporation or Shop Act Registration or Udyam Aadhar;

5.1.2 Valid Goods and Services Tax registration; and

5.1.3 Valid Permanent Account Number

5.2 The entity shall have an approval for consent to establish from the Pollution Control Board of the State or Union territory in which the Registered Vehicle Scrapping Facility is intended to be located.

5.3 The entity shall undertake to meet the minimum technical requirement for collection and dismantling centres as per Central Pollution Control Board Guidelines.

5.4 The entity shall have competent manpower and appropriate equipment to carry out the depollution and dismantling activities in a safe and environmentally responsible manner.

5.5 The entity shall undertake to obtain the required quality certifications of ISO 9001 (quality management system) or ISO 14001 (environmental certification) or ISO 45001 (occupational health and safety) within twelve months of commencement of operations as a Registered Vehicle Scrapping Facility.

5.6 The entity shall have obtained Consent to Operate from Pollution Control Board, or shall have applied for the same, at least 60 days prior to the date of commencement of operations.

5.7 The entity shall undertake to abide by the Provisions of all applicable Labour codes and all other Acts or Rules as applicable.

5.8 The entity shall provide evidence of availability of an adequate useable area of land in the State or Union territory by way of ownership or agreement to sell or agreement for lease of a minimum period of three years.

5.8.1 The entity shall provide approved plant layout and the building plan.

6.0 REGISTRATION PROCEDURE FOR REGISTERED VEHICLE SCRAPPING FACILITY

6.1 An applicant may make an application in the prescribed Form-1, addressed to the 'Registration Authority' of the concerned State Government or Union Territory Government where the Registered Vehicle Scrapping Facility is intended to be located along with:

6.1.1 A non-refundable Processing Fee of Rs. 1,00,000/- (Rupees One Lakh only) for each Registered Vehicle Scrapping Facility proposed to be established; and

6.1.2 An Earnest Money Deposit by way of a bank guarantee of Rs. 10,00,000/- (Rupees Ten Lakhs) for each Registered Vehicle Scrapping Facility proposed to be established, in favour of the Registration Authority or as a non-interest-bearing security deposit for a period, co-terminus with the validity of the initial registration period.

6.2 All applications for grant of registration shall be disposed of by the Registration Authority within a period of 60 days from the date of application.

6.3 All accepted applications shall be issued a registration certificate in Form-1A.

6.4 Applicants whose applications are rejected shall be refunded their Earnest Money or Bank Guarantee;

6.5 The Central Government has developed a national portal for Vehicle Scrapping related services for Single

Window Clearance on which the applicant will apply with all necessary documents
and required fee for registration.

6.6 State Government or Union territory Government shall clear the proposal in time bound manner within sixty days including the internal approval from various State agencies (Labour, Pollution etc.) after submitting such application else the proposal would be deemed approved.

6.7

6.8 As the portal referred in clause 6.5 of this standard is operational, all approvals etc. shall be granted through the portal and reports regarding the inspection and audit of Registered Vehicle Scrapping Facility should be made available on the portal.

6.9 The necessary approvals by the State Pollution Control Board, Labour Department and any other department deemed necessary for the establishing or operation of such Registered Vehicle Scrapping Facility shall be provided through that portal only.

6.10 The State Government or Union territory Government shall publish a Citizen‘s Charter on the portal and the procedure for grant of approvals on such portal.

6.11 The process shall be transparent and seamless and all the notifications, guidelines, forms, etc. shall be made available on the portal established in clause 6.5, and the applications shall be made electronically and disposed-off in time-bound manner.

7.0 VALIDITY AND RENEWAL OF REGISTRATION

7.1 The Registration issued under clause 6 shall be valid for an initial period of ten years, which shall be renewable for another ten years at a time, subject to the condition that the Registered Scrapper has not been in default of the provisions as specified in clause 14.

7.2 An application for renewal of registration may be made three months before expiry of such registration.

7.3 Application for renewal shall be in Form-1 and shall carry such renewal fee and security deposit as may be specified by the State or Union territory Government for this purpose.

7.4 The renewal of registration shall be issued as per Form-1A.

7.5

8.0 CRITERIA FOR SCRAPPING OF VEHICLES

The following vehicles may be offered for scrapping to the Registered Scrapper: -

8.1 Vehicles which have not renewed their Certificate of Registration in accordance with Rule 52 of the CMVR, 1989.

8.2 Vehicles which have not been granted a certificate of fitness in accordance with Rule 62 of the CMVR, 1989.

8.3 Vehicles which have been damaged due to fire, riot, natural disaster, accident or any calamity, following which the registered owner self certifies the same as scrap.

8.4 Vehicles which have been declared obsolete or surplus or beyond economic repair by the Central or State Organizations of the government and have been offered for scrapping.

8.5 Vehicles bought by any agency including Registered Vehicle Scrapping Facility in an auction for scrapping the vehicles.

8.6 Vehicles which have outlived their utility or application particularly for projects in mining, highways, power, farms etc. as may be self- certified by the owner.

8.7 Manufacturing rejects, test vehicles, prototype, vehicles damaged during transportation from vehicle Original equipment manufacturer to dealers or unsold or unregistered vehicles as may be certified by the Vehicle Original equipment manufacturer.

8.8 Auctioned, impounded or abandoned vehicles by any Enforcement Agency.

8.9 Any other vehicle voluntarily offered to a Registered Vehicle Scrapping Facility for scrapping, by the owner

9.0 RIGHT TO INSPECTION

9.1 The Registered Scrapper shall maintain in the Registered Vehicle Scrapping Facility, the records regarding the transaction of vehicles and scrap generation and its responsible disposal to authorised recyclers, and all the machinery, equipment and apparatus in the Registered Vehicle Scrapping Facility premises, ready for inspection by the Registration Authority or Designated Officer of the State Government or Union territory Government.

9.2 Physical Inspection and Site visits may be carried out after execution of process as listed below: -

9.2.1 When a report of non-compliance by the appropriate authority or a public complaint has been received by the Registration Authority in respect of the Registered Scrapper;

9.2.2 Such complaint has been forwarded to the Registered Scrapper to file a written response within seven working days;

9.2.3 The response has been scrutinized and an opportunity has been provided to the Registered Scrapper to provide further clarifications within three working days.

9.2.4 The response and clarifications provided are inadequate in the opinion of the Registration Authority, and a site visit is warranted.

9.3 Such site visit shall be duly authorized by the Registration Authority.

9.4 The Report of the Inspection Team shall be submitted to the Registration Authority and a copy of the same shall be provided to the Registered Scrapper.

9.5 In case of non-compliance of these rules the Registration Authority may after providing an opportunity to the Registered Scrapper of being heard, pass a speaking order to cancel or suspend the registration for the facility.

10.0 SCRAPPING PROCEDURE

10.1 The scrapping of vehicles shall be carried out by a Registered Vehicle Scrapping Facility End- of-Life Vehicles, by the following procedure, namely :-

10.1.1 The registered owner shall apply digitally on Vahan as per Form-2 to the Registered Vehicle Scrapping Facility or the designated Collection Centre for deposit and further treatment of the vehicle.

10.1.2 The Registered Vehicle Scrapping Facility and the designated Collection Centre shall also act as facilitation centres to support citizens with digital application of Form-2;

10.1.3 The following documents shall be uploaded along with Form-2 by the registered owner for verification by the Registered Vehicle Scrapping Facility, namely:—

10.1.3.1 identity and address proof of the owner such as passport, voter card, Aadhar card, driving license or other relevant identity card issued by the State Government or the Central Government;

10.1.3.2 letter of authorisation on stamp paper for the authorised representative as per para 5 of Form-2, applicable, if the vehicle is not to be submitted by the owner;

10.1.3.3 identity and address proof of the authorized representative (if applicable) such as passport, voter card, Aadhar card, driving license or other relevant identity card issued by the State Government or the Central Government.

10.1.4 The owner or his authorised representative shall submit the vehicle along with the original certificate of registration to the Registered Vehicle Scrapping Facility and sign a digital undertaking as per Form-2A.

10.1.5 The Registered Vehicle Scrapping Facility shall also sign a digital undertaking as per Form-2B.

10.1.6 Vehicles impounded by an enforcement agency shall be handed over to the Registered Vehicle Scrapping Facility, if they meet the criteria for vehicle scrapping as provided under clause 8.

10.1.7 The Registered Vehicle Scrapping Facility shall verify the records of the vehicles produced for scrapping through the Vahan portal including verification with the database of the stolen vehicles held by National Crime Records Bureau.

10.1.8 The Registered Vehicle Scrapping Facility shall digitally remit or pay by an account payee cheque, the agreed consideration for the vehicle and obtain a receipt (physical/digital) for the same from the owner or his authorized representative for record.

10.1.9 The Registered Vehicle Scrapping Facility shall deface or punch the certificate of registration in the presence of the owner or his authorised representative and issue a digitally signed Certificate of Deposit in Vahan, as per Form-2C, as evidence of acceptance of vehicle for scrapping.

10.1.10 The Registered Vehicle Scrapping Facility established in a State may accept and scrap the vehicles registered in any of the State or Union territory under the jurisdiction of any Registration Authority.

10.1.11 The whole process shall be seamlessly linked with Vahan on all India basis irrespective of the location of any vehicle registering authority.

10.1.12 The Certificate of Deposit shall be a necessary and sufficient document for the owner to avail incentives and benefits for purchase of a new vehicle as may be declared from time to time and the validity of the said certificate shall be three years from the date of issuance.

10.1.13 The Certificate of Deposit shall be electronically tradeable and there shall be no incentives on Certificate of Deposit issued against the Government-owned vehicle or impounded vehicle handed over by an Enforcement agency and such Certificate of Deposit shall not be electronically tradeable.

