JINDAL ALUMINIUM LIMITED ROLLING AND EXTRUSION DIVISION			
PROCEDURE FOR QUALITY ASSURANCE			
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APPROVED BY	GM(O)		

JINDAL ALUMINIUM LIMITED,
ROLLING AND EXTRUSION DIVISION

CONTENT

JINDAL ALUMINIUM LIMITED,
ROLLING AND EXTRUSION DIVISION

CONTENT

1.0 PURPOSE: The purpose of this procedure is to document and lay down procedures and documented instructions for Rolling Division Quality Assurance Department.

1.1 OBJECTIVE

- To reduce the Internal Non Conforming Output Material.
- To minimize the customer Complaint.
- To reduce the sales return.

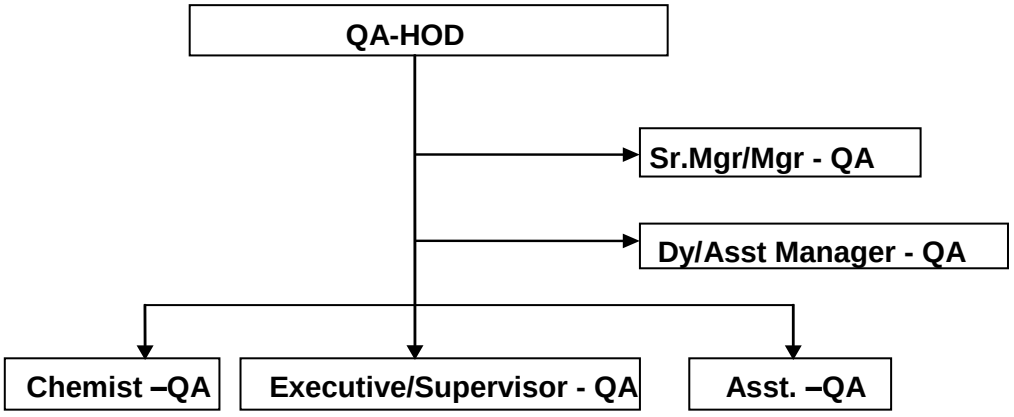
2.0 SCOPE

ISO 9001: 2015 Cl. No.	Description
7.1.5	Monitoring and measuring resources
8.1	Operational planning and control
8.4.2	Type and extent of control
8.5.2	Identification and traceability
8.5.3	Property belonging to customers or external providers
8.5.4	Preservation
9.1	Monitoring, measurement, analysis and evaluation
8.6	Release of products and services

3.0 INTERFACE

- Marketing
- Cast House
- Rolling Mill
- Purchase (Ind)
- Stores
- Shipping and Packing

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



4.0. Roles, Responsibilities and Authorities

4.1.1 QA-HOD

The HOD-QA will be reporting to GM(O) and be responsible for: -

- To monitor the quality of product in production as per Quality Plan.
- Plan departmental activities related to raw material inspection, in-process inspection and final inspection.
- To monitor inspection and test status at various stages of production.
- To monitor status of calibration of inspection, measuring and test equipments.
- To investigate process and product non-conformances and suggest remedial measures.
- To ensure all the relevant tests are carried out and approve finished products for dispatch.
- To release conforming products and to monitor disposition of non-conforming products.
- To analyze and resolve customer complaints. To propose corrective and actions and ensure its implementation.
- To check daily the quality of cast coils in the Cast House for its chemical composition , profile & grain size and release the cast coils to production department
- To co-ordinate with other functional departments regarding quality related matters.
- To co-ordinate with Marketing department and production department to develop various end products with the samples received from customers

4.1.2 Sr. Manager/ Manager – QA

They will report to HOD- (QA) and be responsible for: -

- To monitor the quality of product as per Quality Plan.
- To monitor inspection and test status at rolling of production.
- To investigate process and product non-conformances.
- To analyze and resolve customer complaints. To propose corrective and actions and ensure its implementation.
- To release conforming products and to monitor disposition of non-conforming products.
- To identify risks and opportunities.
- To Update and review the Daily Non Confirmative Product details.
- Participation in pre-shipment inspection.
- To Monitor the Preparation of samples as required by Marketing department for customers
- To check daily the quality of cast coils in the Cast House for its chemical composition , profile & grain size and release the cast coils to production department
- To co-ordinate with other functional departments regarding quality related matters.
- To co-ordinate with Marketing department and production department to develop various end products with the samples received from customers

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4.1.3 Dy. Manager/Asst. Manager/Executives/Supervisor/ Chemist –QA

They will report to Sr. Manager/Manager (QA) and be responsible for: -

- Conducting all necessary raw material, in-process and final inspection & tests related to products.
- Maintenance of Inspection & Test records.

