M I N U T E S

BUREAU OF INDIAN STANDARDS

Name of the Committee	No of Meeting	Date and Time	Day	Venue
Automotive Prime Movers, Transmission Systems and Internal Combustion Engine Sectional Committee, TED 02	21st Meeting	30th November 2023 10:30 AM onwards	Thursday	PHYSICAL VENUE Green Room, Manak Bhawan VIRTUAL VENEU Webex

CHAIRMAN: Shri N V Marathe **MEMBER SECRETARY:** Shri Gaurav Jayaswal
HEAD (TED): Shri P V Srikanth

MEMBERS PRESENT

Sl. No.	NAME OF MEMBER	NAME OF ORGANIZATION
1)	Shri N. V. Marathe*	Emission Controls Manufacturers Association
2)	Shri Narendra V. Pawar	Automotive Research Association of India, Pune
3)	Shri Ankit Dhiman	Automotive Component Manufactures Association of India
4)	Shri Sachin M. Chachare	Association of State Road Transport Undertakings
5)	Shri Praful Math	Association of State Road Transport Undertakings
6)	Shri Faustino	Ashok Leyland Limited
7)	Shri Harish V.	Ashok Leyland Limited
8)	Shri Abhay Kumar	Bajaj Auto Limited
9)	Shri Arvind Kumbhar	Bajaj Auto Limited
10)	Shri M. M. Pathak	Central Institute of Road Transport, Pune
11)	Shri Col. OP Bharati	CQAV, Ahmednagar
12)	Shri Alok Kumar	Denso International India Private Limited
13)	Shri K. V. Rao	Eaton Industrial System Private Limited
14)	Shri Vikas Salunke	Fleetguard Filters Private Limited, Pune
15)	Dr. Kaleemuddin Syed	Greaves Cotton Limited (Diesel Engines Unit)
16)	Shri Rakesh Sharma	Hero Motocorp Limited

Sl. No.	NAME OF MEMBER	NAME OF ORGANIZATION
17)	Shri Vaibhav Yadav	International Centre for Automotive Technology, Manesar
18)	Dr. Devendra Singh	Indian Institute of Petroleum, Dehradun
19)	Shri Arvind Ranganathan	Indian Diesel Engine Manufacturers Association, New Delhi
20)	Shri Gururaj Ravi	Maruti Suzuki India Limited
21)	Shri Arun Kumar	Maruti Suzuki India Limited
22)	Shri Karuppasamy Thangaraj	Mahindra and Mahindra Limited, Mumbai
23)	Shri R K Jaiswal	Ministry of Heavy Industries and Public Enterprises, New Delhi
24)	Shri Vaibhav Srivastava	Maruti Suzuki India Limited, Gurugram
25)	Shri Sekar Ganesh	Mahindra and Mahindra Limited
26)	Shri Shashikant Nikam	Mahindra and Mahindra Limited
27)	Shri D.P Rajput	National Small Industries Corporation, Rajkot
28)	Shri U Venkatchalapathi	National Small Industries Corporation, Rajkot
29)	Shri Niraj Singh	Shri Ram Pistons And Rings Limited, Ghaziabad
30)	Shri Mayur Shah	Rajkot Engineering Association, Rajkot
31)	Mr. Abhishek Gondaliya	Rajkot Engineering Association
32)	Dr. Sandeep Garg	Society of Indian Automobile Manufacturers (SIAM), Delhi
33)	Shri Lokesh Mittal	Society of Indian Automobile Manufacturers (SIAM), Delhi
34)	Shri Ketan Kinage	Tata Motors Limited, Pune
35)	Shri Uday Salunkhe	Tata Motors Limited, Pune
36)	Shri P V Deshpande	Tata Motors Limited, Pune
37)	Shri Saurabh Shukla	Tata Motors Limited
38)	Shri Gitesh Mutha	Minda Emer
39)	Shri Manish Doneria	Uttar Pradesh Diesel Engine Manufacturers Association, Agra
40)	Shri Ashok Kumar Vaikuntam	Invitee

*Joined In-Person

ITEM 0 GENERAL

0.1 Welcome by Member Secretary

Shri Gaurav Jayaswal extended his warm greetings to the Chairman and attendees at the 20th Meeting of the Automotive Prime Movers, Transmission System, and Internal Combustion Engines Sectional Committee (TED 02). He introduced himself and urged all the members for their active participation in the committee's proceedings. Additionally, he briefed the committee on the topics to be discussed during the meeting. Following that, he requested the Head (TED) and Chairman (TED 02) for their welcome and opening remarks.