10.1.14 The transfer Certificate of Deposit shall be generated on the trading platform for each new owner as per Form- 2D and the Certificate of Deposit once utilised shall be marked ”Cancelled” in the Vahan database by the regional transport office or dealer providing the benefits to the bearer of the said certificate.

10.1.15 The regional transport office or dealer registering the new vehicle purchased against the Certificate of Deposit shall verify and authenticate the Certificate of Deposit digitally.

10.1.16 The Registered Vehicle Scrapping Facility shall facilitate the process of physical transmission of original certificate of registration (defaced or punched) along with Certificate of Vehicle Scrapping to road transport or regional transport office, in the State of registration of the vehicle, to get the vehicle registration cancelled.

10.1.17 The Registered Vehicle Scrapping Facility shall have the cut piece of the chassis number in safe custody for a period of six months from the date of issue of Certificate of Vehicle Scrapping, issued under Clause 11.

10.1.18 The Registered Vehicle Scrapping Facility shall maintain digital scanned copy of all documents for a period of ten years for record and examination during inspection.

10.1.19 The Registered Vehicle Scrapping Facility shall ensure that removal or re-cycling or disposal of hazardous parts of the scrapped vehicle is done as per the guidelines issued by the Central Pollution Control Board for environmentally sound management of End-of-Life Vehicles and ~~AIS-129~~ **IS XXXXX: XXXX**

10.1.20 Vehicles shall not be scrapped until the fuel, oil, antifreeze, and other gases, fluids are drained and collected in certified standard containers.

10.1.21 A digital register of vehicles scrapped shall be maintained in Form-3.

11.0 ISSUANCE OF CERTIFICATE OF VEHICLE SCRAPPING

11.1 The Registered Vehicle Scrapping Facility, after completing the necessary treatment, shall issue a digital Certificate of Vehicle Scrapping, including a digital photograph of the cut out of the chassis, in Form-4 to update the VAHAN Database and inform the competent authority of the State Government or Union territory Administration for updating of records of the vehicle.

11.2 A separate record of the scrapped vehicles shall be maintained on the VAHAN database by the Central Government.

11.3

11.4

11.4.1

11.4.2

11.4.3

i)

12.0 INSTALLATION OF CCTV CAMERAS

12.1 The Registered Scrapper shall install CCTV cameras at the scrapping yard, in the customer and vehicle reception area and the record of scrapping should be saved in the Registered Scrapper's IT system for a period of three calendar months

12.2 The access to the CCTV footage installed in the facility may be provided to the authorized agencies as may be required by the State Government or Union Territory Government.

13.0 SCRAPPING YARD AND COLLECTION CENTER

13.1 The Scrapping Yard shall be set up in an adequate area having space for vehicular movement, storing the vehicles or items received and recyclable material recovered, commensurate to the size and voluminous nature of the scraps to be handled by the facility.

13.2 The Scrapping Yard shall be a gated area to handle, depollute and dismantle End-of-Life Vehicles, white goods and other scraps along with facility for measuring radiation as is followed for import of scrap.

13.3 Material handling machines shall be utilised to minimise human intervention and create safe work places.

13.4 All Scrapping Yards shall engage competent and trained manpower to process the End-of-Life vehicles, goods and other scraps.

13.5 The Scrapping Yard shall have dry areas (free from water logging), impermeable surfaces like asphalt or concrete flooring, asphalt or concrete roads, adequate workshop facilities for in-house maintenance, fire protection systems etc. to maintain safe work places and all other required measures for keeping pollution under control.

13.6 Scrapping Yard shall be equipped with a depollution system, preferably with zero discharge system and dismantling work shall be done using technology for processing the End-of-Life vehicles, goods and other scraps.

13.7 The Scrapping Yard shall comply with relevant health and safety legislation or regulation and environmental norms.

13.8 The Scrapping yard shall have-

13.8.1 Suitable earmarked area for parking of waste vehicles on non-permeable asphalt or concrete or epoxy coated flooring with adequate drainage facility and no waste or potentially waste vehicle shall be parked on roads or public spaces even during processing of applications for deposit and shall be accommodated within the premises of the Registered Vehicle Scrapping Facility only.

13.8.2 Certified de-polluting equipment to ensure zero leakage of pollutants during draining of fuels or fluids or gases and liquids, certified derisking equipment for safe neutralization or removal of airbags, pretensioner etc., appropriate dismantling equipment for the activities defined (such as de- risking, de-polluting, dismantling, etc.), designated areas for storing the segregated scrap, adequate space for storage and handling of segregated spares, designated space for temporary storage of automotive hazardous waste such as tyres, batteries, fuel, oils, liquids and gases, suitable safety and occupational health equipment, material handling equipment for the safe transportation of spares, scrap etc.

13.8.3 Appropriate Industrial grade lighting and ventilation systems, conformity to noise pollution norms and appropriate effluent treatment plants or water recycling plants.

13.9 Scrapping Yards shall accredit themselves with the latest version of quality standards viz. ISO 9001 (Quality management system), ISO14001 (Environmental Management System) and ISO 45001 (Occupational health and safety) within twelve months of commencement of operations.

13.10 In case Scrapping Yards do not have adequate capability or provisions for responsible recycling of hazardous waste (like e-waste, lead acid batteries, lithium-ion components, or for recovery of rare earth metals, etc.), or for recycling of scrap material which is outside its scope, then such materials shall be sold to duly authorized recyclers or agencies, who have adequate capability and licence.

13.11 Records of the transactions shall be maintained, clearly stating the volumes off-loaded and the name, authorisation number, Permanent Account Number, Goods and Services Tax and other commercial details of the authorized recycler/agency. Such records shall be subjected to periodical audit.

13.12 A Registered Vehicle Scrapping Facility may establish any collection centre at any other place, other than the Scrapping Yard and, if collection Centre undertakes activities such as, depollution and dismantling, then, the requirements applicable for a Registered Vehicle Scrapping Facility shall also be applicable to such Collection Centre

14.0 AUDITS AND CERTIFICATIONS

14.1 The Registered Scrapper shall ensure timely conduct of audit of the Registered Vehicle Scrapping Facility by any of the agencies specified under rule 126 of the Central Motor Vehicles Rules, 1989 to undertake,

14.1.1 regulatory and compliance audit and

14.1.2 audit of the mass flow statement as maintained in Form-3 by the Registered Vehicle Scrapping Facility.

14.2 The audit report shall also grade and evaluate the Registered Vehicle Scrapping Facility in terms of its performance and adherence to occupational health and safety compliances, regulatory, business, environment and labour standards and the respective recycling rates basis, the mass flow information recorded in Form-3 achieved by the Registered Scrapper.

14.3 Such audit report shall be uploaded on the portal by the Registered Scrapper, and the cost of said audit and assessment shall be borne by the operator of such facility, annually for a financial year or part thereof and shall be submitted by the 31st May (within two months of completion of financial year) of that financial year.

14.5 **o**bservations of non-compliance as reported in the Audit Report shall be resolved by the Registered Scrapper within two months of issue of the Audit Report which may be extended by a maximum of one-month by the Registration Authority.

14.6 The Registered Scrapper shall ensure that ISO certifications are revalidated at least three months before their expiry.

15.0 APPEAL

15.1 Any person aggrieved by an order, passed under Clause 9.5, of the Registration Authority may within thirty days of the date of receipt of such order, appeal to the Appellate Authority.

15.2 The appeal shall be preferred in a plain application format, setting forth the grounds of objections to the order passed by the Registration Authority and shall be accompanied by a certified copy of the order appealed against and fee of Rs 10,000/- (Rupees Ten Thousand only).

15.3 The Appellate Authority shall dispose the appeal within thirty working days from the date of appeal.

FORM- 1

(Refer rule 6(1))

APPLICATION FOR REGISTERED VEHICLE SCRAPPING FACILITY (RVSF)

1. **FOR OFFICE USE**

Application for	**Please tick as applicable**
Registration for a new RVSF	
Renewal of Registration for existing RVSF	
Modification in existing registration	

APPLICATION NO	
APPLICATION DATE	
DATE	
FEE	
SECURITY DEPOSIT	

2. **GENERAL INFORMATION**

(i)	Name								
(ii)	Short name (max 35 chars)								
(iii)	Address								
(iv)	Tel								
(v)	FAX								
(vi)	Email								
(vii)	CIN								
(viii)	PAN								
(ix)	GST								
(x)	Status	Company	Firm	Trust	Society	Proprietor	Govt	JV	PPP
(xi)	Attach	MoA					AoA		
(xii)	Existing Activities of the Company (National Industrial Classification Code)								

3. **PLANT DETAILS**

(a)	Location (Provide Map)			
(b)	Area (sq m)			
(c)	Possession Details	Owned	Lease/Period	Years
(d)	State			
(e)	District			

4. Proposed Activities of the Company	L Vehicles	Yes	No	Capacity		Nos

	M Vehicles	Yes	No	Capacity		Nos

	N Vehicles	Yes	No	Capacity		Nos
	Other	Yes	No	Capacity		Nos
5. Proposed Capital Structure (INR Lakh)	Authorized					
	Subscribed					
	Paid-Up					
6. <u>Proposed No of Employees</u>						

7. <u>Availability of Space</u>

(a)	Plant Design and Layout, showing following spaces and areas (sqm):-	
(b)	Earmarked area for the safe and environmentally compliant parking of waste vehicles (sqm)	
(c)	Designated areas for storing the segregated scrap (sqm)	
(d)	Space for processed scrap and usable parts (sqm)	
(e)	Designated space for temporary storage of automotive hazardous waste (sqm)	
(f)	Provision of space for parking and safe transportation of spares, scrap and waste products (sqm)	