- Coordinating with other departments for raw material and in-process inspection
- Monitoring & controlling product quality during process
- Release of conforming products.
- Calibrating the measuring, inspection & test equipment.
- Participation in pre-shipment inspection.
- Analyzing Spectrometer samples for Chemical composition of cast coils melting & Holding furnace samples and report daily to Sr. Manager**/**Manager-QA
- Checking of cast coil samples for Profile and grain size
- Preparation of samples as required by Marketing department for customers
- Issue of necessary Test Certificate or Certificate of Analysis to the shipping department after receipt of packing list from packing department.

4.1.4 Assistants – QA

Reporting to Sr. Manager/ Manager (QA) and be responsible for: -

- To Update and review the Daily Non Confirmative Product details.
- Issue of Test Certificate or Certificate of Analysis to the shipping department/ Marketing Department after receipt of packing list from packing department.
- To Issue the Material Test Certificate for Export Customer after the receipt of packing list from Packing department
- To update and maintain the Material Compliant Report on Monthly Basis.
- To update and maintain the Sales Return details on Monthly Basis.
- To Maintain and update the ISO documents & Audit Reports.

5.0 REFERENCES

- IS 737 : 2008
- IS 1254 - 2007
- IS 2676
- ASTM B 209M-14
- Aluminium Association (ASA Rev-2015)
- ANSI-H 35.2-2009
- EN 573-3
- BS-EN-00485- 2 - 2016
- **JAL/R&E/QA/STD/0001 (Rev No:01)**

6.0 ABBREVIATIONS

QA – Quality Assurance	KFR - Karl Fisher Reagent	GSM - Grams per Square Meter
COA – Certificate of Analysis	BHN- Brinell Harness Number	VOL – Volume
WI – Work Instruction	UTS-Ultimate Tensile Strength	ECV- Erichsen Cup Value

7.0 INPUTS

- Materials for testing (Raw Material & In process Material)
- Chemical Composition Internal Standard – JAL/R&E/QA/STD/0001(Rev No:01)
- Lab work instructions
- Acceptance Order/EPA

8.0 OUTPUTS

- In-Process material Testing
- Cast coil report
- Certificate Of Analysis(COA)
- Inspection Report
- Clearance for finished material dispatch

9.0 PROCEDURE:

9.1 Incoming Raw Material Inspection:

The Raw Material are inspected and accepted based on the acceptance criteria and the details of acceptance criteria given at JAL/R&E/QA/ANX/01.

9.2 Continuous Cast coils

Cast coils are continuously cast in Cast House. The coils are identified by the alloy cast, Batch/Coil number, and weight of coil and OD of the coil. This is written on the coil itself. The alloy is determined by the chemical composition as per WI JAL/R&E/QA/WI/01 at the time of continuous casting in caster. These coils are checked for the Chemical composition by taking cast coil sample after casting minimum 3 sample of each coil by way of spectrometer.

At the end of the coil, a plate sample is cut which is tested for Crown or profile along the Width of the sheet. The same plate is subjected to grain size test by etching with tucker's reagent as per WI JAL/R&E/QA/WI/02.

The profile or crown is measured in % by the following formula and as per WI JAL/R&E/QA/WI/03

$$\text{Crown in \%} = \frac{\text{Thickness in mm in middle - Average thickness in mm of both ends}}{\text{Thickness in mm in middle}} \times 100$$

The crown in should be not more than 1.5 % and the grain size should be within acceptable limit. The chemical composition should be within the range of the internal standard as per JAL/R&E/QA /STD/0001(Rev No: 01).

The coils with deviation in the above tests can be accepted with the written permission of Sr. Manager**/**Manager –QA.

The accepted cast coils are planned for further rolling as per the Product end use and customer order by the PPC department.

