



## BUREAU OF INDIAN STANDARDS

### RESOLUTIONS

#### 17<sup>th</sup> Meeting of Lubricants and their Related Products Sectional Committee, PCD 25

**Date/day** : 13-12-2024/Friday  
**Time** : 1000 - 1600 hrs  
**Chairman** : Dr. Y P Rao, In Personal Capacity  
**Member Secretary** : Ms. Kreeti Das, Sc.C, PCD, BIS

#### **Resolution PCD 25/2024/R-2.1**

The Committee approved the following restructuring of the Committee structure:

#### **Main Committee: PCD 25 (Lubricants and their Related Products)**

#### **Subcommittees (3):**

- a) **PCD 25:1** Automotive Lubricants & Specialities (Including Brake Fluid and Radiator Coolant) Subcommittee
- b) **PCD 25:2** Industrial Lubricants & Specialty Products Subcommittee
- c) **PCD 25:3** Automotive and Industrial Greases Subcommittee

#### **Working Panels (3):**

- a) **PCD 25/WP 1** - Panel for Review of Composition of PCD 25 and its SCs
- b) **PCD 25/WP 2** - Food Grade and Biodegradable Lubricants
- c) **PCD 25/WP 3** - Food Grade and Biodegradable Greases

#### **Working Groups (7):**

##### **PCD 25**

- a) **PCD 25/WG 1** – Working Group for R&D Project on Revision of Standards / Formulation of New Standards on Temporary Corrosion Preventives

##### **PCD 25:1**

- a) **PCD 25:1/WG 1** – Working Group for Revision of IS 5759 : 2006 Antifreeze Coolant
- b) **PCD 25:1/WG 2** – Working Group for Formulation of Certification Procedure for Engine Oils, Gear Oil, and Axle Oils
- c) **PCD 25:1/WG 3** – Working Group for Transmission and e-Axle Fluids for Electric Vehicles
- d) **PCD 25:1/WG 4** – Working Group for Formulation of Standards for Base Oil

##### **PCD 25:2**

- a) **PCD 25:2/WG 1** – Working Group for Formulation of Standards on Aviation Grade Hydraulic Fluids

## **PCD 25:3**

### **a) PCD 25:3/WG 1 – Working Group for Greases for Electric Vehicles**

#### **Resolution PCD 25/2024/R-2.2**

The Committee decided to create a new Subcommittee – PCD 25:4 – for test methods that are exclusive to lubricants. The test methods that are common for fuels and lubricants shall remain with PCD 1.

The Committee went through the list of standards under the current PCD 1:6 and highlighted few standards that need clarification from PCD 1:6 whether they are exclusively for lubricants or common for fuels and lubricants. The relevant experts and Convenor and scope of the Subcommittee also need to be finalized. Hence, the Committee decided to have a joint meeting with the current PCD 1:6 to finalize these matters. Thereafter, proposal may be put forward to PCDC for a change in scope of PCD 25, and consequently of PCD 1 as well.

#### **Resolution PCD 25/2024/R-2.3**

For PCD 25:1, the Committee noted that IOCL R&D has not nominated a Convenor for the working group **PCD 25:1/WG 2 – Working Group for Formulation of Certification Procedure for Engine Oils, Gear Oil, and Axle Oils** and requested BIS to follow up with Shri Mukul Maheshwari, IOCL R&D, to nominate a Convenor.

#### **Resolution PCD 25/2024/R-2.4**

For PCD 25:1, *PCD 25 (22800) WC First Revision of IS 14234 (Part 2): 2017 Lubricants for Spark-Ignition Air-Cooled Gasoline Engines - Specification Part 2 Four-Stroke Spark-Ignition Air-Cooled Engines for Scooters, Mopeds and Motorcycles*, the Committee endorsed the recommendation of the Subcommittee to finalize the document and send it for printing with approval of Chairperson PCD 25 on the final draft.

