

JINDAL ALUMINIUM LIMITED ROLLING & EXTRUSION DIVISION			
PROCEDURE FOR TOOL SHOP			
Doc.No. JAL/R&E/TS/PR/12		Title Page	
Issue #	Issue Date	Revision No:	Revision Date
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AMENDMENT RECORD

Amendment			Discard		Insert	
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DETAILS	POSITION	SIGNATURE	DATE
Prepared by	QMS COORDINATOR		
Verified by	MANAGER (TS)		
Approved by	DGM (C)		

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TITLE: PROCEDURE FOR TOOL SHOP		
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1.0 PURPOSE

The purpose of this procedure is to ensure that proper check and controls are exercised for the dies & tooling required for production of extrusions from various extrusion presses.

1.1 OBJECTIVES:

- a) To Minimize Die Failures
- b) To Improve the Die Life

2.0 SCOPE: (Cl: 8.1 of IS/ISO-9001:2015 – Operational Planning and control and Cl: 8.5 of IS/ISO-9001:2015 - Production & Service Provision)

The dies are made at Extrusion plant of Bangalore factory.

The scope covers the checking of –

- a) Solid Dies
- b) Hollow Dies
- c) Tooling for (a) & (b)

3.0 INTERFACE:

Drawing Office – JAL, Bangalore
 Extrusion Plant – JAL, Bangalore
 Surface heat treatment of Extrusion Foundry
 Extrusion Production
 Extrusion Quality Assurance
 Purchase
 Stores
 Shipping and Despatch

4.0 ORGANIZATION CHART: (Cl: 5.3 of IS/ISO-9001:2015)

The Organization Chart is shown in Annexure No. JAL/R&E/TS/ANX/01.

4.1 ROLES, RESPONSIBILITIES & AUTHORITIES: (Cl: 5.3 of IS/ISO-9001:2015)

4.1.1 TOOL SHOP MANAGER:

- a) He will be responsible for sending dies to the presses and the entire die correction of all the presses. He will ensure that dies to the presses are sent on time. In case of any delay, he will inform the shipping department. (Also as per “activity chart” given in Annexure No. JAL/R&E/TS/ANX/02).
- b) To plan dies & tooling as per production program and tool wear.
- c) To arrange the dies on the presses as per production programme after thorough checking and ensure that dies are sent correctly and in time to the press. He is authorized to change the EPF for any specific section in consultation with Despatch Manager.

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- d) To keep record of the trials taken of extruded sections and circulate to HOD of Extrusion, OSD and Sr. Manager/Manager-QA department.
- e) To keep regular contact with packing department to ensure that stock level of heavy & light extrusions are not accumulated, so that the dies are run according to the planned requirements.
- f) To maintain Die Rejection Register and arrange computer printout of fully rejected dies / tooling and circulate as per format No. JAL/R&E/TS/F05.
- g) To monitor the performance of all critical dies where there is more die failures or where the material requires more correction.
- h) He should monitor die failures on all the presses and take remedial action so that die failures are minimized.
- i) He should also ensure that minimum material is going to correction department. If from any particular die more material is going to correction department, he should check the design of such dies and ensure necessary correction.
- j) He should go to the presses frequently and check the running of dies. Ensure that nose pieces are sent to Tool Shop. He should also consult press operators about any problems being faced in any of the dies.
- k) To monitor die failures/trials in respect of new dies & take immediate corrective action.
- l) To monitor the performance of staff / workers in Tool Shop and take action for their lapses & to ensure all workers are fully loaded to check their efficiency.
- m) To maintain all the machines in the department for trouble free operation with the concept of Preventive Maintenance scheme in coordination with Maintenance department.
- n) To check the life of each die rejected & analyze and suggest improvements for better designs.
- o) To monitor die failures on all the presses and should take remedial action, so that die failures are minimized.
- p) To read technical magazines, books and adopt latest technology/equipment in Tool Shop for maximum automation and reduction in cost.

4.1.2 ASST. MANAGER / SUPERVISOR:

- a) To monitor the performance of workers under him and take action for any lapses/losses caused by them.
- b) To plan dies & tooling as per production program and tool wear.
- c) To arrange the dies on the presses as per production programme after thorough checking and ensure that dies are sent correctly and in time to the press. He is authorized to change the EPF for any specific section in consultation with Despatch Manager.