8. <u>Availability of Equipment</u>

(a)	Certified de-polluting equipment	Yes	No
(b)	Certified de-risking equipment	Yes	No
(c)	Safety and occupational health equipment	Yes	No

9. <u>Environmental Clearance</u>

(a)	Consent to Establish	
(b)	Consent to Operate	

10. <u>Undertaking</u>

	The Applicant hereby undertakes to			
(a)	Comply with CPCB Guidelines for the Safe Disposal of scrapped vehicles		Yes	No
(b)	Obtain the Quality Certifications within 12 Months of Issue of Registration			
	(i)	ISO 9001	Yes	No
	(ii)	ISO 14001	Yes	No

	(iii)	ISO 45001	Yes	No
(c)	Comply with the Hazardous Waste Management Rules (2016)		Yes	No

Digital Signature/ Company Seal in case on offline form

FORM-1A

(Refer Clause 6.3 and Clause 7.4)
CERTIFICATE FOR SETTING UP OF REGISTERED VEHICLE SCRAPPING FACILITY (RVSF)

The Registration Authority has approved the issue of Registration for setting up of Registered Vehicle Scrapping Facility as per details below:

1.	Applicant						
2.	Location						
3.	Application No						
4.	Application Date						
5.	Approval	Yes		No		Resubmit	
6.	Category	L Vehicles	Yes	No	Annual Capacity		Nos
		M Vehicles	Yes	No	Annual Capacity		Nos
		N Vehicles	Yes	No	Annual Capacity		Nos
		Others	Yes	No	Annual Capacity		Nos
7.	Registration Number						
8.	Validity	From			To		
9.	Processing Fee	Amount					
10.	Security Deposit	Amount					
11.	Bank Guarantee	Amount		Date		Validity	
12.	Conditions						

	a	Registration is Non-Transferable		
	b	Undertaking are to be liquidated by	Date	
	c	Submit Compliance Self-Certification by	Date	
	d	Facility Inspection Due	Date	
	e	First Test Audit Due	Date	

Note: The Registration is Non-Transferable

Registration Authority

Stamp Date

FORM – 2

(Refer clause 10(1))

APPLICATION FOR VEHICLE SCRAPPING

1.	**OWNER DETAILS**					
	(A)	NAME				
	(B)	ADDRESS				
	(C)	MOBILE NO				
	(D)	E MAIL				
	(E)	PAN or TAN (for Government Vehicles only)				
	(F)	BANK ACCOUNT (for Government owned vehicles, the bank account may be Bharat Kosh or any other account specified by the concerned Government Department)				
		(i)	NAME OF BANK			
		(ii)	BRANCH			
		(iii)	ACCOUNT NUMBER			
		(iv)	IFSC			
		(v)	CONSIDERATION RECEIVED (Rs)			
		(vi)	RECEIPT NO AND DATE			
2.	**VEHICLE DETAILS**					
	REGISTRATION NO					
	MAKE					
	MODEL					
	VEHICLE CATEGORY					
	CHASSIS NO					
	ENGINE NO					
	MONTH/YEAR OF MANUFACTURE					
3.	**DOCUMENTS**					
	(A)	Original Certificate of Registration.				
	(B)	Authorization from the registered owner on stamp paper				
	(C)	Identity and address proof of the authorised representative, if applicable				
	(D)	Identity and address proof of the owner				
4.	**UNDERTAKING BY APPLICANT AT TIME OF FORM-2 SUBMISSION**					
	I/We ,…… Resident of..... hereby declare that all the particulars furnished by me / us in this form are true and correct; the subject vehicle is not engaged in any kind of criminal activity/litigation and realize that I/WE are fully liable for any false declaration furnished above.					
5	**LETTER OF AUTHORISATION**					
	1. I…….son/daughter of…….resident of**.....** owner of vehicle registration					

number……do hereby authorise……. son/ daughter of **.....**resident of**.....**as my legal authority to deposit the above stated vehicle for the purpose of scrapping at the <RVSF Name>

2. That the above stated vehicle deposited by the above stated authorized person shall be deemed as if deposited by me only for all legal purposes and intents

Signature	Signature
(Authorized Representative)	(Registered vehicle owner)

Signature attested

Date:
Place:

FORM – 2A

UNDERTAKING BY APPLICANT AT THE TIME OF VEHICLE SUBMISSION

(Refer clause10(1))

I/ We,

..... Resident of

.....hereby declare that all the particulars furnished by me / us in Form 2

application are true and correct; the subject vehicle with registration number

.....

is not engaged in any kind of criminal activity/litigation and realize that I/We are fully liable for any false declaration furnished in Form-2. I/We hereby declare that there are no pending dues on the said vehicle; the hire-purchase, lease, or hypothecation agreement in the certificate of registration of the said vehicle has been duly discharged and that I/We shall be fully liable for any such dues and charge pending before this <date and time stamp> and I/We fully indemnify the Registered Vehicle Scrapping Facility <RVSF name>

.....

from all such charges.

FORM – 2B

UNDERTAKING BY REGISTERED VEHICLE SCRAPPING FACILITY (RVSF) AT THE TIME OF VEHICLE SUBMISSION

(Refer clause10(1))

I/We,**.....**on behalf of <RVSF Name>

…….hereby declare that I/We are fully liable for any kind of criminal activity/litigation charges and financial dues such as challans, motor vehicle tax etc. accrued on the subject vehicle with registration number **.....**after this <date and time stamp> and I/We fully indemnify the registered vehicle owner <name>**.....** from all such charges.

FORM – 2C

CERTIFICATE OF DEPOSIT

(Refer clause 10(1))

(QR code to validate authenticity of CD)

CERTIFICATE OF DEPOSIT

Certificate No:

We <RVSF Name> certify that ***Vehicle Registration No****..... with* ***Year of first registration*** *as ..... has been accepted at our facility vide our* ***Inward No****..... dated..... for treatment in accordance with these rules for the Disposal of Vehicles and the agreed consideration has been paid to the owner vide our* ***Payment Voucher No****..... dated.....*

Vehicle Details:

Make:	Model:
Vehicle Category/Class:	Vehicle Type (Transport/Non-Transport):
Fuel type:	Cubic capacity:
Seating capacity (in all):	Year of manufacturing (YYYY):
Unladen weight (kgs):	Number of cylinders:
Registered gross vehicle weight (kgs):	Wheelbase (mm):

The owner of this certificate is entitled to claim the following benefits on purchase of one new vehicle. These benefits can be availed only once.

1. Registration fee waiver as per Rule 81 of CMVR, 1989
2. Concession on motor vehicle tax as prescribed in the state of purchase of new vehicle
3. Auto OEM discount as per the discretion of auto OEM dealers

We further certify, that on completion of Treatment, the National Register (VAHAN Database) and the competent authority would be intimated for updating records.

This certificate is in the name of <current owner of CD> and is valid until.....

Date of issuance: **RVSF No:**

State/UT of scrapping: (Digital signature of RVSF)

Disclaimer: *This certificate needs to be validated at the time of utilization*

Trading Information

You can also trade this certificate by following these 4 basic steps.

1. Click on Trade or Go to Trading Portal
2. Quote Your Price to Sell
3. Buyer Quotes Purchase Price
4. Owner Allocates a Buyer Confirms

Trade certificate

FORM – 2D

TRANSFER CERTIFICATE OF DEPOSIT

(Refer clause 10(1))

Certificate No.:

The certificate has been traded and transferred to..... with Mobile No....., PAN No. .....from....., pertinent to the Vehicle Registration No.....

The Certificate of Deposit (COD) was issued on..... and is valid until.....

Vehicle Details:

Make:	Model:
Vehicle Category/Class:	Vehicle Type (Transport/Non-Transport):
Fuel type:	Cubic capacity:
Seating capacity (in all):	Year of manufacturing (YYYY):
Unladen weight (kgs):	Number of cylinders:
Registered gross vehicle weight (kgs):	Wheelbase (mm):

The owner of this certificate is entitled to claim the following benefits on purchase of one new vehicle. These benefits can be availed only once.

1. Registration fee waiver as per Rule 81 of CMVR, 1989
2. Concession on motor vehicle tax as prescribed in the state of purchase of new vehicle
3. Auto OEM discount as per the discretion of auto OEM dealers

Trade Date: **Trade No.:**

Disclaimer: *This certificate needs to be validated at the time of utilization*

Trading Information

You can also trade this certificate by following these 4 basic steps.