0.2 Welcome remarks by the Head (TED)

Shri P V Srikanth, Head (TED), greeted all the members present in the meeting and thanked them for their active participation in the committee. He emphasized the need for more frequent meetings to ensure timely formulation and revision of standards. He also highlighted the importance of raising awareness among students about BIS Standards to enrich their knowledge base for the industry. He also highlighted the importance of creation of standardization cells in industry association and their proper functioning.

0.3 Opening remarks by the Chairman

Shri N.V. Marathe Chairman TED 02, extended his warm greetings to all the members present in the Meeting. He stressed that according to the bureau's new guideline, consecutive absence from two meetings could result in the termination of a member organization's membership. Additionally, he urged members to carefully review any circulated drafts by the BIS Secretariat and provide feedback. He encouraged active participation from members in BIS-organized events and emphasized the importance of their involvement in periodic trainings held by BIS. Furthermore, he commended BIS's new initiative to shift from opinion-based to data-driven approaches for standardization through R&D projects. He requested to all members to actively engage in discussions on upcoming agenda items.

ITEM 1 CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The minutes of the 20th meeting of SC TED 2 held virtually on 26th June 2023 were circulated through BIS Portal. No comments with regards to decisions of the committee have been received. The committee confirmed the minutes.

ITEM 2 SCOPE AND COMPOSITION OF THE SECTIONAL COMMITTEE

2.0 The committee noted the scope of the committee given in the agenda.

2.1 In line with decisions of the last meeting, The committee noted the actions taken and decided as follows:

2.1.1 The committee noted that following organizations failed to attend last 3 consecutive meeting of SC TED 02 and decided accordingly:

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Remarks/Discussion/Decision of SC TED 02 in 20th Meeting	Actions Taken till 21st Meeting	Decision in 21st Meeting
1.	BEML Limited, Bengaluru	Shri M. Sasi Kumar (A) Shri Mahadev Nellur (P)	Dr. P G Bhatt, ARAI was requested to follow up with M/s BEML.	Email has been sent to Dr. Bhatt to provide contact details BEML Limited.	Dr. Bhat through email informed that he tried contacting BEML Representative but did not get any response. The Committee decided to withdraw membership of M/s BEML Limited.
2.	Central Pollution Control Board, New Delhi	Shri Suneel Dave (A) Shri A Sudhakar (P)	BIS Secretariat was requested to follow up with these govt organizations for their participation in SC TED 02 Activities.	Email reminders along with copy of circular PNC09/18/2023-PNC-BIS dated 05/09/2023 has been sent to these organizations.	The Committee decided to withdraw membership of Central Pollution Control Board, New Delhi.
3.	Indian Institute of Technology Delhi, New Delhi	Dr Sudipto Mukherjee (A) Dr S. P. Singh (P)			The Committee decided to withdraw membership of IIT Delhi.
4.	Ministry of Road Transport & Highways,	Shri K C Sharma (A)			The Committee decided to withdraw

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Remarks/Discussion/Decision of SC TED 02 in 20th Meeting	Actions Taken till 21st Meeting	Decision in 21st Meeting
	New Delhi				membership of MoRTH.
5.	Ordnance Factory Board, Kolata	S.K. Gund (P) Surender Pati (A)			The Committee decided to withdraw membership of Ordnance Factory Board, Kolkata
6.	Vehicle Research and Development Establishment, Ahmednagar	Shri Rupesh Kumar (P) Shri D.M. Vaidya (P)			The Committee decided to withdraw membership of VRDE, Ahmednagar.
7.	National Small Industries Corporation, Rajkot	U Venkat chalapathi (P) Kamal Kant Sahu (A)	BIS Secretariat was requested to follow-up with its Rajkot Branch office (RJBO) in order to get contact details of NSIC Rajkot and Rajkot Engineering Association.	Email has been sent to RJBO for following up with NSIC and REA.	Member secretary informed that Updated Nominations have been received from NSIC. The committee requested NSIC to maintain regular attendance.
8.	Rajkot Engineering	Mayur N Shah (P)			Member secretary informed

Sl. No.	Organization	REPRESENTED BY Principal member (P) Alternate member (A) Young Professional (YP)	Remarks/Discussion/Decision of SC TED 02 in 20th Meeting	Actions Taken till 21st Meeting	Decision in 21st Meeting
	Association, Rajkot	Abhishek Gondaliya (A)			that Updated Nominations have been received from REA. The committee requested REA to maintain regular attendance.

2.1.2 The committee noted that Email reminders have also been sent by TED 02 Secretariat to the organizations which failed to attend last TED 02 Meeting.

2.1.3 The Committee noted the information given in the agenda. The committee also decided to Co-opt M/s Shri Ram Pistons and M/s Cummins with their updated nominations.

2.1.4 IDEMA was again requested to identify the expert organizations in the field of gensets with a specific focus on the electrical aspect.