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- d) To keep regular contact with packing department to ensure that stock level of heavy & light extrusions are not accumulated, so that the dies are run according to the planned requirements.
- e) He should monitor die failures on all the presses and should take remedial action so that die failures are minimized.
- f) He should also ensure that minimum material is going to correction department. If from any particular die more material is going to correction department, he should check the design of such dies and ensure necessary correction.
- g) He should go to the presses frequently and check the running of dies. Ensure that nose pieces are sent to Tool Shop. He should also consult press operators about any problems being faced in any of the dies.

4.1.3 MACHINE OPERATORS:

- a) To maintain the machine trouble-free and keep the working area clean.
- b) To handle the dies and tooling with due care.

4.1.4 DIE FITTERS:

- a) To carry out the correction / repair as per drawing/sketch/instructions of Supervisor.
- b) To upkeep the die profilers / grinders and other equipments / machines which they are using.
- c) To correct the dies as per nose piece and flow pattern.
- d) To study at the press the performance of die wherever required.
- e) To keep the nearby area clean and to use safety devices.

4.1.5 HELPERS:

- a) To carry out the work as per instructions of seniors.
- b) To use safety devices and handle the dies & tooling properly. Also to keep the dies & tooling at respective places.
- c) To co-ordinate with all Machine Operators/Die fitters for proper flow of work.

Note: The technical guidance, as & when required, will be obtained by Manager (Tool Shop of JAL, Bangalore) as well as by DGM (Tool Shop of JAL, Bangalore)

5.0 REFERENCES

- 5.1 The related procedures of the departments shown in Interface will have reference with the processes carried out in this department.

6.0 DEFINITIONS

6.1 Definitions of the terms appearing in the procedure are given below:

- a) **Backer:** A hardened steel support disc having an aperture larger than that of the Special Backer.
- b) **Special Backer:** A hardened steel support disc having an aperture larger than that of the die.
- c) **Bolster:** A hardened steel disc with the same diameter as the Die Ring. It supports the Die & Backer and helps to minimize deflection.

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- d) **Mandrel:** A core fixed in relation to the die cap, which produces inner profile of sections.
- e) **Die Cap:** A steel disc, which makes the outer profile of the sections and, which is assembled with core or mandrel.
- f) **Solid Die:** A steel disc with one or more orifices of the same cross-section area and contour, as desired product through which metal is forced.
- g) **Hollow Dies:** Hollow shapes are produced with hollow dies either port hole or spider types. Sections produced on such dies have two or more longitudinal weld lines due to the metal flow around the supports that holds the mandrel. The later determines the inside contour of the section being extruded. After flowing around the supports, the metal is fused in a weld chamber before passing through the die proper aperture or orifice.
- h) **Die Ring:** A cylindrical sleeve that holds the die and backer in axial relationship to each other.
- i) **Weld Chamber:** A disc, which controls the metal flow, and to keep continuity of extrusion.
- j) **Bearing:** Aperture surface length at right angles to the die face controls the metal flow.
- k) **Bolster Holder:** A cylindrical holder that holds the bolster to support the die ring assembly.

7.0 INPUTS

- Dies & Tooling Approval form JAL, Bangalore
- Supply of Dies and Tooling from JAL, Bangalore factory
- Drawings from drawing office of JAL, Bangalore

8.0 OUTPUTS

- Die Failure report
- Approved Trial report (other than dealer order)

9.0 PROCEDURE

9.1 Die failure reports as per Format No. JAL/R&E/EQA/F/09 is analyzed everyday to find out potential causes of die failures. These data's are plotted in the "PARETO DIAGRAM". From the Pareto Diagram, high percentage defects are analyzed for taking corrective steps. The routine corrective action is taken and is recorded in appropriate Format Nos. JAL/R&E/TS/F/02, JAL/R&E/TS/F/04, JAL/R&E/TS/04A & JAL/R&E/TS/F/07. The potential causes are recorded in Format No. JAL/R&E/NCA/F/01.

9.2 **Preservation Method of Dies & Toolings:** All dies and toolings, after use, are cleaned and kept neatly at proper place.

