व्यापक परिचालन मसौदा

संदर्भ	दिनांक
पी सी डी 25(14360)सी	**12 07 2019**

तकनीक समि ति पी सी डी 25

प्रेषिती

1. लुब्रिकंट्स तकनीक समी ति , पी सी डी 25 के समस्त सदस्य।
2. पीसीडी की सभी उपसमितियाँ 25
3. पैट्रोलियम, कोयला एवं संबंधित उत्पाद विभाग परिषद के सदस्य। (पी सी डी सी)
4. रूचि रखने वाले सभी निकाय।

महोदय / महोदया ,

आपके अवलोकन हेतु निम्नलिखित भारतीय मानकों के मसौदे संलग्न हैं :

क.सं.	**मसौदा संख्या**	**विषय**
.1	पी सी डी 25 (**14360**) सी	व्हील बेयरिंग ग्रीज — विशिष्ट (IS 10647 का पहला पुनरीक्षण)

इन मसोदौं का अवलोकन कर अपनी सम्मतियॉ यह बताते हुए भेजे कि यदि अंततयह मानक मसौदे : राष्ट्रीय मानक के रूप में प्रकाशित हो जाए तो इन पर अमल करने में आपके व्यवसाय अथवा कारोबार में क्या कठिनाइयाँ आ सकती हैं ।

सम्मतियां भेजने की अंतिम तिथि : 12 September 2019

सम्मतियां कृपया संलग्न प्रारूप में अधोहस्ताक्षरी को भेजें ।-

धन्यवाद,

भवदीय

वी के डयूंडी
वैज्ञानिक एफ एवं प्रमुख)पी सी डी)
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प्रति उपरिलिखित

DRAFT IN WIDE CIRCULATION

DOCUMENT DESPATCH ADVICE

REF:	**DATE**
Doc: PCD 25(14360)C	**12 07 2019**

Technical Committee: Lubricants and Related Products Sectional Committee, PCD 25

Addressed to:

i) All members of Lubricants and Related Products Sectional Committee, PCD 25 & its Subcommittees
ii) All interested members of PCDC
iii) All others interested.

Dear Sir,

Please find enclosed the following document:

Doc: No.	**Title**
Doc: PCD 25(14360)C	Wheel bearing grease — Specification (*First Revision* of IS 10647)

Kindly examine this draft and forward your views stating any difficulty which you are likely to experience in your business or profession, if this is finally adopted as National Standard.

Last date for comments is : 12 September 2019

In case no comments are received or comments received are of editorial nature, you will kindly permit us to presume your approval for the above document as finalized. However, in case of comments of technical in nature are received then it may be finalized either in consultation with the Chairman, Sectional Committee or referred to the Sectional committee for further necessary action if so desired by the Chairman, Sectional Committee.

Comments if any, may please be made in the format as given overleaf and mailed to the undersigned at the above address. The document is also hosted on BIS website www.bis.org.in.

Thanking you,

Signature :

Name : V.K. Diundi
Designation :Sc.F& Head (PCD)
Email: pcd@bis.org.in; pcd25@bis.org.in

Encl: As above.

FORMAT FOR SENDING COMMENTS ON BIS DOCUMENTS

(Please use A4 size sheet of paper only and type within fields indicated. Comments on each clauses/sub-clauses/table/fig. etc to be started in a fresh box. Information in Column 5 should include reasons for the comments and suggestions for modified wording of the clauses should be typed in Column 6 when the existing text is found not acceptable. Adherence to this format facilitates Secretariat's work)

Doc. No.: PCD 25(**14360**) C

TITLE: Wheel bearing grease **—** Specification (*First Revision* of IS 10647)

LAST DATE OF COMMENTS: **12 September 2019**

NAME OF THE COMMENTATOR/ORGANIZATION: _____

Sl. No. (1)	Clause/Sub-clause/ Para/Table/Fig. No. commented (2)	Commentator/ Organization/ Abbreviation (3)	Type of Comments (General/Editorial/ Technical) (4)	Justification (5)	Proposed Change (6)

Draft for comments Only

Doc.No: PCD25(14360)C
July 2019

***Draft* INDIAN STANDARD**
WHEEL BEARING GREASE — SPECIFICATION
(*First Revision* of IS 10647)

ICS No 75.100 **Last date for comments 12 September 2019**

Draft provided by Dr T Singh, BPCL.

FOREWORD

(Formal Clauses will be added later).

This standard was originally published in 1983.

Standards are available on number of specifications on greases such as automotive grease, general purpose grease, graphite grease, antifriction bearing grease, locomotive grease, low temperature grease, lithium soap grease, etc. but there was no suitable specification for a good quality wheel bearing grease which is required by the automotive industry and Railways. In order to meet the requirements of the industry, this specification is being prepared with a view to facilitate the supply of this product to the various users.

In the draft (first) revision, clause for references and marking and test methods have been updated.

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: 1960 ‘Rules for rounding off numerical values revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1 SCOPE

This draft standard prescribes the requirements and the methods of sampling and test for wheel bearing grease intended for use as lubricant in automotive wheel bearings, universal joints, axle journal boxes, etc.