2.2 The committee reviewed the present composition of the Committee given in Annex 1.It was also decided to remove membership of following member organizations (Including members removed in **2.1.1** :

Sl. No.	Organization
1.	BEML Limited, Bengaluru
2.	Central Pollution Control Board, New Delhi
3.	Honda India Power Products Limited, UP

Sl. No.	Organization
4.	India Pistons Limited Perambur, Chennai
5.	Indian Institute of Technology Delhi, New Delhi
6.	Ministry of Road Transport & Highways, New Delhi
7.	Ordnance Factory Board, Kolata
8.	Vehicle Research and Development Establishment, Ahmednagar

2.3 The committee noted the request of Dr. Ashok Kumar Vaikuntam regarding change in his organization. He was suggested to put up the request for co-option through his new organization so that the same can be considered in the next SC TED 02 Meeting.

2.4 Shri N V Marathe, Chairperson, TED 02 also apprised that he has recently joined Emission Control Manufacturers Association (ECMA India), and the same was informed to Head (TED) through email dt. 11/08/2023. It was agreed to refer this information to TEDC for discussion in its upcoming meeting as the appointment of a chairperson of sectional committees falls within the purview of the Transport Engineering Division Council (TEDC).

ITEM 3 PROCESS REFORMS AT BIS

3.1 Member secretary presented Process Reforms at BIS and also discussed Circular P&C/09/18/2023-PNC-BIS. The committee Noted.

ITEM 4 ACTIONS ARISING OUT OF THE PREVIOUS MEETING (S)

The Committee noted the summery of action taken along with their present status on the decisions taken during the last meeting. The committee decided as below on the pending issues:

Sr. No.	Subject	Decision in Previous Meeting(s)	Status in 21st Meeting	Decision in 21st Meeting
1.	**Third revision of IS 11509 (Part 5)** {Doc no **TED 2 (17750)}** **'**Method of test for full-flow lubricating oil filters for internal	**Status in 18th Meeting:** ISO 4548-5:2013 has been revised to ISO 4548-5:2020.	The document has been published. The committee may please note.	The committee noted.

	combustion engines - Part 5 **Test for cold start simulation and hydraulic pulse durability**' (*Identical adoption of ISO 4548-5:2020*)	Doc no. TED 2 (17750) was wide circulated vide mail dated 28 July 2021 for comments. Last date to send comments was 13th Sept 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the document for printing. The committee advised member secretary to process the document for printing on priority. **Status in 19th Meeting:** The Document has been sent to publication and is expected to be published soon. The committee may please note. **Decision in 19th Meeting:** The committee noted. **Status in 20th Meeting:** The stage shown at BIS Portal is "Ready for Gazette" . The		

		committee may please note. **Decision in 20th Meeting:** The committee noted.		
2.	**Draft Amendment no 4 to IS 7347** 'Specification for performance of small size Spark ignition engines for agricultural water Pumps sprayers, tillers, reapers and other similar applications' Doc no TED 2 (16665) P	**Status in 18th Meeting:** Doc no TED 2 (16665) was circulated as wide circulation draft vide mail dated 05 11 2021. Last date to send comments was 05 12 2021. No comments have been received. **Decision in 18th Meeting:** The committee finalized the amendment for printing. **Status in 19th Meeting:** The document is being prepared as per IS 12 for sending it for printing.The committee may please note. **Decision in 19th Meeting:** The committee discussed the document in the meeting and decided to incorporate	The document is still under publication stage. The committee may please note.	The committee noted.

		some editorial changes. The final copy of the draft amendment which the committee decided to send for printing had been attached as Annexure – 1 of the minutes of 19th Meeting. **Status in 20th Meeting:** The document has been sent for printing. **Decision in 20th Meeting:** The committee noted.		
3.	**Revision of IS 17458 : 2018** {Adoption of ISO 6826 : 2022}	In 19th Meeting of SC TED 02 it was decided to revise IS 17458 : 2018 to align it with latest version of ISO 6826. **Status in 20th Meeting:** National foreword for adoption of ISO 6826 : 2022 has been sent for WC as TED 02 (22709)W. **Decision in 20th Meeting:** The committee noted.	The draft has completed its wide circulation period. No Comments have been received. The committee may decide to send the document for printing.	The committee decided to send the document for printing.