9.3 Handling of Dies and Tooling's:

9.3.1 The Dies are transferred to the respective press by means of manual trolley or by Pallet truck.

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- 9.3.2 Die opening should be covered with protective tape to avoid dust accumulation on bearing.
- 9.3.3 Heavy Dies and tooling will be lifted with the help of crane and chain pulley blocks.
- 9.3.4 Bearing face of the dies is kept in such a way that it always be towards bottom side.
- 9.3.5 Wooden blocks / Aluminium plates are used for assembly of dies in rings.
- 9.3.6 Ring sealing face is not to be kept on floor.
- 9.3.7 During transit from one place to another it is ensured that dies should not fall on each other to prevent any damage.

10.0 CALIBRATION

- 10.1 The following types of instruments are identified for inspection, measuring & test equipments with required accuracy:

SL. NO.	MEASUREMENTS	INSTRUMENTS IDENTIFIED	ACCURACY REQUIRED	CALIBRATION FREQUENCY
01.	<u>Dimensions</u> Linear	i) Vernier Calipers ii) Digital Calipers iii) Micrometers	± 0.1 mm ± 0.1 mm No Error	One Year One year One Year
02	Hardness	Hardness Tester	± 2 HRC	3 Months

- 10.2 All the measuring & test equipments are listed & maintained as per format No.JAL/R&E/CAL/F/03 with details.
- 10.3 The Asst Manager & Manager approve the inclusion and removal of the instruments from the list.
- 10.4 All the inspection, measuring & test equipments kept in Tool Shop are calibrated by Tool Shop Department. The Asst Manager is authorized for calibration and approved by Department Head.
- 10.5 The procedure employed to calibrate all inspection, measuring & test equipments are given in Annexure No.JAL/R&E/TS/ANX/05. The label to be as per Annexure No. JAL/R&E/TS/ANX/06.
- 10.6 Calibration Status: All the inspection, measuring & test equipments are identified with a Label as shown in the Annexure No.JAL/TS/R&E/ANX/06 to determine the calibration status mentioning the
- Instrument Number
 - Calibration Date
 - Calibrated by
 - Error
 - Due Date
- 10.7 Calibration Records: The calibration records with retention period are identified in the JAL/R&E/TS/ANX/04.

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- 10.8 If any instrument is noticed out of order, the material inspected till then is kept separate and tests are carried out after calibrating the instrument and material is released accordingly.
- 10.9 Environmental Condition: All the measuring, inspection & testing equipments are calibrated and used for inspection at room temperature.
- 10.10 Handling, Preservation & Storage: Instruments shall be stored and preserved in suitable covers or boxes to avoid damages or inaccuracy.

11.0 PROCESS MONITORING

- a) Die failure report JAL/R&E/EQA/F/09 is analyzed every day to find out the potential cause of the failures if any.
- b) Manager-TS monitors that the Dies are handled & preserved safely to ensure no damage to the dies.
- c) The Calibration due date is monitored on a timely basis and the instruments due for calibration are calibrated.

12.0 SAFETY AND ENVIRONMENTAL REQUIREMENTS

The following safety and environmental requirements are to be followed in Toolshop:

- a. Use safety shoes while moving on the shop floor.
- b. Use proper tools while working on the dies..
- c. Avoid loose clothing while working.
- d. Use facemask and hand gloves while working on Dies and Tools
- e. Avoid oil spillage on the floor.
- f. To clean oil spillage immediately to avoid slipping and accidents.
- g. While lifting load by the crane, ensure that the load is within the safe working capacity of the crane.
- h. In the event of any accident / shock, to give First Aid immediately.
- i. To have full knowledge of operating the fire extinguisher in the event of fire hazards
- j. Use sufficient light below the work spot to avoid accidents.
- k. In addition to above, any safety orders/instructions issued by Management from time to time, are also to be followed.

13.0 CONTROL OF NONCONFORMING OUTPUTS

Dies & Tooling not serviceable are rejected and cross marked with Red paint and is transferred to "Die Rejected Godown". A report of rejected dies and tooling is circulated to DGM (C) and GM as per Format No.JAL/R&E/TS/F/05. Number of all rejected dies and tooling are deleted from computer.