DSC Signature

Trade History of Certificate of Deposit

COD Owner Name	Trade date	Trade Reference No.
	Original Owner	

FORM- 3

(Refer Clause 10.1.21, Clause 14.1 and Clause 14.2) ANNUAL RETURN FOR FINANCIAL YEAR 20__ - 20__

1.	Name	
	Registration Number	
	Validity	

2.	**CAPACITY UTILISATION (NOS)**				
	A	Deregistration	Completed(1)	In Process (2)	Total (1+2)
	i	L Vehicles			
	ii	M Vehicles			
	iii	N Vehicles			
	iv	OTHERS			
	v	TOTAL(A)			
	B	Treatment	Authorised(1)	Utilised(2)	% Utilisation (1/2*100)
	i	L Vehicles			
	ii	M Vehicles			
	iii	N Vehicles			
	iv	OTHERS			
	v	TOTAL(B)			

3.	**Mass Flow**		Kgs
	A	**INWARDS**	
	i	L Vehicles	
	ii	M Vehicles	
	iii	N Vehicles	
	iv	Others	

	v	Grand Total (i+ii+iii+iv =X)	

	B	**OUTWARDS**	
	i	Ferrous	
	ii	Aluminium	
	iii	Copper	
	iv	Plastics	
	v	Glass	
	vi	Tyres	
	vii	Precious Metals (Palladium, Rhodium, Gold, Silver, Platinum, etc.)	
	viii	Others	
	ix	Sub-Total (a)	
	C	**HAZARDOUS WASTE FOR REPROCESSING**	
	i	Fuel	
	ii	Oils	
	iii	Gases	
	iv	Batteries	
	v	Fluids	
	vi	Sub-Total (b)	
	D	Hazardous Waste To Landfill	
	i	Residues Retained	
	ii	Landfill	
	iii	Sub-Total (c)	
	E	Grand Total (a+b+c=Y)	
	F	Mass Balance (X-Y)	

4.	**QUALITY CERTIFICATIONS STATUS**	Validity	Remarks
A	ISO 9001		

	B	ISO 14001		
	C	ISO 45001		

5.	**AUDIT**				
	A	Agency			
	B	Date			
	C	Result	Pass	Fail	Resubmit

6.	**Safety**		Nos	Remarks
	A	Accidents		
	B	Incidents		

7. I……

DESIGNATION…….

hereby certify that the data submitted above is a true and accurate reflection of the activities of the company for the financial year 20 -20 .

Signature

Place

Company Seal

Date

FORM– 4

(Refer Clause 11.1)

CERTIFICATEOF VEHICLE SCRAPPING

1.	**CERTIFICATE NUMBER:**	

2.	**DATE:**	

3.	This is to certify that the Final Disposal of the Vehicle held on Deposit with us vide our Certificate of Deposit No ..... Dated ..... has undergone Treatment according to the Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021.

4.	**VEHICLES DETAILS**			
	a	Registration Number		
	b	Make		
	c	Model		
	d	Year of Manufacture		YY
	e	Chassis Number	Picture of cut out piece showing its number	
	f	Engine Number	Picture of Engine showing its number	

5.	**OWNER DETAILS**		
	a	Name	
	b	ID Proof Details	
	c	Address	
	d	Address Proof Details submitted	

6.	**It is requested that the records in respect of above-mentioned vehicle may be updated.**

Date: **Authorized Signatory**

Place:

Company Seal

Date

End-of-Life Vehicles : PART-2 A

HEAVY METAL RESTRICTION, DISMANTLING INFORMATION

1.0 SCOPE

1.1 The requirements specified in this standard are applicable to vehicle categories of L, M and N produced in India or imported to India for sale in India and type approved as per CMV Rule 126.

1.2 The requirements of this Part - 2A of the standard shall not apply to

a) **'Special Purpose Vehicles'** as defined in AIS-053, as amended from time to time.
b) '**Small volume production models'** as defined in AIS-017, as amended from time to time.

2.0 DEFINITIONS

For the purpose of this standard definitions given in ~~AIS-129~~ **IS XXXXX: XXXX** : Part - 2 B shall be applicable to this Part - 2A of the standard also.

3.0 RESTRICTION OF HEAVY METALS

3.1 The vehicle manufacturers shall strive to ensure that the vehicles type approved after the mandated date shall not contain lead, mercury, cadmium or hexavalent chromium other than in cases listed in Annex A under the conditions specified therein.

The above requirements do not apply to the vehicles and their variants which are type approved before the above mentioned mandated date.

4.0 DISMANTLING INFORMATION TO BE SUPPLIED BY VEHICLE MANUFACTURERS

General specifications for Dismantling Information

4.1 The 'Dismantling Information' shall contain minimum details as specified in Annex B.

4.2 The vehicle manufacturer shall make available the "Dismantling Information" in the form of manuals or by means of electronic media (e.g. CD ROM, on-line services, etc.) to the Registered Vehicle Scrapping Facilities on request.

ANNEX-A

(See clause 3)

MATERIALS AND COMPONENTS EXEMPTED FROM

TABLE 1 – FOR M & N CATEGORY OF VEHICLES

Sr. No.	Materials and components exempted from clause 3.1	Scope and expiry date of exemption	To be remarked in the dismantling information
Lead as alloying element			
1	**Steel for machining purposes and galvanized steel (lead ≤ 0.35%)**	-------	-------
2a	**Aluminum (lead ≤ 2%)**	**Vehicles type approved before dd.mm.yyyy (X + 3)**	-------
2b	Aluminum (lead ≤0.4%)	-------	-------
3	Copper alloy (lead ≤ 4%)	-------	-------
4a	Bearing shells and bushes	Vehicles type approved before dd.mm.yyyy (X + **5**)	-------
4b	Bearing shells and bushes in engines (motor)and transmission (gear box) and air conditioner compressors	-------	-------
5*	TVD (Torsional Vibration Damper)	Vehicles type approved before dd.mm.yyyy (X + 2)	------
6*	Air brake tubing	Vehicles type approved before dd.mm.yyyy (X + 2)	**------**
Lead and lead compounds in components			
5	Batteries	-------	Yes
6	Vibration dampers	-------	Yes
7	Vulcanizing agents and stabilizers for elastomers/metal parts in braking hose, fuel hose, ventilation hose and chassis as well as for elastomers in engine suspension (lead ≤ 0.5%)	Vehicles type approved before dd.mm.yyyy (X + 2)	-------

8	Adhesives for elastomers in powertrain (lead ≤ 0.5%)	Vehicles type approved before dd.mm.yyyy (X + 3)	-------
9	Solder in electronic circuit boards and other electric components	-------	-------
10	Valve seats	Vehicles type approved before dd.mm.yyyy (X + 2)	-------
11	Electrical components which contain lead in a glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs	-------	-------

Sr. No.	**Materials and components exempted from clause 3.1**	**Scope and expiry date of exemption**	**To be remarked in the dismantling information**
12	Pyrotechnic initiators	Vehicles type approved before dd.mm.yyyy (X + 3)	-------
13	Lead-plated steel sheet for vehicle fuel tanks	Vehicles type approved before dd.mm.yyyy (X +2)	-------
14	Wheel balance weights	Vehicles type approved before dd.mm.yyyy (X + 3)	Yes
15	Carbon brushes for electric motors	Vehicles type approved before dd.mm.yyyy (X + 3)	-------
16	Lead in Copper alloys in frictional materials of brake linings (lead ≤ 0.5%)	-------	-------
17	Lead containing thermoelectric materials in automotive electrical applications to reduce CO2 emissions by recuperation of exhaust heat	-------	-------
Hexavalent chromium			
18	Corrosion preventive coatings	Vehicles type approved before dd.mm.yyyy (X + 3)	-------
19	Corrosion-proof plating layers of bolts, nuts and fasteners for chassis assembling	Vehicles type approved before dd.mm.yyyy (X + 3)	-------
20	As an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators	-------	Yes

Mercury			
21	Discharge lamps in headlamps	-------	Yes
22	Fluorescent tubes for displays illumination	-------	Yes
Cadmium			
23	Batteries for electric and hybrid vehicles	Vehicles type approved before dd.mm.yyyy (X + **5**)	Yes

Sr. No.	**Materials and components exempted from clause 3.1**	**Scope and expiry date of exemption**	**To be remarked in the dismantling information**
General Exemption			
24	A maximum concentration value up to 0.1% by weight and in homogeneous material, for lead, hexavalent chromium and mercury and up to 0.01% by weight in homogeneous material for cadmium shall be tolerated. An equipped electronic circuit board is considered as homogeneous material, if limits above are fulfilled.	-------	-------

Note:

1) Limit of concentration in brackets is expressed in mass fraction.
2) X = Date of implementation of the heavy metal restriction as mentioned in clause 3.1
3) * marked items are explicitly for M2, M3 and N category Vehicles

TABLE 2

FOR L CATEGORY OF VEHICLES

S. No.	Materials and components exempted from clause 3.1	To be remarked in the dismantling information
1	**Lead as an alloying element**	
1.1	Steel (including galvanised steel) containing up to 0.35 % lead by weight	----------
1.2	Aluminium containing up to 0.4 % lead by weight	----------
1.3	Aluminium (in wheel rims, engine parts) containing up to 4 % lead by weight	----------
1.4	Copper alloy containing up to 4 % lead by weight	----------
1.5	Bearing-shells and bushes	----------
2	**Lead and lead compounds in components**	
2.1	Batteries	Yes
2.2	Vibration dampers	Yes
2.3	Bonding agents for elastomers containing up to 0.5% lead by weight	----------
2.4	Stabilizer in protective paints	----------
2.5	Solder in electronic circuit boards and other applications	----------
2.6	Electrical components which contain lead in a glass or ceramic matrix compound except glass in bulbs and glaze of spark plugs	----------
2.7	Lead-plated steel sheet for vehicle fuel tanks	----------
2.8	Vulcanising agents and stabilizers for elastomers/metal parts in braking hose, fuel hose, ventilation hose and chassis as well as for elastomers in engine suspension (lead $\leq$ 0.5%)	----------
2.9	Wheel balance weights	Yes
2.10	Pyrotechnic initiators	----------
2.11	Valve seats	----------
2.12	Carbon brushes for electric motors	----------
2.13	lead containing thermoelectric materials in automotive electrical applications to reduce CO2 emissions by recuperation of exhaust heat	----------

\

2.14	Lead in copper alloy in frictional material of brake liners	----------
2.15	0.1 % by weight and per homogeneous material	----------
3	**Hexavalent chromium**	
3.1	Corrosion preventative coating	----------
3.2	Corrosion-proof plating layers of bolts, nuts and fasteners for chassis assembling	----------
3.3	0.1 % by weight and per homogeneous material	----------
4	**Mercury**	
4.1	Bulbs and instrument panel displays	Yes
4.2	Discharge lamps for headlight applications	Yes
4.3	Fluorescent tubes used in instrument panel displays	Yes
4.4	0.1 % by weight and per homogeneous material	----------
5	**Cadmium**	----------
5.1	0.01 % by weight and per homogeneous material	----------
5.2	Batteries for electric and hybrid vehicles	Yes

ANNEX-B

GUIDELINES FOR DISMANTLING INFORMATION

(See clause 4)

Section – 1, General Information:

- Vehicle Details (Variants, etc.)
- Specific Safety Precautions, if any
- Tools /Special tools details

Section – 2, Pre-treatment /Depollution:

- Batteries
- Pyrotechnic Components (Airbag, etc.)
- Fluid/ Draining (Fuel, oils, AC gas, etc.)
- Tyre
- Catalysts (Catalysts, DPF, etc.)
- Other controlled parts (e.g. Bulb containing Hg)

Section – 3, Dismantling:

Components, other than ferrous and non-ferrous metals (which can be easily removed from the vehicle prior to shredding like Plastic and Glass Components and if they can be dismantle and recycled in an economical profitable way).