4.	**Revision of IS 14599:1999** 'Automotive vehicles - Performance requirements (Measurement Of Power, SFC, Opacity) of positive and compression ignition engines - Method of test'	Doc no TED 2 (16879) P circulated as preliminary draft vide mail dated 26 01 2021 for comments among committee members. **Status in 18th Meeting:** Wide circulation draft is under preparation as per BIS drafting guidelines. **Decision in 18th Meeting:** The committee noted the information. The committee advised member secretary to wide circulate the draft document for comments for60 days at the earliest. **Status in 19th Meeting:** Wide circulation draft was prepared and circulated dt. 21/03/2022 for 60	The was reverted back for editorial corrections. It will be sent for WC after said corrections. The committee may please note.	The committee noted.

		days through BIS Portal. No Comments have been received in this regard on BIS Portal. The committee may deliberate and decide. **Decision in 19th Meeting:** The committee decided to send the document again for 30 days on request of members for comments. **Status in 20th Meeting:** The Document has been uploaded on BIS Portal and will be circulated after HoD approval. The committee may please note. **Decision in 20th Meeting:** The committee noted.		
5.	**Revision of IS/ISO 8528-5 : 2018** **TED 02 (23613)**	In the 20th Meeting The committee decided to adopt the latest ISO Standard i.e., ISO 8528-5:2022.	National Foreword corresponding to ISO 8528-5:2022 has been Sent for Wide circulation of 60 days. The circulation period	The committee decided to send the document for printing.

		Member secretary was requested to circulate National Foreword corresponding to ISO 8528-5:2022 as Wide circulation draft for 60 days to revise IS/ISO 8528-5:2018.	has been completed and No comments have been received. The committee may decide to send the document for printing.	
6.	**Revision of IS 8422 (Part 1 to 8)**	In 20th Meeting of SC TED 02, Member secretary was requested to prepare an observation table for tracking the status of Base standards from which assistance was derived while preparing the IS 8422 Series of standards along with latest version of ISO Standards which covers the scope of IS 8422, if any and circulate it along with the minutes.	The observation table has been prepared and is attached at Annexure-3 of the agenda. The table was also circulated with Minutes of the last meeting. ACMA was requested to circulate the Table to its Piston Ring Manufacturer Members for study and further recommendations. Response from ACMA is awaited. The committee may deliberate and decided.	The committee discussed the recommendations. Shri Neeraj Singh from Shri Ram Pistons also informed that several BIS Officers who were allocated these standards as Action Research Projects have discussed the matter with him and also have visited his premises. He also informed the committee the ISO Standards mentioned in the recommendations are currently being used by the industry. The committee discussed the matter and decided as per Annex-1.

7.	**Revision of IS/ISO 8528 : PART 10: 1998** (Identical To: ISO 8528-10:2022) **Doc No. TED 02 (23614)**	In the 20th Meeting The committee decided to adopt the latest ISO Standard i.e., ISO 8528-10:2022. The document was discussed in the meeting and it was decided to send National Foreword Corresponding to this ISO Document (i.e. ISO 8528-10: 2022) for wide circulation of 60 days.	National Foreword corresponding to ISO 8528-10:2022 has been Sent for Wide circulation of 60 days. The circulation period has been completed and No comments have been received. The committee may decide to send the document for printing.	The committee decided to send the document for printing.
8.	**Revision of IS/ISO 8528 : PART 12: 1997** (Identical To: ISO 8528-12:2022) **Doc No. TED 02 (23615)**	In the 20th Meeting The committee decided to adopt the latest ISO Standard i.e., ISO 8528-12:2022. The document was discussed in the meeting and it was decided to send National Foreword Corresponding to this ISO Document (i.e. ISO 8528-12: 2022) for wide circulation of 60 days.	National Foreword corresponding to ISO 8528-12:2022 has been Sent for Wide circulation of 60 days. The circulation period has been completed and No comments have been received. The committee may decide to send the document for printing.	The committee decided to send the document for printing.

ITEM 5 RESEARCH PROJECTS TO BE TAKEN UP

5.1 Member secretary delivered a presentation related to Guidelines for R&D projects.

5.2 The committee discussed the Draft Terms of References (ToRs) attached with the agenda on following subjects

1. Revision of Test Methods Standards for IC Engines i.e. IS 10000 (Part 1 to 13)
2. Revision of Performance Requirements Standard for IC Engines i.e. IS 10001 and IS 10002.

5.3 The committee noted the Draft ToRs and requested member secretary to circulate these Draft ToRs to all the committee members for a week's time. The ToR Documents will be finalised after the approval of Chairperson, TED 02.

ITEM 6 PRESENT POSITION OF WORK

6.1 The committee noted the present position of work given in the Agenda.

ITEM 7 INTERNATIONAL ACTIVITIES

7.1 The committee noted the information given in the agenda.

7.2 Shri R K Jaiswal from MHI, Informed the committee about the discussions in Previous ISO TC 22 SC 34 Meetings. He was also requested to submit a formal report of discussions to BIS Secretariat.

ITEM 8 DATE AND PLACE FOR THE NEXT MEETING

8.1 It was decided to have next meeting of SC TED 02 in March 2024. The exact date and place of the next meeting will be decided in consultation with the chairman.