14.0 NON CONFORMITY AND CORRECTIVE ACTION

The non conformities are analyzed for causes and suitable corrective action is taken to ensure that the non-conformities are not repeated. These actions are verified for effectiveness during subsequent processing. The details are recorded in JAL/R&E/TS/F/02, 04, 04A & 06.

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The corrective action is taken for the non-conformities and action is taken for potential non-conformities as explained in the procedure for corrective action JAL/R&E/NCA/F/01.

15.0 RISKS AND OPPORTUNITIES

Risk & opportunity is defined as separate procedure. JAL has established, implemented & maintained this procedure for managing risk & opportunities.

16.0 ANALYSIS AND EVALUATION

The following data's are analysed by statistical techniques.

SL. NO.	PARAMETERS	STATISTICAL TECHNIQUES	DATA TO BE COLLECTED	FREQUENCY
1	Die failure report	Pareto diagram	Die failures	Every Month
2.	Die life	Bar chart	Actual Die Life achieved	Every Month

17.0 CONTINUAL IMPROVEMENT

The quality objectives are monitored for improvement and the current level of the objectives is noted down and target level is fixed for the next period and action plan is developed to attain the target level and monitored for improvement. The details are recorded in the format JAL/R&E/QMSC/F/01.

The effectiveness of corrective action taken for the non-conformities is also monitored for improvement.

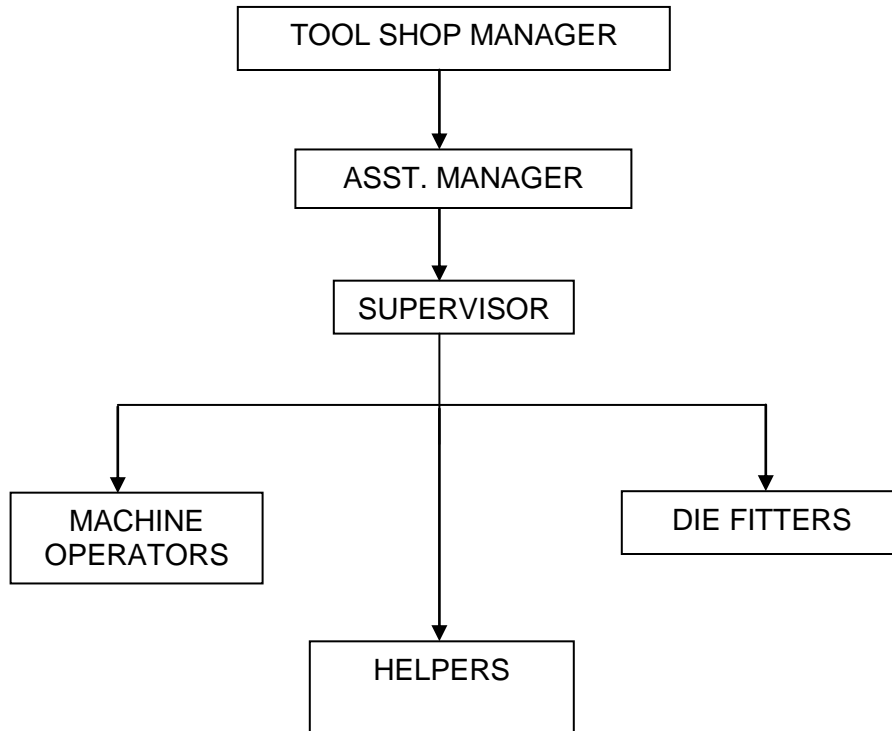
18.0 ORGANIZATIONAL KNOWLEDGE, COMPETENCE, AWARENESS AND COMMUNICATION

Training is defined as separate procedure. List of training records is shown in the Annexure No JAL/R&E/ROL/ANX/03 & responsible by HOD

The competency requirements are identified for all positions in the department as per Annexure No.JAL/R&E/ROL/ANX/04.

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FUNCTIONAL CHART



Note: Also refer to “note” in Page No.04.

