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SHAKAMBHARI GROUP #SteelWithin	**SHAKAMBHARI ISPAT & POWER LTD.** (Formerly known as Ess Dee Aluminium Ltd.)		
STANDARD OPERATING PROCEDURE			
Title: Operation for Foil Annealing Furnace			**Page No.** 1 of 3
SOP No.	**Version No.**	**Effective Date**	**Next review date**
SIPL/PDI/004	00	06.07.2026	05.07.2028

1.0 PURPOSE

1.1 Annealing is a heat-treatment process that consists of heating to the proper temperature and cooling slowly in the furnace to change hard material to soft material.

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: Annealing Furnace Log book - SIPL/PDI/004/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 To retrieve the controlled copy of the SOP when it is superseded/obsolete and maintain its record.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 Quality Control

5.2 Production

6.0 DEFINITION(S) & ABBREVIATION(S)

6.1 Definitions

6.1.1 Nil

6.2 Abbreviations

6.2.1 DSO-Dull Side Out

6.2.2 BSO- Bright Side Out

6.2.3 BSB-Both Side Bright

Prepared By:	Checked By:	Approved By:
04.07.2026	04.07.2026	04-07-2026

7.0 PROCEDURE

7.1 Material & Equipment:

7.1.1 Slitting reels after separator.
7.1.2 Annealing Furnace (capacity 12 MT).

7.2 Method:

7.2.1 Q.C and PPC ready to plan for annealing on the basis of dispatch sequence.
7.2.2 Q.C check all parameters (furnace health / gauge / width / OD / alloy) and set the annealing cycle.
7.2.3 Operator loads material on the charger as per charge sequence with proper identification.
7.2.4 Set temperature and time as required for the particular charge (Pharma / light gauge).
7.2.5 Enter the particular charge cycle and duration of cycle in the log sheet. Note the temperature reading during charging in the log sheet wherever applicable.
7.2.6 Monitor temperature and report to the shift supervisor in case of abnormality for necessary action.
7.2.7 After the charge is completed, unload material and store in the cooling bay.
7.2.8 After material is sufficiently cooled down, offer material for inspection.
7.2.9 Use hand gloves and avoid any kind of damage and excess scrap generation.

7.3 Charging Cycle Details:

SL. NO.	Thickness (MIC)	Width (MM)	Texture	Temperature °C	TOTAL CYCLE (HRS)
1	9	300-1100	DSO/BSO	200-300	20-60 Hours
2	12	300-1100	DSO/BSO	200-300	20-60 Hours
3	20	300-1100	DSO/BSO	290-350	20-35 Hours
4	25	300-1100	DSO/BSO	290-350	20-35 Hours
5	30	300-1100	DSO/BSO	300-400	20-40 Hours
6	30	300-1100	BSB	350-400	30-45 Hours
7	40	300-1100	DSO/BSO	300-400	20-40 Hours
8	40	300-1100	BSB	350-400	25-45 Hours
9	50	300-1100	DSO/BSO	300-400	30-45 Hours

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SL. NO.	SRC Thickness (MIC)	Width (MM)	Texture	Temperature °C	TOTAL CYCLE (HRS)
1	30-70	250-1100	BSB	250-350	20-30 Hours

7.3.1 **Note:** Temperature tolerance ± 15 °C and hours set on the basis of temperature.

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:
04.07.2026	04.07.2026	04.07.2026