Sampling:

a) Melting furnace: Every batch, one disc sample will be done for Chemical composition. If any addition will be done, then samples are analyzed for composition again by way of Spectrometer as per WI JAL/R&E/QA/WI/01.

b) Holding Furnace: Every batch, one disc sample will be done for Chemical composition. If any addition is done, then samples are analyzed for composition again by way of Spectrometer as per WI JAL/R&E/QA/WI/01.

c) Caster: Every batch, one disc sample will be done for Chemical composition that will represent the coil composition. All samples are identified by way of serial numbers in case of Melting & Holding with a prefix of A, B, C, D which will represent each melting or holding furnace 1,2,3,4.

One strip sample is cut at the end of the coil for performing Profile check and grain size check The Spectro analysis is to be carried out as per details addressed in Annexure JAL/R&E/QA/ANX/05.

9.3 Cold rolling mill / foil:

Cast coils are subjected to rolling in cold rolling mill. Thickness is reduced to required level as per the pass schedule. Surface and thickness are checked for coils at random to ensure that thickness is within +/- 8% tolerance and +/- 5% tolerance for SRC Foil and no major marks are observed on the surface.

At foil rolling mills, surface of the materials are checked for pinholes as per WI JAL/R&E/QA/WI/12 and any other surface abnormalities, like roll marks, metal sticking etc. Specification limits for pin holes are as per the end product thickness as per spec JAL/R&E/QA/SPEC which is maintained in QA department.

For material which is going for PP cap, after final pass, material is checked for the following before it is taken for final slitting.

1. Tensile Strength as per WI JAL/R&E/QA/WI/04
2. % Elongation as per WI JAL/R&E/QA/WI/04
3. Visual surface

If material is found within specification limits as per JAL/R&E/QA/SPEC, the coils are taken for final slitting process.

Sampling: One sample per coil

9.4 Slitting

Materials which are finished in Foil mill and cold mill are subjected to final slitting in Slitting Machines. These coils are finally inspected for the following:

1. Surface Visual inspection
2. Tensile Strength in case of thicker material (from 60 micron & above) as per WI JAL/R&E/QA/WI/04
3. % elongation in case of thicker material (from 60 micron & above) as per WI JAL/R&E/QA/WI/04.
4. Thickness
5. GSM in case of material below 60 micron as per WI JAL/R&E/QA/WI/10.
6. Dyne level for all foils equal and below 50 microns thickness as per WI JAL/R&E/QA/WI/11
7. Build up straightness – visual inspection
8. Slitting edge – visual inspection & Edge burr as per WI JAL/R&E/QA/WI/08
9. Width / Dimension in mm as per WI JAL/R&E/QA/WI/05
10. Flatness as per WI JAL/R&E/QA/WI/07
11. Bending Test as per WI JAL/R&E/QA/WI/06

If the coils/Foils are found as per specification and within limits as per JAL/R&E/QA/SPEC, the coils are released for packing with a green QA ok sticker affixed on it. No coils will be packed till QA ok stickers are put on coils. Intimation to packing is given for coils to be packed.

Sampling: Three samples per Mother Coil – start, middle and end

9.5 Annealing:

All coils which are finally annealed to get soft temper are checked for the following:

- Thickness in mm
- Surface tension / dyne level as per WI JAL/R&E/QA/WI/11
- Tensile strength in case of material thickness above 30 microns as per WI JAL/R&E/QA/WI/04

- % Elongation in case of material above 30 microns thickness as per WI JAL/R&E/QA/WI/04
- Bursting strength for foils equal and below 50 microns as per WI JAL/R&E/QA/WI/13
- ECV for PP Cap as per WI JAL/R&E/QA/WI/09

The annealed coils if found within specification limits as per JAL/R&E/QA/SPEC are cleared. The Green round/Square Ok Sticker to be affixed on the material and then released for the Packing.

Sampling: One sample per coil
Any deviation in the testing is reported to Sr. Manager/Manager- QA and coils are held with a yellow sticker which is for Awaiting decision material. Sr. Manager/Manager – QA is the final authority for the disposition of this material.

The quality plan for rolling is detailed in Annexure JAL/R&E/QA/ANX/02

9.6 Export order

The test will be carried out as mentioned under clause number 9 of this procedure.