Note: Component applicable to Section 2 and 3 should contain information as follows:

- Tool
- Removal Method
- Component Location

Section – 4, Other specific guidelines as applicable:

- Pyrotechnic Deployment Device and Method
- Hazardous component and handling
- LPG/CNG, components, sub-systems and systems removal and handling
- EV or HEV batteries removal and handling

Section – 5, only in case of L1 and L2 categories

Components that can be reused and instruction thereof.

End-of-Life Vehicles - PART-2 B

TYPE APPROVAL OF VEHICLES WITH REGARD TO THEIR REUSABILITY, RECYCLABILITY AND RECOVERABILITY (RRR)

1.0 SCOPE

1.1 The requirements specified in this standard are applicable to vehicle categories of L, M and N produced in India or imported to India for sale in India and type approved as per CMV Rule 126.

1.2 The requirements of this Part - 2B of the standard shall not apply to

a) **'Special Purpose Vehicles'** as defined in AIS-053, as amended from time to time.

b) '**Small volume production models'** as defined in AIS-017, as amended from time to time.

2.0 REFERENCE

1. IS 9211 : 2003 : Terms and definitions of road vehicles
2. IS 2:1960 Rules for rounding off numerical values
3. IS 11422:2011 Terms and definitions of weights of 2 wheeled motor vehicles
4. ISO 1043 – 1: Symbols and abbreviated terms Part 1: Basic polymers and their special characteristics.
5. ISO 1043 – 2: Symbols and abbreviated terms Part 2: Fillers and reinforcing materials
6. ISO 11469: Generic identification and marking of plastic products.
7. ISO 22628: Road vehicles - Recyclability and Recoverability — Calculation method

3.0 DEFINITIONS

3.1 **Competent Agency**

The competent agency shall be either:

a) Testing agencies (see 3.15) or

b) Agency complying with standard EN 45012: 1989 or ISO/IEC Guide 62: 1996 on the general criteria for certification bodies operating quality system certification as regards the management systems implemented by the manufacturer.

3.2 **Component Part** means any part or any assembly of parts which is included in a vehicle at the time of its production.

3.3 **Disposal** means any operation which does not lead to recycling, recovery or reuse and includes physical-chemical or biological treatment, incineration and deposition in secured landfill.

3.4 End-of-Life Vehicles" means all vehicles which are no longer validly registered or declared unfit through Automated Fitness Centres or their registrations have been cancelled under Chapter IV of the Act or due to an order of a Court of Law or are self-declared by the legitimate registered owner as a waste vehicle due to any circumstances as specified in these rules.

3.5 **Energy recovery** means the use of combustible waste as a means to generate energy through direct incineration with or without other waste but with recovery of the heat.

3.6 **Recoverability** means the potential for recovery of component parts or materials diverted from an end-of-life vehicle.

3.7 **Recoverability rate of a vehicle (Rcov)** means the percentage by mass of a vehicle, potentially able to be reused and recovered

3.8 **Recovery** means, reprocessing of the waste materials in a production process, for the original purpose or for other purposes including processing as a means of generating energy.

3.9 **Recyclability** means the potential for recycling of component parts or materials diverted from an end-of-life vehicle.

3.10 **Recyclability rate of a vehicle (Rcyc)** means the percentage by mass of a new vehicle, potentially able to be reused and recycled

3.11 **"Recycling"** means the reclamation and processing of waste in an environmentally sound manner for the original purpose or other**.**

3.12 **Reference vehicle** means the version within a type of vehicle/vehicle family, which is identified by the vehicle manufacturer and test agency in mutual agreement that represents the most unfavourable in terms of reusability, recyclability and recoverability as explained in clause 8.

3.13 **Reusability** means the potential for reuse of component parts diverted from an end-of-life vehicle.

3.14 **Reuse** means any operation by which components of end-of-life vehicles are used for the same purpose for which they were conceived.

3.15 **Testing Agency** means the agency notified under the rule 126 of central motor vehicle rules, 1989.

3.16 **Treatment"** means any activity after the End-of-Life vehicle has been handed over to a collection centre of a Registered Vehicle Scrapping Facility for depollution, dismantling, shearing, shredding, recovery or preparation for disposal of the shredder wastes, and any other operation carried out for the recovery or disposal of the End-of-Life vehicle and its components;

3.17 **Vehicle mass** means the kerb mass of the vehicle as defined in IS 9211-2003 or IS 11422, as applicable.

3.18 **"Vehicle"** means a motor vehicle or vehicle as defined in clause (28) of section 2 of the Act**.**

3.19 **Proven Technology** means technology which has been successfully tested on a laboratory scale.

4.0 REQUIREMENTS

4.1 Manufacturer's Arrangements

4.1.1 The Competent Agency shall assess the manufacturer's arrangement as per Annex G.

4.1.2 After satisfactory completion of the assessment the Competent Agency shall issue a certificate of compliance as per Annex H.

4.2 **Vehicle Requirements**

4.2.1 Vehicles shall be so constructed as to be:

4.2.1.1 reusable and / or recyclable to a minimum of **80 %** by mass, and

4.2.1.2 reusable and / or recoverable to a minimum of **85 %** by mass

4.2.2 Vehicle manufacturer shall submit requisite calculations for the reference vehicle demonstrating compliance to clause 4.2.1.1 and clause 4.2.1.2 in Annex C for M & N Category and in Annex K for L category.
The guidelines for preparing calculations are prescribed in Annex B for M & N Category and in Annex K for L category.

5.0 APPLICATION FOR TYPE APPROVAL

5.1 The application for type approval of a vehicle type with regard to its reusability, recyclability and recoverability shall be submitted by the vehicle manufacturer or by his authorised representative to the testing agency.

5. 2 Following shall be submitted to approving test agency for approval:

5.2.1 Necessary information as per Annex A and C for M and N category and as per Annex A and K for L category reference vehicle as detailed out in clause 8.0 below.

5.2.2 List of the dismantled component parts declared by the manufacturer with respect to the dismantling stage, and the process recommended for their treatment as per clause A.7.3 of Annex A for M and N category vehicles.

5.2.3 In case where such information is covered by intellectual property rights or constitute specific know-how of the manufacturer or his suppliers, the manufacturer or his supplier shall supply sufficient information to enable those calculations to be made properly.

6.0 TYPE APPROVAL

6.1 Based on the Assessment certificate (see 4.1.2) and demonstration of calculations for the reference vehicle as per Annex C for M and N category and as per Annex K for L category vehicles for compliance to clause 4.2, testing agency shall issue the type approval certificate.

6.2 The RRR calculations demonstrated on such a reference vehicle shall be deemed valid for all the vehicles amongst the family of vehicles to which the reference vehicle represents.

6.3 In the case vehicle models complying with corresponding EEC/ECE regulation, such models are deemed to comply with the requirements of this standard. Based on the EEC/ECE type approval certificate, the test agency shall issue type approval certificate for compliance to this standard.

7.0 CHANGES IN THE TECHNICAL SPECIFICATION OF ALREADY TYPE APPROVED VEHICLE

7.1 Every modification pertaining to the information declared in accordance with Annex A shall be intimated by the manufacturer to the testing agency.

7.2 If a type approved reference vehicle has RR rate of 85% or more and RRR rate of 90% or more then all its variants/ versions, and change in technical specifications are deemed to meet required standard without any further verification.

7.3 If the changes are in parameters not related to the provisions, no further action needs to be taken. If the changes are in parameters related to the provisions, the testing agency shall then consider, whether based on criteria for extension of approval as specified in Annex E, the model with the changed specifications still complies with provisions; or any RRR calculations need to be re-approved.

8.0 SELECTION OF REFERENCE VEHICLE FOR DEMONSTRATING RRR CALCULATIONS

8.1 M1 category vehicle possessing the following specification amongst the group of vehicles shall be considered to be the reference vehicle. The reference vehicle generally may not be available for sale, but it has to be buildable/ producible.

i) lightest engine
ii) lightest manual gearbox
iii) smallest tires, no spare wheel
iv) no trailer coupling
v) standard drive (no all-wheel drive)
vi) shortest version of body work amongst hatchback, saloon and station wagon etc.
vii) leather trim

Reference vehicle for demonstration of RRR calculation may also be selected based on the parameters given in Annex E.