#### **Resolution PCD 25/2024/R-2.5**

For PCD 25:1, *Revision of IS 5759 : 2006 Antifreeze Coolant – Specification*, the Committee noted that the working group **PCD 25:1/WG 1 – Working Group for Revision of IS 5759 : 2006 Antifreeze Coolant – Convenor** has prepared a working draft and circulated within the working group. The Committee endorsed the recommendation of the Subcommittee that the WG should submit the working document to PCD 25:1 by **20 December 2024**, after internal discussions. PCD 25:1 will examine the document for a period of one week and if no comments are there, the working draft will be circulated into WC for a period of 60 days with approval of Chairperson PCD 25.

The Committee also endorsed the recommendation of PCD 25:1 to update nominations from BASF and IOCL R&D in the working group.

#### **Resolution PCD 25/2024/R-2.6**

For PCD 25:1, working group **PCD 25:1/WG 3 – Working Group for Transmission and e-Axle Fluids for Electric Vehicles**, the Committee requested BIS to nominate experts from American axle

and Valeo (relevant companies recommended by Mahindra & Mahindra), and ZF Company at the earliest. The Committee requested Convenor of the WG, Shri Anand Kumar, to convene meetings of the WG in **January 2025** and provide a working draft by **30 April 2025**.

#### **Resolution PCD 25/2024/R-2.7**

For PCD 25:2, the Committee endorsed the recommendation of PCD 25:2 to retain The Western India Genuine Ghee Company, Mumbai, in the Subcommittee in view of their relevance and interest to contribute to the Subcommittee work.

#### **Resolution PCD 25/2024/R-2.8**

For PCD 25:2, the Committee noted that the terms of reference (ToR) for the proposed R&D project for revision of standards on temporary corrosion preventives will be prepared by BIS in a week's time after including the questionnaires for manufacturers, importers/exporters and users. After taking approval on the ToR from the WG - **PCD 25/WG 1** – Working Group for R&D Project on Revision of Standards / Formulation of New Standards on Temporary Corrosion Preventives, and PCD 25, BIS Sectt will submit the ToR to relevant department for floating the project on BIS portal.

#### **Resolution PCD 25/2024/R-2.9**

For PCD 25:2, *PCD 25(25217)WC Third Revision of IS 8406 : 1993 Gear lubricants for enclosed industrial gear drives – Specification*, the Committee decided to include both Timken EP test and FE8 roller bearing test in the specification and decided to circulate the document into a 2<sup>nd</sup> WC for a period of 30 days with the agreed upon changes.

#### **Resolution PCD 25/2024/R-2.10**

For PCD 25:2, *PCD 25(27069)WC Third Revision of IS 1758 : 1986 Specification for jute batching oil*, the Committee endorsed the recommendation of PCD 25:2 that if no comments are received on the WC, the document is to be finalized and sent for printing with approval of Chairperson PCD 25 on the final draft.

#### **Resolution PCD 25/2024/R-2.11**

For PCD 25:2, *PCD 25 (27070)WC Fourth Revision of IS 2297 : 1997 Gear lubricants, compounded - Specification*, the Committee endorsed the recommendation of PCD 25:2 that if no comments are received on the WC, the document is to be finalized and sent for printing with approval of Chairperson PCD 25 on the final draft.

#### **Resolution PCD 25/2024/R-2.12**

For PCD 25:2, revision of *IS 9611 : 1980 Specifications for cutting oil soluble, clear*, the Committee noted that the revised document is under preparation for circulation into WC.

### **Resolution PCD 25/2024/R-2.13**

For PCD 25:2, revision of *IS 1628 : 1986 Specification for axle oil*, the Committee requested Dr. Kavita Rai, IOCL R&D, to provide the revised draft by end of December 2024 and requested BIS to issue the revised draft into WC for a period of 60 days.