ITEM 9 ANY OTHER BUSINESS

9.1 There being no other comments, The meeting ended with a vote of thanks from chairman and member secretary to all the members.

ANNEX 1
(*Clause* **4**)

Decision on Recommendations related to IS 8422 Series of Standards

IS Number	Title	Base Document /Assistance Taken	Status of Base document	Remarks	Recommendations	Decisions of the committee
IS 8422 (Part 1) : 1977	Specification for piston rings for IC engines: Part 1 - plain compression rings from 30 up to 200 mm nominal diameter **R - Rings**	**DIN 70910** 'Piston rings for automotive engineering, R-rings, plain compression rings from 30 up to 200 mm nominal diameter'	As per the Information Available on the website of 'Beuth Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN 70910 has been withdrawn and has been replaced by adopting **ISO 6622-1** as DIN Standard. { https://www.beuth.de/en/standard/din-70910/1970320 }	Latest version of ISO 6622-1 is ISO 6622-1:2021 - "*Internal combustion engines — Piston rings — Part 1: Rectangular rings made of cast iron*". **Scope of ISO 6622-1 : 2021** *"This part of ISO 6622 specifies the essential dimensional features of rectangular rings made of **cast iron**, Types **R, B, BA and M**, having diameters up to and including 200 mm, used in reciprocating internal combustion piston engines. It is also applicable to piston rings of compressors working under similar conditions."* Apart from this For Rectangular Rings Made of **Steel,** Part 2 of ISO 6622 exists. Latest version of ISO 6622-2 is ISO 6622-2:2013 - "*Internal combustion engines — Piston rings — Part 2: Rectangular rings made of steel".* **Scope of ISO 6622-2:2013** *"This part of ISO 6622 specifies the essential dimensional features of **rectangular rings** made of **steel**, types **R, B, BA, and M** having nominal diameters from 30 mm up to and including 160 mm, used in reciprocating*	**As Scope of ISO 6622-1 and ISO 6622-2 includes R Rings along with B, BA and M Types of Rings, IS 8422-1 may be superseded by adopting ISO 6622-1 and ISO 6622-2.**	The committee decided to adopt latest versions of ISO 6622-1 and ISO 6622-2 to supersede IS 8422 (Part 1) : 1977 and IS 8422 (Part 2) : 1977. The committee requested member secretary to send National Forewords corresponding to latest versions of ISO 6622-1 and ISO 6622-2 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20902)

IS Number	Title	Base Document /Assistance Taken	Status of Base document	Remarks	Recommendations	Decisions of the committee
				internal combustion piston engines for road vehicles and other applications."		from BIS Portal.
IS 8422 (Part 2) : 1977	Specification for piston rings for IC engines: Part 2 taper faced compression rings from 30 up to 200 mm nominal diameter **M - Rings**	**DIN 70911** 'Piston rings for automotive engineering, M-rings, taper faced compression rings from 30 up to 200 mm nominal diameter'	As per the Information Available on the website of 'Beuth Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN 70911 has been withdrawn and has been replaced with **ISO 6622-1**. {https://www.beuth.de/en/standard/din-70911/1970377}	Latest version of ISO 6622-1 is ISO 6622-1:2021 - "*Internal combustion engines — Piston rings — Part 1: Rectangular rings made of cast iron*". **Scope of ISO 6622-1 : 2021** *"This part of ISO 6622 specifies the essential dimensional features of rectangular rings made of **cast iron**, Types **R, B, BA and M**, having diameters up to and including 200 mm, used in reciprocating internal combustion piston engines. It is also applicable to piston rings of compressors working under similar conditions."* Apart from this For Rectangular Rings Made of **Steel,** Part 2 of ISO 6622 exists. Latest version of ISO 6622-2 is ISO 6622-2:2013 - "*Internal combustion engines — Piston rings — Part 2: Rectangular rings made of steel".* **Scope of ISO 6622-2:2013** *"This part of ISO 6622 specifies the essential dimensional features of **rectangular rings** made of **steel**, types **R, B, BA, and M** having nominal diameters from 30 mm up to and including 160 mm, used in reciprocating internal combustion piston engines for road vehicles and other applications."*	**As Scope of ISO 6622-1 and ISO 6622-2 includes M Rings along with R, B and BA Types of Rings, IS 8422-2 may be superseded by adopting ISO 6622-1 and ISO 6622-2.**	The committee decided to adopt latest versions of ISO 6622-1 and ISO 6622-2 to supersede IS 8422 (Part 1) : 1977 and IS 8422 (Part 2) : 1977. The committee requested member secretary to send National Forewords corresponding to latest versions of ISO 6622-1 and ISO 6622-2 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20903) from BIS Portal