8.2 Following specification amongst the group of vehicles shall be considered, as applicable, to be a L category reference vehicle:

- Grouping (Scooter, step-through, step-over) (in case of L1 and L2)
- Classification (L5M/L5N/L7M/L7N)
- Type of power plant (ICE/Electric)
- Lightest power plant
- Lightest transmission
- Lightest chassis
- Smallest tires, no spare wheel.

In the case of L category of vehicles, the Reference vehicle for demonstration of RRR calculation shall be selected based on the parameters given in Annex E. The reference vehicle generally may not be available for sale, but it has to be buildable/ producible.

8.3 For vehicles of category other than M1 and L, possessing the following specification amongst the group of vehicles shall be considered to be the reference vehicle. The reference vehicle generally may not be available for sale, but it has to be buildable/ producible.

i) Lightest manual gearbox / Transmission

ii) Smallest tyres, no spare wheel (least number of tyres to be mentioned for N2,N3)

iii) Standard drive (no all-wheel drive)

iv) Leather trim / Highest Trim levels

v) Lightest Chassis

vi) Lightest engine/ Lightest electric power plant

viii) Shortest version of Bodywork and/smallest load body work Reference vehicle for demonstration of RRR calculation may also be selected based on the parameters given in Annex E.

9.0 MATERIAL IDENTIFICATION MARKING ON PLASTIC COMPONENTS

9.1 Vehicle manufacturers shall use component and material coding standards referred below to facilitate the identification of those plastic components having weight more than 100 gms as per the following standards which are suitable for reuse and recovery.

1. ISO 1043 – 1: Symbols and abbreviated terms Part 1: Basic polymers and their special characteristics.

2. ISO 1043 – 2: Symbols and abbreviated terms Part 2: Fillers and reinforcing materials

3. ISO 11469: Generic identification and marking of plastic products.

ANNEX- A

(See clause 5 and 7)

TECHNICAL SPECIFICATIONS FOR TYPE APPROVAL OF VEHICLE WITH REGARDS TO THEIR REUSABILITY, RECYCLABILITY AND RECOVERABILITY

A.1 The following information, if applicable, shall be submitted including a list of contents.

Photographs, if any, shall show sufficient detail.

A.2 GENERAL

A.2.1 Make (trade name of manufacturer)

A.2.1.1 Type

A.2.1.2 Chassis

A.2.1.3 Commercial name (s) (if available)

A.2.1.4 Means of identification of type, if marked on the vehicle

A.2.1.5 Location of that marking

A.2.1.6 Category of vehicle

A.2.1.7 Name of manufacturer

A.2.1.8 Address(es) of manufacturer

A.2.2 General Construction Characteristics of the Vehicle

A.2.2.1 Photographs and / or drawings of a representative vehicle

A.2.2.2 Dimensional drawing of the whole vehicle

A.2.2.3 Number of axles and wheels

A.2.2.4 Number and position of axles with double wheels

A.2.2.5 Powered axles (number, position, interconnection)

A.2.2.6 Driving cab (Forward control or bonneted)

A.3 POWER PLANT

A.3.1 Manufacturer

A.3.2 Internal combustion engine

A.3.2.1 Specific Engine information

A.3.2.1.1 Working principle: positive ignition / compression ignition, four stroke / two stroke

A.3.2.1.2 Number and arrangement of cylinders

A.3.2.1.3 Engine capacity cm^3

A.3.2.1.4 Weight (kg)

A.3.2.2 Fuel : Diesel / Petrol /LPG /NG / Ethanol

A.4 TRANSMISSION

A.4.1 Type (mechanical, hydraulic, electric etc)

A.4.2 Gearbox Type (Manual/Automatic/CVT)

A.4.3 Weight (kg)

A.4.4 Differential lock: yes / no/ optional

A.5 BODYWORK

A.5.1 Type of Body work

A.5.2 Door configuration and number of doors

A.6 SEATS

A.6.1 Number

A.7 REUSABILITY, RECYCLABILITY AND RECOVERABILITY

A.7.1 Version to which the reference vehicle belongs

A.7.2 Mass of the reference vehicle with bodywork or mass of the chassis with cab, without bodywork and / or coupling device if the manufacturer does not fit the bodywork and / or coupling devices (including liquids, tools, spare wheel if fitted) without driver.

A.7.3 Mass of materials of the reference vehicle

A.7.3.1 Mass of material taken into account at the pre-treatment step

A.7.3.2 Mass of material taken into account at the dismantling step

A.7.3.3 Mass of material taken into account at the non-metallic residue treatment step, considered as recyclable

A.7.3.4 Mass of material taken into account at the non–metallic residue treatment step, considered as energy recoverable

A.7.3.5 Materials breakdown

A.7.3.6 Total mass of materials, which are reusable and /or recyclable

A.7.3.7 Total mass of materials, which are reusable and / or recoverable

A.7.4 Rates

A.7.4.1 Recyclability rate R_{cyc} (%)

A.7.4.2 Recoverability rate R_{cov} (%)

A.8 INFORMATION REQUIRED FOR CRITERIA FOR EXTENSION OF APPROVAL

A.8.1 Engine weight decrease

A.8.2 Gearbox weight decrease

A.8.3 Decrease in tyre weight

A.8.4 Spare wheel fitted or not

A.8.5 Vehicle Type Sedan/ Station Wagon/ Hatchback

A.8.6 Trailer coupling fitted or not

A.8.7 With all-wheel drive (Permanent / Selectable)/ without all-wheel drive

ANNEX- B
(See clause 4.2.2)
RRR CALCULATION METHOD FOR M and N CATEGORY

B.1 This Annex specifies the method for calculating recyclability rate and the recoverability rate of a new vehicle, each expressed as percentage by mass (mass fraction in percent) of the vehicle, which can potentially be

a) Recycled, reused or both (recyclability rate)
b) Recovered, reused or both (recoverability rate)

B.2 CALCULATION METHOD

The calculation of the recyclability and recoverability rates is carried out through the following four steps on a new vehicle, for which component parts, materials or both can be taken into account at each step:

a) Pre-treatment
b) Dismantling
c) Metal separation
d) Non-metallic residue treatment

A partial mass, m_P, m_D or m_M is determined respectively at each of the first three steps, while the partial masses m_{Tr} and m_{Te} are determined at the final step. Annex C, D give data presentation and a schematic representation of the method.

B.3 MATERIAL BREAKDOWN

The materials breakdown of the vehicle is established by classifying all the materials composing the vehicle into the following seven categories:

a) Metals;
b) Polymers, excluding elastomers;
c) Elastomers;
d) Glass;
e) Fluids;
f) Modified Organic Natural Materials (MONM), such as leather, wood, cardboard and cotton fleece;
g) Others (components, materials or both, for which a detailed material breakdown cannot be established such as compounds, electronics, electrical).

The total mass of each category can then be determined (see Annex C). This breakdown may be done at each step of the calculation for each partial mass mentioned in B.2 above.

B.4 DETERMINATION OF PARTIAL MASSES m_p, m_D, m_M, m_{Tr} and m_{Te}.

B.4.1 Pre-treatment – Determination of m_p

At this step, the following vehicle component parts, material or both shall be taken into account:

- All fluids;
- Batteries
- Oil filters
- Liquefied petroleum gas (LPG) tanks
- Compressed natural gas (CNG) tanks
- Tyres;
- Catalytic converters

Note: Fluids include fuel, engine oil, transmission / gearbox oil (including rear differential or transfer box or both), power steering oil, coolant, brake fluid, shock absorber fluid, air conditioning refrigerant, windscreen washer fluid, engine mounting oil and hydraulic suspension fluid.

For the purpose of the calculation, these component parts and materials are considered reusable or recyclable.
Determine the mass m_p, as the sum of the masses of these component parts and materials.

B.4.2 Dismantling – Determination of m_D

At this step, certain other of the vehicle's reusable or recyclable component parts may be taken into account by the manufacturer, based on the following.

a) As a general requirement, a component part shall be considered as reusable, recyclable or both, based on its dismantlability, assessed by:
   - Accessibility
   - Fastening technology and
   - Corresponding proven technologies for dismantling.

b) As a specific requirement, a component part shall be considered as recyclable, based on :

   - Its material composition and
   - corresponding proven technologies for recycling

In order to be recyclable, a component part or material shall be linked to a corresponding proven technology for recycling. An additional requirement is that the reusability of a component part shall be subject to consideration of safety and environmental hazards.

Determine the mass m_D as the sum of the masses of all parts considered accordingly as reusable or recyclable.

B.4.3 Metals separation – Determination of m_M

At this step, all metals ferrous and non ferrous which have not already been accounted for in the previous steps shall be taken into account. Both ferrous and non-ferrous metals are considered as recyclable.

- Determine the mass m_M as the mass of the metal remaining in the vehicle after the previous steps.

B.4.4 Non-metallic residue treatment – Determination of m_{Tr} and m_{Te}.

The remaining other materials (i.e. materials not taken into account at the pre-treatment, dismantling and metals separation steps) constitute the non-metallic residue. At this step, the residual non-metallic recyclable materials or both these materials and the residual non-metallic recoverable materials may be taken into account.

- Determine m_{Tr} as the sum of masses of non-metallic residue considered as recyclable on the basis of proven recycling technologies (see Annex C Table C.1).
- Determine m_{Te} as the sum of the remaining masses that can be potentially be used for energy recovery after determination of m_p, m_D, m_M and m_{Tr}.

Note: Technologies for energy recovery of polymers and elastomers are industrialized on a large scale world-wide. Therefore polymers, elastomers and other modified organic natural materials can potentially be recovered through those technologies.

