

For Restricted Circulation only

 SHAKAMBHARI GROUP #SteelWithin		SHAKAMBHARI ISPAT & POWER LTD. (Formerly known as Ess Dee Aluminium Ltd.)	
STANDARD TEST METHOD			
Title: Determination of Viscosity of Roll Coolant Oil (Kinematic)			Page No. 1 of 2
STM No.	Version No.	Effective Date	Next review date
SIPL/STM/026	00	06.07.2026	05.07.2028

1.0 PURPOSE

1.1 To determine the viscosity of roll coolant oil.

2.0 SCOPE

2.1 This STM is applicable to the Production Department. /Quality control

3.0 REFERENCE(S) & ATTACHMENTS**3.1 References**

3.1.1 ISO 15378:2017

3.2 Attachments

3.2.1 Nil

4.0 RESPONSIBILITY**4.1 Production Head:**

4.1.1 To ensure the training of the STM to all concerned department personnel involved in the implementation of the STM.

4.1.2 To ensure the implementation of the STM after training.

4.2 Quality Assurance Person:

4.2.1 To check the STM.

4.2.2 To maintain the original copy of the STM.

4.2.3 To issue the controlled copy of the STM.

4.2.4 To maintain the issuance record of the STM.

4.2.5 To retrieve the controlled copy of the STM when it is superseded / obsolete, and maintain its record.

4.3 QA Head:

4.3.1 To approve the new or revised STM.

4.3.2 To ensure the implementation of the defined system.

4.4 Plant Head:

4.4.1 To approve the new or revised STM.

4.4.2 To ensure the implementation of the defined system.

5.0 DISTRIBUTION

5.1 Quality Control

5.2 Production

5.3 Quality Assurance

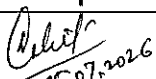
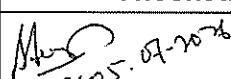
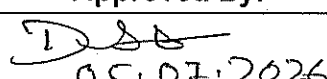
6.0 DEFINITION(S) & ABBREVIATION(S)

6.1 Definitions: Nil

6.2 Abbreviations

6.2.1 cSt: Centistokes

6.2.2 CTC: Carbon Tetrachloride

Prepared By:	Checked By:	Approved By:
 05.07.2026	 05.07.2026	 05.07.2026

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7.0 PROCEDURE**7.1 Materials and Equipment**

- 7.1.1 Kinematic Viscosity Bath
- 7.1.2 U-tube Viscometer
- 7.1.3 Suction tube
- 7.1.4 Stopwatch (readability of 0.01 sec.)
- 7.1.5 10 ml roll coolant oil
- 7.1.6 Carbon Tetrachloride (CTC) or Benzene

7.2 Method

- 7.2.1 Check the level of water in the tank; it should be approximately 1" below the top of the tank.
- 7.2.2 Set the temperature of the water at 40°C with the adjustable knob.
- 7.2.3 Take the oil in the U-tube up to the mark of the left-side tube.
- 7.2.4 Fix the U-tube in the stand and keep it in the water tank for half an hour, so that the temperature of the oil reaches up to 40°C.
- 7.2.5 Suck the oil using the laboratory bulb from the right-side tube, in such a way that the upper layer of oil crosses the upper mark of the right-side tube.
- 7.2.6 Take out the bulb and note the time in seconds with the stopwatch, from the upper mark to the lower mark in the right-side tube.

7.3 Result / Calculation

- 7.3.1 **Viscosity of coolant oil = Constant of U-tube bulb × time required in seconds (cSt)**
- 7.3.2 Constant value of U-tube bulb = 0.004 & 0.006

7.4 Environmental Concern

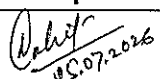
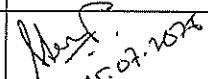
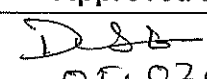
- 7.4.1 After completion of the test, clean the U-tube with CTC / Benzene.

7.5 Safety Concern

- 7.5.1 Wear gloves while the testing is conducted.

8.0 REVISION HISTORY

Revision No.	00	Effective Date	06.07.2026	CC No.	NA
Details of revision: New SOP					

Prepared By:	Checked By:	Approved By:
 05.07.2026	 05.07.2026	 05.07.2026