2 REFERENCES

The following Indian Standards contain provisions which through reference in this text constitute the provisions of the standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	Title
1447[P:3] : 1992	Petroleum and its products- Methods of sampling: Part 3 Method of sampling of semi-solid and solid petroleum products (*first revision*)
1448	Methods of tests for petroleum and its products
[P:25/Sec1]:2018/ ISO 3014:1994	Transparent and Opaque Liquids Section 1 Determination of Kinematic Viscosity and Calculation of Dynamic Viscosity (*second revision*)
[P:40]:2015/ ISO 3733:1999	Petroleum Products and Bituminous Materials - Determination of Water - Distillation Method (*fourth revision*)
[P:51]: 1963	Copper strip corrosion test for lubricating greases
[P:52]:2017/ ISO 2176:1995	Drop Point (*second revision*)
[P:53]:1979	Determination of acidity and alkalinity of greases (*first revision*)
[P:60]:1994	Consistency of Lubricating Greases by Cone Penetrometer (*second revision*)
[P:69]:2013/ ISO 2592:2000	Determination of flash and fire points – Cleveland open cup method (*first revision*)
[P:89]:1979	Test for Thermal Stability of Lubricating Greases
[P:94]:2019	Test for Oxidation Stability of Lubricating Grease by Oxygen Pressure Vessel Method (*first revision*)
[P:138]:2018	Determination of Soap Content (*first revision*)
[P:164]:2018	Determination of the Leakage Tendencies of automotive wheel bearing grease under accelerated conditions
[P:165]:2018	Test method for Roll Stability of Lubricating Grease

3 REQUIREMENTS

3.1 General

The material shall be homogeneous and of fibrous texture and free from objectionable odour and visible impurities. No fillers should be used in the composition.

3.2 Composition

The material shall be made from refined mineral lubricating oil of the following specifications and sodium soap with or without additives:

Sl.No	*Characteristic*	*Requirement*	*Method of Test, Ref to[P :] of IS 1448*
i)	Kinetic viscosity in mm^2/s at 100°C	15.5 to 20.5	[P : 25/Sec1]
ii)	Flash Point, (COC) °C, *Min*	200	[P : 69]

NOTE — 1 cSt = 1 mm^2/s.

3.3 Keeping Properties (Shelf Life)

The keeping quality of the material shall be such that when stored in original sealed containers under normal conditions, it shall retain the properties given in the specification for not less than one year from the date of delivery of the product.

3.4 The material shall also comply with the requirements given in Table 1 when tested according to the methods given in 'P' series of IS 1448, in col 4 of Table 1.

4 PACKING AND MARKING

4.1 Packing — The material shall be packed in a metal or any other suitable containers as agreed to between the purchaser and the supplier.

4.2 Marking

Material shall be marked with the following information:

a) Name and type of material;
b) Manufacturer's name, initials or trade-mark, if any;
c) Net mass of material;
d) Identification in code or otherwise to enable the lot of consignment or manufacture to be traced back from records; and
e) Any other statutory requirements.

4.2.1 *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.

5 SAMPLING

Representative samples of the material shall be drawn as prescribed in IS 1447[P:3].

5.1 Number of tests — All characteristics given in the specification shall be tested on the composite sample.

5.2 Criteria for Conformity — The lot shall be declared as conforming to the requirements of the specification if all the test results on the composite sample meet the relevant specification requirements of this standard.

Table 1 Requirements for Wheel bearing Grease

(*Clause* 3.4)

Sl No.	**Characteristic**	**Requirement**	**Method of test, ref to [P:] of IS 1448**
(1)	(2)	(3)	(4)
i)	Consistency of the worked grease at 25 ± 0.5°C		[P:60]
	a) Unworked penetration	Shall not differ by more than 25 units from 60 strokes	
	b) 60 strokes	250 to 280	
	c) 10000 Strokes	Shall not differ by more than 25 units from 60 strokes	
ii)	Drop point, °C, *Min*	180	[P:52]
iii)	Free organic acidity, (as oleic acid), percent by mass, *Max*	0.25	[P:53]
iv)	Free alkalinity (as sodium hydroxide), percent by mass, *Max*	0.30	[P:53]
v)	Copper strip corrosion at 100ºC for 24 h	Negative	[P: 51]
vi)	Water content, percent by mass, *Max*	0.30	[P:40]
vii)	Soap content, percent by mass, *Max*	20	[P:138]
viii)	Oxidation stability (100 h), drop in pressure, kgf/cm^2, *Max*[1)]	1.0	[P:94]
ix)	Thermal stability, 30 h at 100ºC percent oil separated, *Max*	6.0	[P:89]
x)	Leakage and deposit forming tendencies (wheel bearing test)		[P:164]
	a) Leakage by mass, g, *Max*	8.0	
	b) Deposit in the wheel bearing races or the rollers	Shall be free from deposits	
	c) Evidence of abnormal changes in the consistency or structure of the material	Not limited, but the observations are to be reported	
	d) Indication of dry running of races	-do-	
xi)	Roll stability test, 4 h, change in consistency, percent, *Max*	10.0	[P:165]

NOTE
1) These are type tests for which manufacturers/suppliers shall give the guarantee for their compliance.