### **Resolution PCD 25/2024/R-2.14**

For PCD 25:2, merging of "*IS 3098 : 1983 Specification for oil, hydraulic, mineral oil type*"; "*IS 10522 : 1983 Specification for antiwear hydraulic oil*"; "*IS 11656 : 1986 Specification for antiwear hydraulic oil extra heavy duty type*"; and "*PCD 25 (14904) All weather antiwear hydraulic oils – Specification*", the Committee endorsed the recommendation of PCD 25:2 to create a WG as given below for preparation of the merged draft. The Committee requested the WG to align the merged draft with latest editions of DIN 51524 Part 1 (R&O), Part 2 (Antiwear/EP), and Part 3 (HVI). The Committee also requested the WG to provide a merged draft to PCD 25:2 by end of December 2024 for comments. If no comments received from PCD 25:2, the document may be circulated into WC for a period of 60 days with the approval of Chairperson PCD 25.

### **PCD 25:2/WG 2 – Merging of Standards on Hydraulic Oils**

**Convenor** – Shri Abhijit Sarkar, HPCL

**Experts** - Shri Nitin Chaudhari and Shri Sandeep Sarode (Lubrizol),

Shri Umesh Dwivedi (Gulf Oil),

Shri C S Balamurugan (Tide Water), and

Shri Anjeeve George (Danfoss).

### **Resolution PCD 25/2024/R-2.15**

For PCD 25:2, *PCD 25(25990)WC IS 10531 : 1983 Code of practice for selection and use of fire - Resistant hydraulic fluids*, the Committee endorsed the recommendation of the Subcommittee to finalize the document and send it for printing with approval of Chairperson PCD 25 on the final draft.

### **Resolution PCD 25/2024/R-2.16**

For PCD 25:2, revision of *IS 1115 : 1986 Specification for general purpose cutting oil, soluble*, the Committee requested Shri M C Dash, Balmer Lawrie, to provide the revised draft by end of January 2025 and requested BIS to provide a copy of the standard and its editable file to Shri M C Dash. The Committee recommended to include an additional grade of the general-purpose cutting oil, soluble, with 800 ppm hardness for emulsion and corrosion test.

The revised draft will be circulated to PCD 25:2 for comments. If no comments received from PCD 25:2, the document may be circulated into WC for a period of 60 days with the approval of Chairperson PCD 25.

### **Resolution PCD 25/2024/R-2.17**

For PCD 25:2, revision of *IS 14385 : 1996 Aluminium cold rolling oils – Specification*, the Committee noted that the revised document is under preparation for circulation into WC. The Committee requested BIS to share the comments received from HINDALCO (based on which WC document is prepared) to PCD 25:2 for reference.

### **Resolution PCD 25/2024/R-2.18**

For PCD 25:2, review of *IS 1589: 1994 Oil, cylinder – Specification*, the Committee observed that Indian Railways is the only user of this standard and since they are not providing any comments for revision of this standard, the Committee recommended to archive the standard.

### **Resolution PCD 25/2024/R-2.19**

For PCD 25:2, *PCD 25(26883)WC Second Revision of IS 4543 : 1977 Specification marquenching oil*, the Committee endorsed the recommendation of PCD 25:2 that if no comments are received on the WC, the document is to be finalized and sent for printing with approval of Chairperson PCD 25 on the final draft.

### **Resolution PCD 25/2024/R-2.20**

For PCD 25:2, revision of IS 9182 (Parts 1, 2, and 3), the Committee requested Shri Umesh Dwivedi, Gulf Oil, to provide the revised drafts by end of March 2025 and requested him to coordinate with Usha Martin, Bharat Wire Ropes, and Balmer Lawrie for seeking inputs on the revised drafts.

### **Resolution PCD 25/2024/R-2.21**

For PCD 25:2, *IS 9554 : 1980 Specifications for lubricants for open gears*, Dr. T Singh, Siddharth Greases, informed that he will review whether ISO 12925-2 can replace IS 9554 and IS 16909 in consultation with Shri Umesh Dwivedi, Gulf Oil, and will provide inputs by end of January 2025.

