INTER PLANT STANDARD - STEEL INDUSTRY		
IPSS	SPECIFICATION FOR OIL-FILM BEARING OIL *(THIRD REVISION)*	IPSS:1-09-001-97
	CORRESPONDING TO IS 6552:1987	Formerly : IPSS:1-09-001-95

0. FOREWORD

0.1 This Inter Plant Standard, prepared by the Standards Committee on Oils and Lubricants, IPSS 1:9, with the active participation of the representatives of all steel plants and established manufacturers of lubricating oils, was adopted in March 1997.

0.2 This Inter Plant Standard was originally published in 1976 and was revised in 1981& 1995. In this third revision some modifications have been made in the light of the experience gained in the usage of this standard since its first revision. These modifications pertain to the requirements of characteristics like flash point and demulsibility etc.

0.3 In this third revision, some more clauses have been introduced like Supply requirement, Marking, Keeping quality and the clause of Packing has been modified.

0.4 This Inter Plant Standard corresponds to IS 6552:1987 Specification for straight mineral high demulsibility oil, which was revised in the light of the earlier version of this standard. As on date some of the requirements of steel plants are not covered in the revised Indian Standard. IPSS 1:9 has decided to withdraw this standard when these requirements are also included in the next revised version of the Indian Standard at a later date.

1. SCOPE

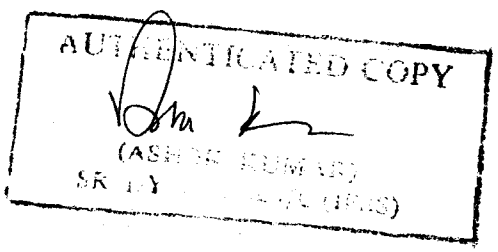
1.1 This Inter Plant Standard covers requirements of oil-film bearing oil used in steel plants for services subjected to large quantities of water, rolling solubles, dirt, scales and heat.

2. GENERAL REQUIREMENTS

2.1 The material shall be bright, clear and free from water, clay, dirt or suspended impurities.

3. COMPOSITION

3.1 The material shall consist of paraffinic base oils having a high chemical stability. Use of viscosity index (VI) improvers shall not be permitted.



4. GRADING

4.1 Oil-film bearing oil shall be of the following grades (ISO grades as given in IS 9466:1980 'Viscosity classification for industrial liquid lubricants') based on their kinematic viscosity at 40°C when tested according to P:25 of IS 1448:1976 'Method of test for petroleum and its products'. However, a variation of ± 5% in a kinematic viscosity range to its mid point, kinematic viscosity is permitted to meet special requirements of steel plants :

ISO VG No.	*Kinematic Viscosity at 40°C (in Centistokes)*		
32	30.4	-	33.6
46	43.7	-	48.3
68	64.6	-	71.4
100	95.0	-	105.0
150	142.5	-	157.5
220	209.0	-	231.0
320	304.0	-	336.0
460	437.0	-	483.0
680	646.0	-	714.0

5. TECHNICAL REQUIREMENTS

5.1 The technical requirements for all the grades of the material shall be as given in Table-1.

6. PACKING

6.1 The packing shall be done in new and sound steel drums/barrels of 200 litres nominal capacity conforming to IS 1783 (Part 2):1988, Specification for drums, large, fixed ends, type-2, Grade-B Drums (third revision). The drums/barrels shall be properly sealed against water and other contaminants and also comply with the provision of Red Tariff rules and rates for the conveyance by rail of explosives and other dangerous goods issued by the Indian Railway Conference Association with any alteration or addition made thereto.

7. SAMPLING

7.1 Representative samples of the material shall be drawn as prescribed in IS 1447:1966 Methods of sampling of petroleum and its products.

8. SUPPLY REQUIREMENTS

8.1 The lubricants may be supplied in bulk or drum as per agreement between the user and supplier.

8.2 The supplier is required to furnish the test certificate for each batch indicating typical values of the properties stipulated in the standard.

9. MARKING

9.1 The drums/barrels shall be securely closed and marked with the following:

a) Indication of the source of manufacture;

b) Name, type and grade of the material;

c) Net mass of the material;

d) Date of manufacture;

e) Recognized trade mark, if any; and

f) Identification in code or otherwise to enable the lot of consignment or manufacture to be traced back.

9.2 The drum/barrels may also be marked with the standard mark.

10. KEEPING QUALITY

10.1 The keeping quality of the lubricant shall be such that when stored in original sealed container under normal condition, it shall retain the properties given in the specification for not less than one year from the date of manufacture.

TABLE 1

TECHNICAL REQUIREMENTS OF OIL-FILM BEARING OIL

(Clause 5)

Sl No.	Characteristic	Requirement	Method of Test. to IP:] of IS
1.	Total acidity (mg of KOH per g of the oil), Max	0.10	P:2(1967), Methc
2.	Copper strip corrosion for 3 hours at 100°C	Not worse than No.1	P:15(1976)
3.	Flash point, Cleveland (open) cup, °C, Min	190 for VG 32, 46 & VG 68 210 for VG 100 & VG 150 220 for VG 220 & VG 320 250 for VG 460 & VG 680	P:69(1969)
4.	Pour point, °C, Max	-6	P:10(1970)
5.	Ash, percent by mass, Max	0.005	P:4(1984)
6.	Foaming characteristics (foaming stability):		
	Volume in ml of foam after 10 minutes, Max		
	a) at 24°C	NIL	
	b) at 93°C	NIL	P:67(1982)
	c) at 24°C after testing 93°C	NIL	
7.	Viscosity index, Min (without improver)	90	P:56(1980)
8.	Demulsibility at		
	54 ±1°C for grades 1 to 3 and 82 ± 1°C for grades 4 to 9	40-37-3 (10 minutes) for V. 32, 46 & 68 40-37-3 (20 minutes) for VG 100, 150, 220 & 320 40-37-3 (40 minutes) for VG 460 & 680	P:91(1979)