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LIST OF QUALITY RECORDS

Type of Records	Format Reference	Responsible Person	Retention Period
a. Trial Report	JAL/R&E/TS/F/01	} HOD }	3 months
b. Die Performance Report	JAL/R&E /TS/F/02*		Till Correction is over
c. Dies and Tooling Approval	JAL/R&E/TS/F/03		6 months
d. Die Correction for round tube	JAL/R&E/TS/F/04		1 month
e. Die Correction Report (Except round tube)	JAL/R&E/TS/F/04A		1 month
f. Dies Rejection during	JAL/R&E/TS/F/05		3 Months
g. Dies A/Cs Query	JAL/R&E/TS/F/06*		Last 3 Run
h. Tooling Rejection during	JAL/R&E/TS/F/07		3 Months
i. Die Stock as on.....	JAL/R&E/TS/F/08*		3 years
j. Quality Objectives Monitoring Record	JAL/R&E/QMSC/F/01		3 years
k. Die Failure Report	JAL/R&E/EQA/F/09*		Soft copy

* Soft copies maintained in ERP.

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TRAINING RECORDS

Type of Records	Format Reference	Responsible Person	Retention Period
a. Employee details	JAL/R&E/TRG/F/01	} HOD	Until employee in service
b. Training Needs identified	JAL/R&E/TRG/F/02		One Year
c. Record of training imparted	JAL/R&E/TRG/F/03		One Year
d. Review of training of effectiveness	JAL/R&E/TRG/F/04		One Year

CALIBRATION RECORDS

Type of Records	Format Reference	Responsible Person	Retention Period
a. Instruments Calibration Record	JAL/R&E/CAL/F/01	} HOD	1 Years
b. Calibration Results	JAL/R&E/CAL/F/02		1 years
c. List of instruments for Calibration	JAL/R&E/CAL/F/03		1 years

NC RECORD

Type of Records	Format Reference	Responsible Person	Retention Period
Nonconformity and Corrective action	JAL/R&E/NCA/F/01	HOD	Until NC is closed

Note:

The computer generated documents (soft copy) will not be having the signature of the generating department. However, if a hard copy is taken out, it has to have signature of the concerned person

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Name of department: TOOL SHOP			
IS/ISO 9001:2015 clause number 7.2			
Sl. No.	Position	Required Qualification*	Experience required
1	Manager	BE/BTech in Mechanical	06 Years
2	Asst. Manager	DME	03 Years
3	Supervisor	DME	02 Years
4	Machine Operator	DME	02 Years
5	Die Fitters	ITI	02 Years
6	Helpers	10 Std	02 Years
*Note: Relaxation in qualification can be given in case the candidate is having sufficient experience in relevant field.			
Prepared by:		Approved by:	
HOD		GM(O)	

JINDAL ALUMINIUM LIMITED	
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TRIAL REPORT
Format No.JAL/R&E/TS/F/01

Date	Plant	Section / Die No.	Party's Name	Observation	
				1 st Trial	2 nd Trial

PREPARED BY
SUPERVISOR / ASST MGR

CHECKED BY
MANAGER (TS)

Circulated to: Extrusion Manager (Production)

RETENTION PERIOD: 3 MONTHS

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
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DIE PERFORMANCE REPORT
Format No.JAL/R&E/TS/F/02

(For Presses DP1, DP2, DP3, DP4 and DP5)

Date	Section / Die No.	Performance	Remarks

PREPARED BY
SUPERVISOR / ASST MGR

CHECKED BY
MANAGER (TS)

RETENTION PERIOD: TILL CORRECTION IS OVER

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DIES AND TOOLING APPROVAL FOR MONTHLY PLANNING

Format No.JAL/R&E/TS/F/03

SL NO	DATE	SECTION/TOOL	PLANT	REASON FOR DIES/TOOL
		DIE NO SEC. DESC	DIE MFG DATE	TOTAL PROD. QTY
OLD SECTION				

STOCK	ITEMS TO BE MADE	LAST MONTH PUSH QTY	QTY	REMARKS	TYPE
PRESS NO	NO OF DIES APPROVED	STD LIFE			

PREPARED BY

CHECKED BY

APPROVED BY

Supervisor / Asst Mgr

Manager (TS)

Shipping / Marketing / Export

RETENTION PERIOD: 6 MONTHS

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
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DIE CORRECTION FOR ROUND TUBE
Format No.JAL/R&E/TS/F/04