### **Resolution PCD 25/2024/R-2.22**

For PCD 25:2, the Committee endorsed the recommendation of PCD 25:2 to dissolve the working group **PCD 25:2/WG 1** – Working Group for Formulation of Standards on Aviation Grade Hydraulic Fluids as JSS specification JSS 9150-090 : 2021 is available for aviation grade hydraulic fluid for defence sector.

### **Resolution PCD 25/2024/R-2.23**

For PCD 25:3, *IS 12203: 1999 Lithium Base Grease for Automotive Purposes*, the Committee requested Standard Greases to provide data for MoS<sub>2</sub> grease for all requirements of the specification and also data for MoS<sub>2</sub>+graphite composition grease all requirements of specification for comparison. The type of graphite (synthetic/natural) and particle size needs to be declared as well. Based on review of the data, further decision can be taken on the content of MoS<sub>2</sub> prescribed for the grease.

#### **Resolution PCD 25/2024/R-2.24**

For PCD 25:3, *PCD 25 (25117)WC Fourth Revision of IS 507 : 1993 General purpose grease for defence applications – Specification*, the Committee endorsed the recommendation of the Subcommittee to finalize the document and send it for printing with approval of Chairperson PCD 25 on the final draft.

#### **Resolution PCD 25/2024/R-2.25**

For PCD 25:3, *Greases for Electric Vehicles*, the Committee endorsed the recommendation of Subcommittee to include experts from Bajaj Auto (Shri Yogesh Mahajan), Mahindra & Mahindra (Shri R Ramaprabhu), and Tata Motors (Shri Pallav Chatterjee) in the working group **PCD 25:3/WG 1** – Working Group for Greases for Electric Vehicles.

The Committee noted that Lubrizol has shared the presentation from webinar on greases for EVs conducted by them and requested BIS to circulate the presentation with the WG members. The Committee requested Convenor, Dr. T Singh, to amend/improve the working draft earlier prepared by the WG, based on the presentation and share with WG members for review.

The Committee requested the WG to provide the updated working draft by end of March 2025 for consideration by PCD 25.

#### **Resolution PCD 25/2024/R-2.26**

For the proposal from Shri Abhijit Sarkar, HPCL, for development of a specification for non-MoS<sub>2</sub> greases, which may have alternate materials such as Zirconium, graphite nanoparticles etc., the Committee endorsed the recommendation of PCD 25:3 and requested HPCL and Standard greases to submit a New Work Item Proposal with proper background study and data through BIS portal so that Committee may evaluate it.

#### **Resolution PCD 25/2024/R-2.27**

For *PCD 25 (25017)WC Biodegradable Lubricants – Environmentally Acceptable Hydraulic Fluids (HE)*, the Committee decided to finalize the document and send it for printing with approval of Chairperson PCD 25 on the final draft.

The Committee noted that BIS has started the process for procurement of the following standards for review by the Committee:

- BS EN 16575:2014 Bio-based products. Vocabulary
- CEN/TR 16227:2011 Liquid petroleum products. Bio-lubricants. Recommendation for terminology and characterisation of bio-lubricants and bio-based lubricants
- BS EN 16807:2016 Liquid petroleum products. Bio-lubricants. Criteria and requirements of bio-lubricants and bio-based lubricants

### **Resolution PCD 25/2024/R-2.28**

For *PCD 25(23378)WC Biodegradable Lubricating Greases – Specification*, the Committee noted that data is awaited from grease manufacturers and OEMs regarding availability of test specimen for elastomer test. While the Committee requested grease manufacturers and OEMs to provide the required data, the Committee recommended the working panel **PCD 25/WP 3 - Food Grade and Biodegradable Greases** – to examine the standard SS 155470 : 2020 “Lubricants, industrial oil and related products (Class L) - Requirements for environmentally acceptable lubricating greases (family X)” for compatible seal material.