IS Number	Title	Base Document /Assistance Taken	Status of Base document	Remarks	Recommendations	Decisions of the committee
IS 8422 (Part 3) : 1977	Specification for piston rings for IC engines: Part 3 keystone rings from 82 up to 200 mm nominal diameter **T - Rings 15°**	**DIN 70914** ‘ Piston rings for automotive engineering, T-rings 15”, keystone rings 15” from 82 up to 200 mm nominal diameter ’	As per the Information Available on the website of ‘Beuth Verlag’ which is a subsidiary of DIN, the German Institute for Standardization, DIN 70914 has been withdrawn and has been replaced by adopting **ISO 6624-1**. {https://www.beuth.de/en/standard/din-70914/1970420}	Latest version of ISO 6624-1 is ISO 6624-1:2017 - “*Internal combustion engines — Piston rings — Part 1: Keystone rings made of* ***Cast iron***”. **Scope of ISO 6624-1 : 2017** *“This part of ISO 6624 specifies the essential dimensional features of* ***keystone rings*** *made of* ***cast iron****, types* ***T, TB, TBA, TM, K, KB, KBA and KM,*** *having diameters from 70 mm up to and including 200 mm, used in reciprocating internal combustion piston engines.”* Apart from this For *Keystone rings made of* ***Steel,*** Part 3 of ISO 6624 exists. Latest version of **ISO 6624-3** is ISO 6624-3:2017 – “*Internal combustion engines — Piston rings — Part 3: Keystone rings made of* ***steel*** ” **Scope of ISO 6624-3:2017** *“This part of ISO 6624 specifies the essential dimensional features of* ***keystone rings*** *made of* ***steel****, types* ***T, TB, TBA, TM, K, KB, KBA and KM,*** *having diameters from 70 mm up to and including 160 mm, used in reciprocating internal combustion piston engines.”* Along with this, Part 2 and Part 4 of ISO 6624 also exists for **Half keystone**	**As Scope of ISO 6624-1 and ISO 6624-3 includes T Rings along with TB, TBA, TM, K, KB, KBA and KM Types of Rings, IS 8422-3 may be superseded by adopting ISO 6624-1 and ISO 6624-3.** **ISO 6624-2 and ISO 6624-3 may also be considered for adoption for Half Keystone Rings.**	The committee decided to adopt Latest versions of ISO 6624-1 and ISO 6624-3 to supersede IS 8422 (Part 3) : 1977. It was also decided to adopt Latest versions of ISO 6624-2 and ISO 6624-3 for Half Keystone Rings. The committee requested member secretary to send National Forewords corresponding to Latest versions of ISO 6624-1,2,3 and 4 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02

IS Number	Title	Base Document /Assistance Taken	Status of Base document	Remarks	Recommendations	Decisions of the committee
				rings made of cast iron and Steel respectively. **<u>Scope of ISO 6624-2 : 2016</u>** *"This part of ISO 6624 specifies the essential dimensional features of **half keystone rings** made of **cast iron**, types **HK, HKB and HKBA**, having nominal diameters from 38 mm up to, and including, 160 mm, used in reciprocating internal combustion piston engines for road vehicles and other applications."* **<u>Scope of ISO 6624-4 : 2016</u>** *"This part of ISO 6624 specifies the essential dimensional features of **half keystone rings** made of **steel**, types **HK, HKB and HKBA**, having nominal diameters from 50 mm up to, and including, 160 mm, used in reciprocating internal combustion piston engines for road vehicles and other applications."*		(20904) from BIS Portal
IS 8422 (Part 4) : 1977	Napier Oil Scraper Rings From 30 Up To 200 mm Nominal Diameter **N-Rings**	**DIN 70930** 'Piston rings for automotive engineering, N-rings, oil-scraper rings from 30 up to 200 mm nominal diameter',	As per the Information Available on the website of 'Beuth Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN 70930 has been withdrawn and has been	Latest version of ISO 6623 is ISO 6623 : 2013 - "*Internal combustion engines — Piston rings — Scraper rings made of cast iron'* **<u>Scope of ISO 6623 : 2013</u>** This International Standard specifies the essential dimensional features of **scraper rings** made of **cast iron**, types **N, NM, E, and EM**, having diameters from 30 mm up to and including	**As Scope of ISO 6623 includes N Rings along with NM, E and EM Types of Rings, IS 8422-4 may be superseded by adopting ISO 6623.**	The committee decided to adopt Latest version of ISO 6623 to supersede IS 8422 (Part 4) : 1977. The committee requested member