DATE	:	SECTION NO.	:	
PLANT CODE	:	DIE NO.	:	
REFER DOCUMENT NO.	:	NO. OF PIECES IN	:	
LAST DATE OF RUN	:	100 kg AS PER LAST RUN	:	
LAST PERFORMANCE :		DATE OF RUN OF	:	
		CORRECTED DIE	:	
		DIE CLEARANCE IN THOU	:	
		DIMENSIONS CHECKED AFTER HEAT	:	
		TREATMENT	:	
		VISUAL	:	

INSPECTION:

EXISTING SETTING	CORRECTION

PREPARED BY

CHECKED BY

OPERATOR

SUPERVISOR / ASST MGR / MANAGER

RETENTION PERIOD: 1 MONTH / TILL CORRECTION IS OVER

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DIE CORRECTION REPORT
Format No.JAL/R&E/TS/F/04A

Section Number	
Die Number	
Press Number	
No. of Holes	
Dimension with Sketch	

Prepared by

OPERATOR

Checked By

SUPERVISOR / ASST MGR / MANAGER

RETENTION PERIOD: 1 MONTH

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DIES REJECTION DURING.....

(Month & Year)

Format No.JAL/R&E/TS/F/05

IN CIRCULATION TO: DGM / GM

Sl. No	Plant	Sec No.	Die No.	Die Description	Prodn in Kgs.	Reason for Rejection	Average life in MT	Remarks/ Performance

PREPARED BY

CHECKED BY

SUPERVISOR / ASST MGR

MANAGER

RETENTION PERIOD: 3 MONTHS

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DIES ACCOUNTS QUERY

Format No.JAL/R&E/TS/F/06

Plant:.....Section:..... Retrieve Die No.....Detail

Plant no.	Die no.	Manufacturing date	Push	Holes	Last Nitriding Date	Remarks

Backer	Bolster	Spl. Backer	W. Chamber	Ring	Die type

RETENTION PERIOD: LAST 3 RUNS

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TOOLING REJECTION DURING(Month & Year)
Format No.JAL/R&E/TS/F/07

IN CIRCULATION TO: DGM © / GM

Sl. No.	Plant	Tooling No.	Tooling Description	Mnfg Date	Reasons for Rejection	Remarks

PREPARED BY

CHECKED BY

SUPERVISOR / ASST MGR

MANAGER (TS)

RETENTION PERIOD: 3 MONTHS

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DIE STOCK AS ON: _____
Format No.JAL/R&E//TS/F/08

Sl. No	Section	Die No.	Holes	Mfg Date	Die Type	Remarks

Prepared by:

SUPERVISOR / ASST MGR / ACCOUNTS MGR

Checked by:

MANAGER (TS)

Retention period: 3 Years.

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DIE FAILURE REPORT
(JAL/R&E/EQA/F/09)

Date:

Press	Total no. of Dies run	Dies Failed	% of Failure	Trial	DWA
DP1					
DP2					
DP3					
DP4					
DP5					
TOTAL					

Sl No	Press No	Sec No	Die No	Reasons for failure	Alloy	Batch No	Reqd Qty	Push	Corrective Actions	Remarks

Retention Period: Soft copy (Available in system)

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INSTRUMENTS CALIBRATION RECORD
Format No.JAL/R&E//CAL/F/01

SL. NO.	DESCRIPTION OF THE INSTRUMENT	MAKE	SL.NO.OF INSTRUMENT	LOCATION	CALIBRATED ON
01	02	03	04	05	06

ERROR	CALIBRATION DUE ON	CALIBRATED BY	APPROVED BY	REMARKS
07	08	09	10	11

RETENTION PERIOD: ONE YEAR

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
Rev. No. : 00	Rev Date : 01.09.2017

CALIBRATION RESULTS
Format No: JAL/R&E/CAL/F/02

INSTRUMENT NO		ROOM TEMPERATURE		
DESCRIPTION		DATE OF CALIBRATION		
LOCATION		DUE FOR CALIBRATION		
MASTER STANDARD USED				
CALIBRATION PROCEDURE REFERENCE				
SL.NO.	STANDARD VALUE	OBSERVED VALUE	ERROR ±	REMARKS

CALIBRATED BY:

VERIFIED BY:

