

ISO- 9001-2015	Document No. M&C/Lub/101/2020	Version 2.0	Date effective
Document Title	RDSO specification for Pneumatic Tool Oil		



**RESEARCH DESIGN AND STANDARDS ORGANISATION**  
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**M&C DIRECTORATE**  
**LUBRICANT SECTION**

M&C/Lub/101/2001 (Reaffirmed – 2020)

**RDSO specification for Pneumatic Tool Oil**

**1.0 Amendment History:**

Sl. No.	Date of Amendment	Version	Reason of Amendment
1.	2001	1.0	First issue RDSO specification No. M&C/Lub/101/2001
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/101/2020**  
**FOR PNEUMATIC TOOL OILS**

**1. SCOPE:**

This specification prescribes the requirements and methods of tests for Pneumatic tool oils for the use of Pneumatic equipments such as rock-drill, jack hammers, chippers, wagon drills and also used in small plant pneumatic tools like grinders, filing tools, drills, tappers, impact wrenches etc.

**2. REQUIREMENTS :**

**2.1 COMPOSITION:**

The material shall be of such a composition as to satisfy the requirements of the standard. The material shall be made from refined mineral oils and shall be bright, clear and free from water, dirt and other suspended impurities. It should have anti-wear tackiness and extreme pressure properties and form a tenacious oil film by mixing with condensed moisture. It should also have excellent load carrying ability and rust preventive properties.

**2.2** The material shall also comply with the requirements given in Table-I.

**TABLE – I**  
**REQUIREMENTS FOR PNEUMATIC TOOL OILS**

Sl. No.	Characteristics	Requirements		Method of Test
		VG-100	Gr.VG-220	
1.	Kinematic Viscosity at 40°C , cst	90-110	198-242	IS:1448 P:25
2.	Flash Point Cleaveland Open Cup, °C, (min.)	170	200	IS:1448 P:69
3.	Pour Point °C (max.)	-3	-3	IS:1448 P:10 Sec:2
4.	Ash % by mass (max.)	0.01	0.01	IS:1448 P:4
5.	ASTM colour (max)	6.5	8.0	IS:1448 P:12
6.	Total acidity, mg of KOH/g (max.)	0.15	0.20	IP:1
7.	Inorganic Acidity	-----NIL -----		IP:182
8.	Saponification Value (max)	-----1.0 -----		IS:1448 P:55 Sec:1
9.	Copper strip corrosion at 100°C, for 3 Hrs.	-----Not worse than No.1-----		IS:1448 P:15
10.	Four Ball Weld Load, Kg, (min.)	-----200-----		IP:239

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**3. PACKING & MARKING :**

The material shall be packed in securely closed metal drums or any other suitable closed metal drums or any other suitable containers of appropriate size. Following shall be marked on the containers.

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

**4. SAMPLING:**

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

**5. 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.

**6. QUALITY OF REAGENT:**

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

**7. 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.

8. "Firm should comply Make in India policy and Public Procurement (Preference to Make in India) order-2017 for Pneumatic Tool 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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