### **Resolution PCD 25/2024/R-2.29**

For *PCD 25 (25403)WC First Revision of IS 16775 : 2018 / ISO/TS 11365 : 2011 Petroleum and Related Products — Guidance for the Maintenance and Use of Triaryl Phosphate Ester Turbine-Control Fluids*, the Committee decided to finalize the document and send it for printing with approval of Chairperson PCD 25 on the final draft.

### **Resolution PCD 25/2024/R-2.30**

For *Specification for Food Grade Greases*, the Committee noted that the working draft provided by Dr. T Singh is under preparation for circulation as P-draft.

### **Resolution PCD 25/2024/R-2.31**

For *Greases for Solar Panels/Dielectric Grease*, Dr. T Singh informed that no comments were received from NLGI, ELGI, and CLGI on greases for solar panels. The Committee requested Gulf Oil, HPCL, and IOCL to check with solar panel companies and provide inputs to Committee regarding this subject.

The Committee also noted that information regarding greases for solar panels is shared by Gulf Oil (Shri Girish Jange) and requested BIS to share the same with Dr. T Singh for preparation of a working draft.

### **Resolution PCD 25/2024/R-2.32**

For revision/reaffirmation of standards due for review, the Committee decided as follows:

<b>Sl. No.</b>	<b>Indian Standard</b>	<b>Committee Resolution</b>
1.	<b>IS 7623 : 2019 Multipurpose industrial grease - Specification</b>	<ul style="list-style-type: none"><li>The Committee requested Dr. T Singh, Siddharth Greases, to provide the revised draft by end of February 2025.</li></ul>
2.	<b>IS 8654 : 2019 Automotive hydraulic brake fluid, heavy duty - Specification</b>	<ul style="list-style-type: none"><li>The Committee requested Shri Harsh Vardhan Jain, Vinni Chemicals, to provide the revised draft by end of February 2025.</li></ul>
3.	<b>IS 10522 : 1983 Specification for antiwear hydraulic oil</b>	<ul style="list-style-type: none"><li>The Committee reaffirmed the standard with revision.</li></ul>

4.	<b>IS 10531 : 1983 Code of practice for selection and use of fire - Resistant hydraulic fluids</b>	<ul style="list-style-type: none"> <li>The Committee noted that the revised version of IS 15178 will replace IS 10531 : 1983.</li> </ul>
5.	<b>IS 10532 (Part 1) : 1983 Specification for fire - Resistant hydraulic fluids: Part i dilute emulsions for powered supports</b>	<ul style="list-style-type: none"> <li>The Committee noted that the adoption of ISO 12922 : 2020 will replace all parts of IS 10532.</li> </ul>
6.	<b>IS 10532 (Part 2) : 1983 Specification for fire - Resistant hydraulic fluids - Part 2 : invert emulsions (Water - In - Oil) type</b>	
7.	<b>IS 10532 (Part 3) : 1983 Specification for fire - Resistant hydraulic fluids - Part 3 : water glycol type</b>	
8.	<b>IS 10647 : 1983 Specification for wheel bearing grease</b>	<ul style="list-style-type: none"> <li>The Committee reaffirmed the standard with revision.</li> </ul>
9.	<b>IS 12203 : 1999 Lithium base grease for automotive purposes - Specification (First Revision)</b>	
10.	<b>IS 12790 : 1999 Non - Soap grease - Specification (First Revision)</b>	<ul style="list-style-type: none"> <li>The Committee requested Shri Abhijit Sarkar, HPCL, to provide the revised draft by end of February 2025.</li> <li>The Committee reaffirmed the standard with revision.</li> </ul>
11.	<b>IS 12927 : 2004 Glass mould oils - Specification (First Revision)</b>	<ul style="list-style-type: none"> <li>The Committee requested Shri H S Negi, IOCL Mumbai, to recommend a suitable expert from IOCL R&amp;D to revise the standard.</li> <li>The Committee requested BIS to share the standard and editable file with the recommended expert for preparation of the revised draft.</li> <li>The Committee reaffirmed the standard with revision.</li> </ul>
12.	<b>IS 13256 : 1992 Air compressor lubricants - Types daa and dab - Specification</b>	<ul style="list-style-type: none"> <li>The Committee reaffirmed the standard with revision.</li> </ul>
13.	<b>IS 13796 : 2004 Molybdenum disulphide powder for</b>	<ul style="list-style-type: none"> <li>The Committee decided to archive the standard.</li> </ul>