SUPERVISOR / ASST MGR

MANAGER

DEPARTMENT HEAD

Retention Period: One Year

**JINDAL ALUMINIUM LIMITED
(ROLLING AND EXTRUSION DIVISION)**

Rev. No. : 00

Rev Date : 01.09.2017

LIST OF INSTRUMENTS FOR CALIBRATION
Format No. JAL/R&E/CAL/F/03

Sl. No	Equipment Type	Make	Identification Mark	Location	Frequency Of Calibration	Calibration Reference	Acceptance Criteria

RETENTION PERIOD: ONE YEAR

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
Rev. No. : 00	Rev Date : 01.07.2017

QUALITY OBJECTIVES MONITORING RECORD
(JAL/R&E/QMSC/F/01)

- 1.0 Department
- 2.0 Quality Objectives:
- 3.0 Reference Document:
- 4.0 Responsibility:

Sl. No.	Month	Target	Actual	Target period	Action Plan	Remarks

RETENTION PERIOD: 3 YEARS

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
Rev. No. : 00	Rev Date : 01.07.2017

NONCONFORMITY AND CORRECTIVE ACTIONS

As per clause number 10.2 of IS/ISO 9001 : 2015)
(JAL/R&E/NCA/F/01)

NC & CA No.	DATE:	DEPARMENT:
NON-CONFORMITY RELATED TO:		
i. PRODUCT <input type="checkbox"/> iv MAINTENANCE <input type="checkbox"/>		
ii. PROCESS <input type="checkbox"/> v OTHERS <input type="checkbox"/>		
iii RECORDS <input type="checkbox"/>		
DESCRIBE OF NON- CONFORMITY:		
ROOT CAUSE OF NON-CONFORMITY:		
CORRECTIONS:		
CORRECTIVE ACTION	RESPONSIBILITY	DATE OF COMPLETION
Checked by:		Verified and Approved by:
		(Department Head)

Retention period: Until Nonconformity is closed and corrective action is implemented.
CC: QMS COORDINATOR

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
Rev. No. : 00	Rev Date : 01.07.2017

EMPLOYEE DETAILS
(JAL/R&E/TRG/F/01)

Div Code : Dept. Code : Staff Code :
 Name : Designation:
 Sex : D.O.B : D.O.J. :

Educational Qualifications	Year	Current knowledge (Professional Training)	Year
Previous Experience			
Nature of Job		Duration	
Promotions		Year :	
Training & Additional knowledge			
Programme	Duration	Conducted By	Review

DEPT. HEAD

Retention period: Until end of service

JINDAL ALUMINIUM LIMITED (ROLLING AND EXTRUSION DIVISION)	
Rev. No. : 00	Rev Date : 01.07.2017

TRAINING NEEDS IDENTIFIED
DURING APR TO MAR
(JAL/R&E/TRG/F/02)

DEPARTMENT:

Sl. No.	Name	Designation	Dept	Type of Training required	Schedule of Training

Prepared By
SUPERVISOR / ASST MGR

Approved By
MANAGER (TS)

JINDAL ALUMINIUM LTD Rolling & Extrusion division	
Rev No: 00	Rev Date: 01.07.2017

RECORD OF TRAINING IMPARTED

Format No: JAL/R&E/TRG/F/03

DEPARTMENT:

PERIOD:

Sl No	Name	Designation	Topic	Date of Training	Type of training	Signature of Trainee	Training given by	
							Name	Sign

Retention Period: One Year

JINDAL ALUMINIUM LTD Rolling & Extrusion division	
Rev No: 00	Rev Date: 01.07.2017

REVIEW OF EFFECTIVENESS OF TRAINING

Format No: JAL/TRG/F/04

Department:

Sl No	Name	Topic	Effectiveness Criteria	Excellent	Good	Average	Poor	Date of Review	Sign of HOD
1			Job performance						
			Knowledge & Communication skill						
			Attitude						
2			Job performance						
			Knowledge & Communication skill						
			Attitude						
3			Job performance						
			Knowledge & Communication skill						
			Attitude						
4			Job performance						
			Knowledge & Communication skill						
			Attitude						
5			Job performance						
			Knowledge & Communication skill						
			Attitude						
6			Job performance						
			Knowledge & Communication skill						
			Attitude						
7			Job performance						
			Knowledge & Communication skill						
			Attitude						

Prepared By

Approved By

Note: Effectiveness of Training will be reviewed by concerned HOD after 2 months of training.

Retention Period: One Year