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			replaced by adopting **ISO 6623**. {https://www.beuth.de/en/standard/din-70930/1970585}	200 mm, used in reciprocating internal combustion engines for road vehicles and other applications.		secretary to send National Forewords corresponding to Latest version of ISO 6623 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20905) from BIS Portal.
IS 8422 (Part 5) : 1977	Specification for piston rings for IC engines: Part 5 stepped oil scraper rings from 30 up to 200 mm nominal diameter **Z - Rings**	Draft British Standard Specification of piston rings up to 200 mm diameter for internal combustion engines : Part I Single piece designs, dimensions, materials and designations',	Status of Base Standard could not be traced due to unavailability of Document Number of Draft British Standard.	-	**Inputs are requested from Committee members for Revision of this standard.**	The committee requested M/s Shri Ram Pistons to review the document and propose changes to revise the standard. Additionally, they requested to suggest ISO Standards on the same subject which could be adopted.
IS 8422 (Part 6) : 1977	Specification for piston rings for IC	**DIN 70946** 'Piston rings for	As per the Information Available on the website of 'Beuth	Latest version of ISO 6625 is ISO 6625 : 1986 - "*Internal combustion engines — Piston rings — Oil control rings"*	**The Scope of ISO 6625 includes S Rings along with G, D**	The committee decided to adopt Latest

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	engines: Part 6 slotted oil control rings from 50 up to 200 mm nominal diameter **S - Rings**	automotive engineering, S-rings, slotted oil control rings from 50 up to 200 mm nominal diameter',	Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN 70946 has been withdrawn and has been replaced by adopting **ISO 6625.** {https://www.beuth.de/en/standard/din-70946/1970633}	**<u>Scope of ISO 6625 : 1986</u>** *"This International Standard specifies the essential dimensional features of **S-, G-, D- and DV-oil control piston ring types**. The normal range for the axial width of oil control rings (2,5 to 8 mm inclusive) is divided into 0,5 or 1,0 mm increments. In table 7, dimensions in inch units are given for oil control rings with axial width 4,75 mm (equal to 3/16 in) for existing applications. The requirements of this International Standard apply to oil control rings for reciprocating internal combustion piston engines, up to and including 200 mm diameter. It may also be used for piston rings of compressors working under similar conditions."*	**and DV types of oil control piston rings.** **Hence IS 8422-6 may be superseded by adopting ISO 6625.**	version of ISO 6625 to supersede IS 8422 (Part 6) : 1977, IS 8422 (Part 7) : 1977 and IS 8422 (Part 8) : 1977. The committee requested member secretary to send National Forewords corresponding to Latest version of ISO 6625 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20907) from BIS Portal.
IS 8422 (Part 7) : 1977	Specification for piston rings for IC engines: Part 7 double bevelled slotted oil control rings	**DIN 70948** 'Piston rings for automotive engineering, G-rings, double bevelled slotted oil control rings from	As per the Information Available on the website of 'Beuth Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN	Latest version of ISO 6625 is ISO 6625 : 1986 - "*Internal combustion engines — Piston rings — Oil control rings"* **<u>Scope of ISO 6625 : 1986</u>** *"This International Standard specifies the essential dimensional features of **S-, G-, D- and DV-oil control piston ring***	**The Scope of ISO 6625 includes G Rings along with S, D and DV types of oil control piston rings.** **Hence IS 8422-7 may**	The committee decided to adopt Latest version of ISO 6625 to supersede IS 8422 (Part 6) : 1977, IS 8422 (Part

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	from 50 up to 200 mm nominal diameter **G - Rings**	50 up to 200 mm nominal diameter'.	70948 has been withdrawn and has been replaced by adopting **ISO 6625.** {https://www.beuth.de/en/standard/din-70948/1970748}	***types***. *The normal range for the axial width of oil control rings (2,5 to 8 mm inclusive) is divided into 0,5 or 1,0 mm increments. In table 7, dimensions in inch units are given for oil control rings with axial width 4,75 mm (equal to 3/16 in) for existing applications. The requirements of this International Standard apply to oil control rings for reciprocating internal combustion piston engines, up to and including 200 mm diameter. It may also be used for piston rings of compressors working under similar conditions."*	**be superseded by adopting ISO 6625.**	7) : 1977 and IS 8422 (Part 8) : 1977. The committee requested member secretary to send National Forewords corresponding to Latest version of ISO 6625 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20908) from BIS Portal.
IS 8422 (Part 8) : 1977	Specification for piston rings for IC engines: Part 8 narrow land slotted oil control rings from 50 up to 200 mm nominal diameter **D - Rings**	**DIN 70947** 'Piston rings for automotive engineering, D-rings, narrow land drain oil control rings, 50 up to 200 mm nominal diameter,	As per the Information Available on the website of 'Beuth Verlag' which is a subsidiary of DIN, the German Institute for Standardization, DIN 70948 has been withdrawn and has been replaced by adopting **ISO 6625.**	Latest version of ISO 6625 is ISO 6625 : 1986 - "*Internal combustion engines — Piston rings — Oil control rings"* **<u>Scope of ISO 6625 : 1986</u>** *"This International Standard specifies the essential dimensional features of* ***S-, G-, D- and DV-oil control piston ring types****. The normal range for the axial width of oil control rings (2,5 to 8 mm inclusive) is divided into 0,5 or 1,0 mm increments. In table 7, dimensions in inch units are given for oil control rings with axial*	**The Scope of ISO 6625 includes D Rings along with S, G and DV types of oil control piston rings.** **Hence IS 8422-8 may be superseded by adopting ISO 6625.**	The committee decided to adopt Latest version of ISO 6625 to supersede IS 8422 (Part 6) : 1977, IS 8422 (Part 7) : 1977 and IS 8422 (Part 8) : 1977. The committee requested