	<b>lubricants - Specification (First Revision)</b>	
14.	<b>IS 14745 : 1999 Thermic fluids - Specification</b>	<ul style="list-style-type: none"> <li>• The Committee requested BIS to share the revised draft prepared by Shri Shakti Mishra with PCD 25:2 for comments. If no comments received, BIS may circulate the document into WC for a period of 60 days.</li> <li>• The Committee reaffirmed the standard with revision.</li> </ul>
15.	<b>IS 2297 : 1997 Gear lubricants, compounded - Specification (Third Revision)</b>	<ul style="list-style-type: none"> <li>• The Committee reaffirmed the standard with revision.</li> </ul>
16.	<b>IS 2664 : 1980 Specification for quenching oil (Second Revision)</b>	
17.	<b>IS 3098 : 1983 Specification for oil, hydraulic, mineral oil type (Second Revision)</b>	
18.	<b>IS 4543 : 1977 Specification marquenching oil (First Revision)</b>	
19.	<b>IS 4578 : 1997 Lubricants - Lubricating oil for refrigeration machinery - Specification (Second Revision)</b>	
20.	<b>IS 5730 : 1970 Specification for volatile corrosion inhibitor powder</b>	
21.	<b>IS 6050 : 1971 Specification for temporary corrosion preventives, strippable, hot dipping type</b>	
22.	<b>IS 6552 : 1987 Specification for straight mineral high demulsibility oils (First Revision)</b>	
23.	<b>IS 9182 (Part 1) : 1993 Lubricants for wire ropes and fibre cores - Specification: Part 1</b>	

	<b>lubricants for fibre core of wire - Ropes (First Revision)</b>	
24.	<b>IS 9182 (Part 2) : 1993 Lubricants for wire ropes and - Fibre cores - Specification part - 2 lubricants for wire strands and ropes . (First Revision)</b>	
25.	<b>IS 9182 (Part 3) : 1993 Lubricants for wire ropes and fibre cores - Specification: Part 3 lubricants for rope dressing in service (First Revision)</b>	
26.	<b>IS 9554 : 1980 Specifications for lubricants for open gears</b>	
27.	<b>IS 9611 : 1980 Specifications for cutting oil soluble, clear</b>	

### **Resolution PCD 25/2024/R-2.33**

With respect to P-membership and registration of committee members and experts, the Committee decided the following:

- a) **ISO/TC 28 and ISO/TC 28/SC 4** – The Committee noted that Dr. T Singh is superannuated from BPCL and is now nominated from Siddharth Greases in PCD 25. The Committee confirmed his continuation as a Committee member in ISO/TC 28 due to his subject knowledge and contribution to technical work under PCD 25.
- b) **ISO/TC 28/SC 4/WG 3** – The Committee confirmed the nomination of Dr. Kavita Rai, IOCL R&D, as an expert in the WG. Additionally, the Committee decided to register the following experts in the WG:
  - Abhijit Sarkar, HPCL
  - Shri M Rajendran, BPCL R&D, Mumbai
  - Tapas Chakraborti, Gulf Oil
- c) **ISO/TC 28/SC 4/WG 16** - The Committee decided to register the following experts in the WG:
  - Abhijit Sarkar, HPCL
  - Shri M Rajendran, BPCL R&D, Mumbai
  - Tapas Chakraborti, Gulf Oil