B.5 CALCULATION FOR RECYCLABILITY / RECOVERABILITY RATE

B.5.1 Recyclability rate

Calculate the recyclability rate Rcyc of the vehicle as a percentage by mass (mass fraction in percent) using the formula,

$$\mathbf{Rcyc} = (m_P + m_D + m_M + m_{Tr}) \times 100 / m_V$$

B.5.2 Recoverability rate

Calculate the recoverability rate, Rcov, of the vehicle as a percentage by mass (mass fraction in percent), using the formula:

$$\mathbf{Rcov} = (m_P + m_D + m_M + m_{Tr} + m_{Te}) \times 100 / m_V$$

Annex C

DATA PRESENTATION

The data for the calculation shall be reported using the following table, either on paper or in electronic form (the materials breakdown section is optional)

Table C.1- Presentation of Data for M and N category vehicles

Brand Name				Vehicle Mass (kg), m_V			
Model (type /variant)							
Material Breakdown (mass in kg)	Metals	Polymers (excluding elastomers)	Elastomers	Glass	Fluids	M.O.N.M	Others
Pretreatment (m_p)						Mass (kg)	
		Fluids		m_{p1}			
		Battery		m_{p2}			
		Oil filters		m_{p3}			
		L.P.G. Tanks		m_{p4}			
		C.N.G. Tanks		m_{p5}			
		Tyres		m_{p6}			
		Catalytic converters		m_{p7}			
				m_p total (sum m_{p1} to m_{p7})			
Dismantling (m_D)							
Sr. no.	Part name	Mass (kg)	Sr. no.	Part name	Mass (kg)	Mass (sr no. 11 to x) (kg)	
1			6			m_{px} total (sum 11 to x)	
2			7			Please add separate list for sr. no. 11 to x	
3			8				
4			9				
5			10				
m_{D1} total (sum 1 to 5)			m_{D2} total (sum 6 to 10)			m_D total (m_{D1} total + m_{D2} total+m_{Dx} total)	
Metal Separation (m_M)		Remaining metal content of the vehicle				**Mass (kg)**	
						m_M total	
Non-metallic residue treatment (m_{Tr} and m_{Te})		**m_{Tr} = recyclable material**				Mass (kg)	
		Technology no.	Name				
		1		m_{Tr1}			
		2		m_{Tr2}			
		3		m_{Tr3}			
		4 to x		m_{Tr4-x}			
		Please add separate list for technologies 4 to x				m_{Tr} total (sum m_{Tr} to m_{Trx})	
		m_{Te} = energy recoverable materials				**Mass (kg)**	
		Remaining quantity of organic materials (polymers, elastomers, MONM etc)				m_{Te}	

	Recyclability rate	Rcyc (%) = $((m_p+m_D+m_M+m_{Tr})/m_v)*100$		
	Recoverability rate	Rcov (%) = $((m_p+m_D+m_M+m_{Tr}+m_{Te})/m_v)*100$		

NOTE:

Final results, in percentage shall be an integer (whole number).For the purpose of rounding off IS 2:1960 ‘Rules for rounding off numerical values’ as amended from time to time, shall be used.

ANNEX-D

(For reference)

CALCULATION METHOD

Below table shows the schematic representation of calculation for M and N category vehicles

Calculation steps (sub clause)	**Vehicle elements**		**Assumptions**	**Mass of vehicle elements [a] kg**		
	General character	List		Reusable or Recyclable	Energy recoverable	Undefined residue
1 Pre-treatment (5.3.1)	Component parts and fluids	All fluids Batteries Oil filters LPG tanks CNG tanks Tyres Catalytic converters	Reusable recyclable or both	m_P		
2 Dismantling (5.3.2)	Component parts	As declared by vehicle manufacture	Reusable recyclable or both	m_D		
3 Metal separation (5.3.3)	Materials	Metals (ferrous and non-ferrous)	Recyclable	m_M		
4 Non-metallic residue treatment (5.3.4)	Materials	Glass	Recyclable	m_{Tr}		
		Polymers (excluding elastomers)	Recyclable, recoverable or both [a]		m_{Te}	
		Elastomers	Recyclable, recoverable or both [a]			
		MONM	Recyclable, recoverable or both [a]			
		Others	a			
		Recyclability rate, R_{cyc} (%) =		Vehicle mass, m_V		
				$\frac{m_P + m_D + m_M + m_{Tr}}{m_V} \times 100$		
		Recyclability rate, R_{cov} (%) =		$\frac{m_P + m_D + m_M + m_{Tr}}{m_V} \times 100$		

[a] In step 4, the apportionment among the three treatment possibilities is as declared by the vehicle manufacturer.

ANNEX-E

CRITERIA FOR EXTENSION OF APPROVAL

(See Clause 7)

E.1 Tables E1 and E2 list respectively for M1 category and L category vehicles and Table E3 list for M2, M3, N1, N2 and N3 category vehicles, the verifications to be carried out in case of changes in the parameters declared at the time of submitting the earlier type approval.

E.2 Changes other than those listed in the table are considered to have no adverse effect on the Recyclability, Reusability and Recoverability rates of the vehicle

Table E-1
Verifications may be carried out in case of changes in the parameters for M1 category vehicles

	Change in Parameter	Verification to be done
1.	Engine weight decrease by more than 10%	RRR calculation
2.	Gearbox weight decrease by more than 10%	RRR calculation
3.	Decrease in tyre weight by more than 10%	RRR calculation
4.	Deletion of spare wheel	RRR calculation
5.	Reserved	-
6.	Deletion of trailer coupling	RRR calculation
7.	Drive change from all wheel drive (Permanent / Selectable) to two wheel drive	RRR calculation
8	Additional fitment of component with non recyclable/ non re-usable/ non-recoverable component having weight more than 1% of vehicle unladen weight.	RRR calculation
9.	Addition of model/ variant	RRR calculation if affected by parameters 1 to 7 above.
10.	Change in existing arrangements (clause 4.1)	Manufacturer assessment as per clause 4.1.

11.	Addition of new plants	Manufacturer assessment as per clause 4.1, if the arrangements are different.

Table E-2
Verifications to be carried out in case of changes in the parameters for L1 and L2 category vehicles

	Change in Parameter	Verification to be done
1.	Engine and gearbox weight decrease by more than 10%	RRR calculation
2.	Decrease in tyre weight by more than 10%	RRR calculation
3.	Deletion of spare wheel	RRR calculation
4	Additional fitment of component with non recyclable/ non re-usable/ non-recoverable component having weight more than 1% of vehicle unladen weight.	RRR calculation
5.	Addition of model/ variant	RRR calculation if affected by parameters 1 to 3 above.
6.	Change in existing arrangements (4.1)	Manufacturer's assessment as per clause 4.1.
7.	Addition of new plants	Manufacturer's assessment as per clause 4.1, if the arrangements are different.

Table E-3
Verifications may be carried out in case of changes in the parameters for M2, M3, N1, N2, N3 category vehicles

	Change in Parameter	Verification to be done
1.	Engine weight decrease by more than **30%**	RRR calculation
2.	Gearbox weight decrease by more than **30%**	RRR calculation
3.	Decrease in tyre weight by more than **30%**	RRR calculation
5.	Deletion of trailer coupling	RRR calculation

6.	Drive change from all wheel drive (Permanent / Selectable) to two-wheel drive	RRR calculation
7	Additional fitment of component with non-recyclable/ non-re-usable/non-recoverable component having weight more than **5%** of vehicle unladen weight.	RRR calculation
8.	Addition of model/ variant	RRR calculation if affected by parameters 1 to 7 above.
9.	Change in existing arrangements (clause 4.1)	Manufacturer assessment as per clause 4.1.
10.	Addition of new plants	Manufacturer assessment as per clause 4.1, if the arrangements are different.

ANNEX-F

COMPONENT PARTS DEEMED TO BE NON-REUSABLE

F.1 Introduction

This Annex addresses the component parts of vehicles which must not be reused in the construction of new vehicles.

F.2 List of component parts (M1 category):

- All airbags (1) including cushions, pyrotechnic actuators,
- Electronic control units and sensors including FIE (Fuel Injection Equipment – Pump and Injectors)
- Automatic or non-automatic seat belt assemblies, including webbings, buckles, retractors, pyrotechnic actuators
- Seats (only in case where safety belt anchorage and / or airbags are incorporated in the seat)
- Steering lock assemblies acting on the steering column and steering system
- Immobilisers, including transponders and electronic control units
- Emission after-treatment systems (e.g. catalytic converters, particulate filters)
- Exhaust silencers
- Keys and lock components
- Sections of bodywork bearing the vehicle identification number
- Electronic brake components
- Brake components - Mechanical or Electrical including Brake Pads, Brake Linings, Brake Hoses and Electronics ABS, ESC, EBD, TCS; Clutch facings used in Transmissions

(1) When the airbag is inserted inside the steering wheel, the steering wheel itself.

F.3

List of components (For other than M1 and L category)

- Emission After-treatment system (ATS)
- CNG High Pressure Regulator & sensors
- Brake components (brake pads, shoes, electronic components, Sensors, Relay valves, Signal Transmitter
- Electromagnetic clutch & Compressor (EV bus)
- Accelerator pedal module (APM)
- Clutch components (Slave & Master cylinder)
- Pneumatic Suspension electromagnetic Valves
- Powertrain and Drivetrain Controllers, sensors and actuators
- Displays, Instrument Clusters
- Safety Systems Controllers and Sensors
- Chassis and Body controllers
- Connectivity Controllers

F.4

List of components (For L Category)

- Steering lock assemblies acting on the steering column and steering systems.
- Emission after-treatment systems (e.g. catalytic converters, particulate filters).
- Exhaust silencers.
- In case of L7 category - Automatic or non-automatic seat belt assemblies, including webbings, buckles, retractors, pyrotechnic actuators
- Keys and lock components
- Sections of bodywork bearing the vehicle identification number and Engine parts bearing the engine number.
- Immobilizers, including transponders and electronic control units
- Brake components (brake pads, shoes, electronic components).
- Suspension system.