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			{https://www.beuth.de/en/standard/din-70947/1970671}	*width 4,75 mm (equal to 3/16 in) for existing applications. The requirements of this International Standard apply to oil control rings for reciprocating internal combustion piston engines, up to and including 200 mm diameter. It may also be used for piston rings of compressors working under similar conditions."*		member secretary to send National Forewords corresponding to Latest version of ISO 6625 for wide circulation of 60 days. It was also decided to delete the earlier circulated P Draft Document TED 02 (20909) from BIS Portal.

In Addition to Above, It was also decided to adopt following ISO Standards related to Piston Rings :

Sl. No.	ISO Standards	Title of the Standard	Scope of the Standard	Decision of the committee
1.	ISO 6621-4 :2015	Internal combustion engines — Piston rings — Part 4: General specifications	This part of ISO 6621 specifies the general characteristics of piston rings for reciprocating internal combustion engines for road vehicles and other applications (the individual dimensional criteria for these rings are given in the relevant International Standards). It also provides a system for ring coding, designation, and marking. It is applicable to all such rings of a nominal diameter from 30 mm up to and including 200 mm.	The committee requested member secretary to send National Forewords corresponding to Latest version of these ISO Documents for wide circulation of 60 days.
2.	ISO 6621-5 :2020	Internal combustion engines — Piston rings — Part 5: Quality requirements	This document specifies quality aspects that can be defined but that are not normally found on a drawing specification. It covers the following: — single-piece piston rings of grey cast iron or steel;	

			— multi-piece piston rings (oil control rings) consisting of cast iron parts and spring components; and — single-piece and multi-piece oil control rings of steel, i.e. oil control rings in the form of strip steel components or steel segments (rails) with spring expander components. In addition to specifying some of the limits of acceptance relating to inspection measuring principles (covered by ISO 6621-2), this document also covers those features for which no recognized quantitative measurement procedures exist and which are only checked visually with normal eyesight (glasses if worn normally) and without magnification. Such features (superficial defects) are additional to the standard tolerances of ring width, radial wall thickness and closed gap. This document does not establish acceptable quality levels (AQL), it being left to manufacturer and customer to decide the appropriate levels jointly. In this case, the recommendations of ISO 2859-1 are followed. This document specifies the quality requirements of piston rings for reciprocating internal combustion engines for road vehicles and other applications. It is applicable to all such rings of a nominal diameter from 30 mm up to and including 200 mm.	
3.	ISO 6626-2 :2013	Internal combustion engines — Piston rings — Part 2: Coil-spring-loaded oil control rings of narrow width made of cast iron	This part of ISO 6626 specifies the essential dimensional features of coil-spring-loaded oil control rings made of cast iron, types DSF-C, SSF, GSF, DSF, SSF-L, DSF-NG and DSF-CNP. It is applicable to those piston rings in sizes 60 mm to 110 mm, inclusive, for reciprocating internal combustion engines for road vehicles and other applications.	
4.	ISO 6626-3 :2019	Internal combustion engines — Piston rings — Part 3: Coil-spring-loaded oil control rings made of steel	This document specifies the essential dimensions of coil-spring-loaded oil control rings made of steel, of piston ring types SOR (with R-shaped groove) and SOV (with V-shaped groove). This document applies to coil-spring-loaded oil control rings made of steel with a diameter from 60 mm up to and including 160 mm for reciprocating internal combustion engines. It can also be used for piston rings in compressors working under analogous conditions.	
5.	ISO 6627 :2022	Internal combustion engines — Piston rings —	This document specifies the essential dimensional features of expander/rail oil-control rings, without providing a	

		Expander/rail oil-control rings	complete product description (because expander-rail designs vary from piston-ring manufacturer to piston-ring manufacturer, the interaction between the manufacturer and the client will determine specific design details). This document applies to expander/rail oil-control rings of nominal diameters ranging from 40 mm to 140 mm for reciprocating internal combustion engines for road vehicles and other applications. It also applies to piston rings for compressors working under analogous conditions.	