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SHAKAMBHARI ISPAT & POWER LTD.
(Formerly known as Ess Dee Aluminium Ltd.)

STANDARD TEST METHOD

Title: Gum Value using Gum Bath Apparatus			Page No. 1 of 3
STM No.	Version No.	Effective Date	Next review date
SIPL/STM/022	00	06.07.2026	05.07.2028

1.0 PURPOSE

- 1.1 To determine the gum content present in the rolling oil sample by evaporating the volatile components using a gum bath apparatus under controlled temperature and airflow.

2.0 SCOPE

- 2.1 This procedure applies to all oil samples tested in the Quality Control Laboratory of the aluminium rolling / foil mill.

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 Quality Control (QC) Laboratory Analyst:

- 4.1.1 To perform the test and to record the test results.

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4.2.5 To retrieve the controlled copy of the STM when it is superseded / obsolete, and maintain its record.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

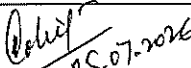
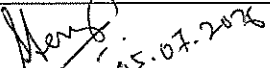
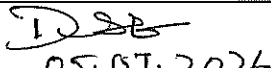
- 5.1 Quality Control
5.2 Quality Assurance

6.0 DEFINITION(S) & ABBREVIATION(S)

6.1 Definitions: Nil

6.2 Abbreviations

- 6.2.1 °C: Degree Celsius

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

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7.0 PROCEDURE

7.1 Equipment & Materials

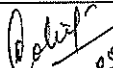
- 7.1.1 Gum Bath Apparatus
- 7.1.2 Air Compressor
- 7.1.3 Analytical Weighing Balance
- 7.1.4 Glass Beaker (100 ml)
- 7.1.5 Glass Cylinder (50 ml)
- 7.1.6 Tongs
- 7.1.7 Desiccator
- 7.1.8 Oil Sample (to be tested)

7.2 Safety Precautions

- 7.2.1 Use heat-resistant gloves and tongs when handling hot beakers.
- 7.2.2 Ensure proper ventilation around the gum bath.
- 7.2.3 Do not exceed the recommended temperature or air-flow rate.
- 7.2.4 Keep hands and face away from the hot air outlet.

7.3 Method

- 7.3.1 Weigh the clean, dry 100 ml glass beaker on the analytical balance and record the empty weight (W1).
- 7.3.2 Measure 50 ml of the oil sample using the glass cylinder and transfer it into the beaker.
- 7.3.3 Switch on the gum bath apparatus and allow it to heat. (Do not place the beaker on the gum bath until the temperature reaches 160°C.)
- 7.3.4 When the temperature reaches 160°C, place the beaker on the gum bath hole.
- 7.3.5 Start the air compressor and then switch on the air-flow line.
- 7.3.6 Observe the air-flow meter and ensure the air flow is maintained between 3000-3200 cc/sec.
- 7.3.7 Allow the sample to run for 40-45 minutes under constant temperature and airflow.
- 7.3.8 After completion, turn off the air compressor and switch off the gum bath apparatus.
- 7.3.9 Using steel tongs, carefully remove the beaker and place it in a desiccator for 15 minutes to cool.
- 7.3.10 After cooling, weigh the beaker again to obtain the final weight (W2).

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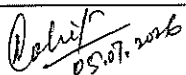
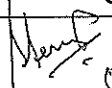
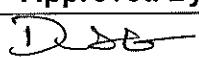
 SHAKAMBHARI GROUP # SteelWithin	SHAKAMBHARI ISPAT & POWER LTD. (Formerly known as Ess Dee Aluminium Ltd.)		
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7.4 Calculation7.4.1 Gum Value (mg / 50 ml) = $W2 - W1$

7.4.2 Where, W1 = Weight of the empty dry beaker, and W2 = Final weight of the beaker after evaporation and cooling.

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