ANNEX-G
ASSESSMENT OF THE MANUFACTURER
(See clause 4.1)

Assessment requirements

G.1.1 The manufacturer shall have arrangements and procedures (QMS) for the following:

(a) collect appropriate data through the full chain of supply, in particular the nature and the mass of all materials used in the construction of the vehicles, in order to perform the calculations required under this standard;

(b) keep at his disposal all the other appropriate vehicle data required by the calculation process such as the volume of the fluids, etc.;

(c) check adequately the information received from suppliers;

(d) manage the breakdown of the materials;

(e) be able to perform the calculation of the recyclability and recoverability rates in accordance with ~~AIS-129~~ **IS XXXXX: XXXX** Part-2B

(f) mark the component parts made of plastic in accordance clause 9 of ~~AIS-129~~ **IS XXXXX: XXXX** Part-2B.

(g) verify that no component part listed in Annex F of this standard is reused in the construction of new vehicles.

(h) demonstrate through arrangements with his suppliers, compliance with clause 3 of ~~AIS-129~~ **IS XXXXX: XXXX** Part-2A.

(j) shall establish procedures for the following:

(i) to communicate the applicable requirements to his relevant suppliers;

(ii) to monitor and ensure that suppliers act in accordance with those requirements;

(iii) to collect the relevant data through the full supply chain;

(iv) to check and verify the information received from suppliers;

(v) to react adequately where the data received from the suppliers indicate noncompliance with the requirements of clause 3 of ~~AIS-129~~ **IS XXXXX: XXXX** Part-2A.

G.1.2 For the purposes of paragraph G.1.1 above the vehicle manufacturer may use, ISO 9000/TS16949/ ISO14000 or other standardized quality assurance program.

G.1.3 The competent body shall verify adequacy of the quality management system and the steps taken in implementation.

G.1.4 The manufacturer shall provide the competent body with all relevant information, in documentary form. In particular, recycling and recovery of materials shall be properly documented.

G.2.0 The assessment carried out in one plant shall to be applicable to all the plants of the manufacturers if the arrangements and procedures (QMS) are same.

ANNEX-H CERTIFICATE OF COMPLIANCE
(See clause 4)

No [……. Reference number] [……. the competent body]
Certifies that (Manufacturer):
.....
(Address of the manufacturer):
.....
.....
complies with the requirements of ~~AIS-129~~ **IS XXXXX: XXXX** Part-2B
Checks have been performed on:
by (name and address of the competent body): Number of report:

Done at [……Place]
On [……. Date]
[.....Signature]

Attachments: Description of the strategy recommended by the manufacturer in the area of reuse, recycling and recovery.

ANNEX – J

RRR CALCULATION METHOD FOR L CATEGORY

(See clause 4.2)

J.1 This Annex specifies the method for calculating recyclability rate and the recoverability rate of a new vehicle, each expressed as percentage by mass (mass fraction in percent) of the vehicle, which can potentially be

a) Recycled, reused or both (recyclability rate)
b) Recovered, reused or both (recoverability rate)

J.2 CALCULATION METHOD

The calculation of the recyclability and recoverability rates is carried out using the weight of the following constituents of the vehicle

J.2.1 All fluids;

Note: Fluids include fuel, engine oil, transmission / gearbox oil (including rear differential or transfer box or both), power steering oil, coolant, brake fluid, shock absorber fluid, air conditioning refrigerant, windscreen washer fluid, engine mounting oil and hydraulic suspension fluid.

For the purpose of the calculation, these component parts and materials are considered reusable or recyclable.

J.2.2 Batteries

J.2.3 Oil filters

J.2.4 Liquefied petroleum gas (LPG) tanks

J.2.5 Compressed natural gas (CNG) tanks

J.2.6 Tyres and tubes

J.2.7 Catalytic converters

J.2.8 ferrous metals

J.2.9 non-ferrous metals

Note: Both ferrous and non-ferrous metals are considered as recyclable.

J.2.10 non-metallic recyclable materials

J.2.11 Reusable parts

J.2.12 non-metallic recoverable

Note: Technologies for energy recovery of polymers and elastomers are industrialized on a large scale world-wide. Therefore polymers, elastomers and other modified organic natural materials can potentially be recovered through those technologies.

J.3 MATERIAL BREAKDOWN

Details as per B-3 of Annex B.
Method of Determination of masses are detailed in Table K-1.

J.4 CALCULATION FOR RECYCLABILITY / RECOVERABILITY RATE

J.4.1 Recyclability rate

Calculate the recyclability rate Rcyc of the vehicle as a percentage by mass (mass fraction in percent) using the formula,

Rcyc = (Total mass of items listed in J-2.1 to J-2.11) X 100 / m_V

J.4.2 Recoverability rate

Calculate the recoverability rate, Rcov, of the vehicle as a percentage by mass (mass fraction in percent), using the formula:

Rcov = (J-2.1 to J-2.12) X 100 / m_V

ANNEX–K

The data for the calculation shall be reported using the following table, either on paper or in electronic form (the materials breakdown section is optional)

Table K.1- Presentation of Data for L category vehicles Table K.1

Brand Name				Vehicle Mass (kg), m_V			
Model (type /variant)							
Material Breakdown (mass in kg)	Metals	Polymers (excluding elastomers)	Elastomers	Glass	Fluids	M.O.N.M	Others

Sr. No	Item		Mass (kg)
1	Fluids	M_{x1}	
2	Battery	M_{x2}	
3	Oil filters	M_{x3}	
4	Tyres	M_{x4}	
5	Catalytic Converters	M_{x5}	
6	L P.G Tanks	M_{x6}	
7	C.N.G Tanks	M_{x7}	
		Total mass (m_x)	

Metallic parts

Sr. no.	Part name	Mass (kg)	Sr. no.	Part name	Mass (kg)	Mass (sr no. 17 to x) (kg)
1			9			M_{yx} total (sum 11 to x)
2			10			Please add separate list for sr. no. 17 to x
3			11			
4			12			
5			13			
6			14			
7			15			
8			16			
				m_{yx} total (sum 1 to 16)		

Residue	M_{Tr} = recyclable material				Mass (kg)	
	Technology no.	Name				
	1		m_{Tr1}			
	2		m_{Tr2}			
	3		m_{Tr3}			
	4 to x		m_{Tr4-x}			
	Please add separate list for technologies 4 to x				m_{Tr} total (m_{Tr} to m_{Trx})	
	m_{Te} = energy recoverable materials				Mass (kg)	
	Remaining quantity of organic materials (polymers, elsatomers, MONM etc)				m_{Te}	

	Recyclability rate	Rcyc (%) = $((m_x+m_{yx}+m_{Tr})/m_v)*100$		
	Recoverability rate	Rcov (%) = $((m_x+m_{yx}+m_{Tr}+m_{Te})/m_v)*100$		

Note: Final results, in percentage shall be an integer (whole number).For the purpose of rounding off IS 2:1960 ‘Rules for rounding off numerical values’ as amended from time to time, shall be used.

ANNEX- 3

RECOMMENDATIONS SUBMITTED BY PANEL 2 CONVENER, SHRI GURURAJ RAVI, MSIL

S.N.	IS	Title	Last Affirmation	Recommendation by Panel 2
1	IS-4552(Part 1)-1993	Automotive vehicles – Portable jacks for automobiles: Part 1 Mechanical jacks - Specifications	2003	1. IS 4552 specifies requirements for screw jacks only and does not specify requirements for other type of jacks used in Automotive Industry 2. Screw jacks are not used much in today's passenger cars as they occupy more space and heavier.[**Outdated Technology**] Hence, it is proposed to revise the IS-4552(Part 1)-1993 to accommodate the latest technology/practices being used in market for Mechanical Jack. **Panel 2 will share the findings & recommendation in next TED31 Committee meeting**.
2	IS-4552(Part 2)-1993	Automotive vehicles – Portable jacks for automobiles: Part 2 Hydraulic jacks - Specifications	2003	In line with above recommendations, in case if Hydraulic jacks Industry members share the any inputs to be incorporated as per latest technology/practices for IS-4552(Part 2)-1993, the same can be considered for deliberation within Panel 2 for any possible revision, in absence of such comments we will further may think to re-affirm the same.

3	IS-8411-1977	Specification for foot type inflators for road vehicles	2020	IS-8411-1977 is covering the requirement for foot type inflators, which seems OK. **Panel 2 recommendation is for re-affirmation of the IS.** In case any Committee/panel member will have any comment, Panel 2 will consider that for discussion, else IS will be re-affirmed.
4	IS-13111-1991	Automotive vehicles – Garage equipment – Terms and definitions	2018	IS-13111-1991 is covering the requirement for Automotive vehicles – Garage equipment – Terms and definitions, which are generic in nature & seems OK. **Panel 2 recommendation is for re-affirmation of the IS.** In case any Committee/panel member will have any comment, Panel 2 will consider that for discussion, else IS will be re-affirmed.
5	IS-13353-1992	Automotive vehicles – Garage equipment – Technical parameters	2018	IS-13353-1992 is covering the requirement for Automotive vehicles – Garage equipment – Technical parameters, which are generic in nature & seems OK. **Panel 2 recommendation is for re-affirmation of the IS.** In case any Committee/panel member will have any comment, Panel 2 will consider that for discussion, else IS will be re-affirmed.