

For Restricted Circulation only

 SHAKAMBHARI GROUP # SteelWithin		SHAKAMBHARI ISPAT & POWER LTD. (Formerly known as Ess Dee Aluminium Ltd.)	
STANDARD OPERATING PROCEDURE			
Title: Operation for Roll Grinder Machine			Page No. 1 of 3
SOP No.	Version No.	Effective Date	Next review date
SIPL/PDI/005	00	06.07.2026	05.07.2028

1.0 PURPOSE

- 1.1 To define the standard operating practice for grinding smooth and textured rolls on the roll grinder. Roll grinders are high-precision machines used in steel, aluminium and paper mills to grind rolls to very tight tolerances.

2.0 SCOPE

- 2.1 This SOP applies to Production Department.

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

- 3.1.1 In-house

3.2 Attachments

- 3.2.1 Attachments: Production Logbook : SIPL/PDI/005/F01/00

4.0 RESPONSIBILITY:**4.1 Production Department Person**

- 4.1.1 To prepare the SOP.

4.2 Production Head

- 4.2.1 To ensure the training of the SOP to all concerned personnel involved in implementation of the SOP.
4.2.2 To ensure the implementation of the SOP after training.

4.3 Quality Assurance Person

- 4.3.1 To check the SOP and to maintain the original copy of the SOP.
4.3.2 To issue the controlled copy of the SOP and maintain its issuance record.
To retrieve the controlled copy of the SOP when it is superseded/obsolete and maintain its record.

4.4 QA Head / Plant Head

- 4.4.1 To approve new or revised SOP.
4.4.2 To ensure the implementation of the defined system.

5.0 DISTRIBUTION

- 5.1 Production

6.0 DEFINITION(S) & ABBREVIATION(S)**6.1 Definitions**

- 6.1.1 Nil

6.2 Abbreviations

- 6.2.1 Nil

Prepared By:	Checked By:	Approved By:
 04.07.2026	 04.07.2026	 04.07.2026

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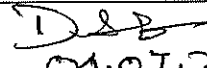
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7.0 PROCEDURE**7.1 Standard Operating Practices**

- 7.1.1 Make sure the grinding water is not contaminated.
- 7.1.2 Make sure the edge-holding lubrication module has a minimum 80% oil level.
- 7.1.3 Make sure the grinding wheel is properly balanced (with the OEM balancing blocks).
- 7.1.4 Do a free spin of the wheel on the wheel holder before proceeding with grinding (free spin should be in the range of 100-150 rpm).
- 7.1.5 The rolls should be properly cooled from the core. Minimum cooling time for the roll: Winter — 24-30 hrs; Summer — 36-48 hrs. Attach the head stock module to the roll and make sure the bolts are properly tightened with the correct torque.
- 7.1.6 Put the roll on the machine (maintain safety and use proper gear).
- 7.1.7 Check the before-grinding roll Hardness, Roughness average value, and Camber profile value; record them in the designated place.
- 7.1.8 Cross-check the given plan GRIT requirement against the attached wheel GRIT size.
- 7.1.9 Input the data on the UI of the operating panel.
- 7.1.10 Cross-check the plan and the operating data inputs.
- 7.1.11 Start the grinding process.
- 7.1.12 Check that the edge-holding lubrication is working properly.
- 7.1.13 Make sure the wheel sludge does not choke the drain water tank input.
- 7.1.14 Change the filter paper after every 06 nos. of work roll and 02 nos. of backup roll grinding.
- 7.1.15 During the rough cutting process, wipe the roll with the wiper (no bare hands).
- 7.1.16 No bare-hand contact with the roll surface during grinding.
- 7.1.17 After grinding, check the Hardness, Roughness average, and Camber profile value and record them in the designated place.
- 7.1.18 Clean with the wiper; no moisture content should be present on the roll.
- 7.1.19 Cover the roll with poly film and oil; no foreign particles should be present on the roll during the covering process.
- 7.1.20 Take down the roll and place it in the finish roll rack.
- 7.1.21 Remove the head stock module from the roll.

7.2 Process Table

PROCESS TABLE	WORK ROLL	BACKUP ROLL
Diameter Max.	230 mm	550 mm
Diameter Min.	210 mm	530 mm
Barrel length	1250 mm	1200 mm

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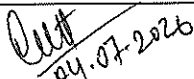
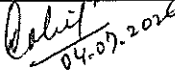
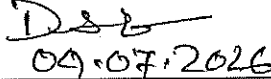
PROCESS TABLE	WORK ROLL	BACKUP ROLL
Hardness	100° Shore C (Approx)	72° Shore C (Approx)
Roughness	0.008 - 0.23 µm	0.70 - 0.80 µm
Grinding Time	145 min's	180 min's
Loading / Unloading time	25-30 min's	40-45 min's
Shape	0.01 - 0.10 mm on dia.	0.01 - 0.10 mm on dia.

7.3 Safety Concern

7.3.1 Wear gloves, goggles, helmet and safety shoes.

8.0 REVISION HISTORY

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

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 04.07.2026	 04.07.2026	 04.07.2026