

भारत सरकार
Government of India
रेल मंत्रालय
Ministry of Railways



Indian Standard-RDSO
Specification for Machine Tool Way Oils

Issued by

धातु एवं रसायन निदेशालय

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Specification for Machine tool way oils

1 SCOPE:

This specification prescribes the requirements and methods of tests for Machine Tool Way oils for slide way Lubrication of planers, grinders, horizontal boring machines, shapers, jip borers etc., normally involved in high precision work.

2 REQUIREMENTS:

2.1 COMPOSITION:

The material shall be of such a composition as to satisfy the requirements of the standard.

2.2 The material shall be made from refined mineral oils and shall be free from water, dirt and other suspended impurities. It should have mild EP, tackiness, antirust and antifoam additives to enable higher loading, minimum stick-slip and chatter and to improve surface finish of the job. It should have adhesive and load carrying ability and excellent metal wetting properties and should be non-corrosive to both ferrous and non-ferrous metals.

2.3 It shall also comply with the requirements given in Table-I.

TABLE – I

REQUIREMENTS FOR MACHINE TOOL WAY OILS

Sl. No.	Characteristics	Requirements			Method of Test
		Gr. VG-32	Gr. VG-68	Gr. VG-220	
1.	Kinematic Viscosity at 40°C, cSt	29-35	64-72	198-242	IS:1448 P:25
2.	Pour Point, °C (Max.)	-6	-3	-3	IS:1448 P:10 Sec:2
3.	ASTM Colour (Max.)	4	5	6	IS:1448 P:12
4.	Flash Point Cleaveland Open Cup, °C, (min.)	190	210	220	IS:1448 P:69
5.	Ash % by mass (Max.)	-----0.05-----			IS:1448 P:4
6.	Total acidity, Mg KOH/gm (max.)	-----1.0 -----			IP:1
7.	Inorganic Acidity	-----NIL -----			IP:182
8.	Copper strip corrosion at 100°C for 3 hrs.	Not worse than No.1			IS:1448 P:15

Provisional Draft Indian Standard-RDSO for comments only

IS/RDSO-M&C/2202 : 2022
Doc No.- RDSO-MC/ Oil & Lubricants/02

9.	Saponification value	-----5 to 16 -----	IS:1448 P:55 Sec:1
10.	Four Ball Weld Load, Kgf, (min.)	----- 50 -----	160 IP-239

3. PACKING:

The material shall be packed in securely closed metal drums or any other suitable containers of appropriate size and strength, as agreed to by the purchaser and the supplier.

4. Marking:

The following shall be marked on the containers:

- a) Name, grade and net mass of the material
- b) Manufacturer's Name
- c) Date of Manufacturing

5. SAMPLING:

Representative samples of the material shall be drawn as prescribed in IS: 1447 (Part1).

6. TESTS:

Tests shall be conducted as prescribed in various parts of IS: 1448. References to the relevant parts/sections are given in column four of Table I.

7. QUALITY OF REAGENT:

Unless specified otherwise, pure chemical (A.R. i.e., Analytical Reagent) & distilled water shall be employed in the tests.

8. CRITERIA FOR CONFORMITY:

A lot shall be declared conforming to the requirements of this standard if the test results of the sample satisfy requirements prescribed in Table I.

9. Shelf life/Storage stability should be minimum one year.

10. "Firm should comply Make in India policy and Public Procurement (Preference to Make in India) order-2017 for Machine Tool Way Oil under this specification" and subsequent amendment done time to time.
