

ISO- 9001-2015	Document No. M&C/Lub/102/2020	Version 2.0	Date effective
Document Title	RDSO specification for Machine Tool Way Oil		



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M&C DIRECTORATE
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M&C/Lub/102/2020

RDSO specification for Machine Way Tool Oil

1.0 Amendment History:

Sl. No.	Date of Amendment	Version	Reason of Amendment
1.	2001	1.0	First issue of RDSO specification No. M&C/Lub/102/2001
2.	2006	1.1	Re-affirmed in 2006
3.	18.01.2013	1.2	Re-affirmed in 2013
4.	23.08.2016	1.3	Inclusion of N.B. in specification as per Director/Vigilance/RDSO Note. No. 13/Vig./policy dated:26.07.2016 & approval accorded by ED/M&C (ED/Wagon)
5.	26.06.2020	2.0	Revised in 2020 due to change in concerned Indian Specification for Test Method

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RDSO SPECIFICATION NO. M&C/Lub/102/01 (Reaffirmed-2020)

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
9.	Saponification value	-----5 to 16-----			IS:1448 P:55 Sec:1
10.	Four Ball Weld Load, Kg, (min.)	-----50-----		160	IP-239
11.	Shelf life/storage stability	-----One Year-----			

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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. "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.

N. B. All the Provisions contained in RDSO's ISO procedures laid down in Document No. QO-D-7.1-11 dated 19.07.2016 (titled "Vender-changes in approved status") and subsequent versions/amendments thereof, shall be binding and applicable on the successful vendor/vendors in the contracts floated by Railways to maintain quality of products supplied to Railways.

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