9.7 Products

Generally following products are manufactured from the cast coils / or purchased Foil stock

Sr. No	Product	Alloy	Temper	Thickness in mm	Tests Conducted
1	GEQ/Sheets / coils/ Chequered sheets/ Roofing sheets	AA1050/1100/ 3003/3105/ 8011/5052/120 0/3103/5005	Soft/ H12/H14/ H16/H18	0.2 to 5	Tensile strength, % Elongation, thickness, Bend Test, width, length Diagonal (In case of sheets).
2	PP Cap Coils	AA8011	H14	0.15 to 0.23	Tensile Strength, % Elongation, Erichsen Cup
3	Circle	AA8011/1100/ 1050/3003	Soft/ Hard/H14/ H16	0.4 to 4.	Dia in mm, Thickness, Hardness, UTS, Elongation, Surface, Grain Size
4	Slug	AA1050/1060	Soft	2.2 to 13.5	Thickness ,Dia in mm, Surface, Burr, Hardness
5	Pharma (Bare Foils)	AA 8011	Soft	0.03/0.04	Al-GSM, Al thickness, pin hole, Bursting strength, Dyne
6	Blister	AA8011	Hard	0.02/0.025	Al GSM, Al thickness , pin hole
7	Filter Products	AA 8011/AA1235	Hard	0.035/0.038	GSM, surface tension, Tensile Strength/ Elongation
8	House Foil	AA8011/1235	soft	0.018/0.020	Al GSM , Width , thickness, Wet ability, Free Fall
9	SRC Foil	AA8006	H24	0.030 to 0.080	Thickness, Tensile strength , % Elongation
10	ALU ALU Foil	AA8021	Soft	0.040 to 0.050	Thickness, Tensile strength , % Elongation, Bursting Strength

* All specification limits are as per guidelines given in JAL/R&E/QA/SPEC/001 to 030

In addition to the above tests, visual inspection for surface, Winding quality, core etc are also inspected before clearing the material for packing. A green round sticker is put on the coil which is cleared by QA. If coil is QA HOLD, then a yellow sticker is put which indicate Awaiting decision. A red sticker is put when the material is totally rejected.

9.8 Release for packing & Dispatch:

The materials tested are recorded in registers for each process. The detail of records maintained is given in Annexure JAL/R&E/QA/ANX/03.

All test results are entered in the concerned registers and material which are as per specifications are released for packing by way of Intimation for packing as per format no: JAL/R&E/QA/F/06. Coils will be packed as per customer requirements by packing department after receiving the Packing intimation. Each dispatch is accompanied by a Certificate of Analysis (COA) / Test certificate.

10.0 CONTROL OF EXTERNAL DOCUMENTS

The external documents are controlled and verified by QA-head for latest revision status. The documents are AAS (American Association Standards)/ASTMB-209/ IS-737- 2008 / EN AW-573- for alloy Nos. 1060, 1050, 1100, 1200, 1145, 1350, 1235, 3003, 3004, 3005, 3103, 3105, 5005, 5050, 5052, 8011,8006, 8021.

11.0 CONTROL OF NON CONFORMING OUTPUTS

The detail of disposal of Non Conforming outputs is recorded in the format No. JAL/R&E/QA/F/11 and sent to GM (O) for appropriate decision.

Procedure reference: JAL/R&E/NCO/PR/04.

12.0 NONCONFORMITY AND CORRECTIVE ACTION:

Any customer complaints & internal rejection will take proper corrective action & maintain record in the format JAL/R&E/NCA/F/01 & JAL/R&E/CPA/F/01.

13.0 RISKS AND OPPORTUNITIES:

Risk & opportunity has defined as separate procedure in the Doc No: JAL/R&E/RO/PR/23. **JAL** has established, implemented & maintained this procedure for managing risk & opportunities.

14.0 ANALYSIS AND EVALUATION

Every month the number of customer complaints & NC material are analyzed. The actions taken are reviewed in monthly meetings by the respective departments.

15.0 EXTERNALLY PROVIDED SERVICES:

The servicing, maintenance and calibration of critical equipments like Spectro, tensile testing machine, etc, is entrusted to outside agencies in the form of Annual Maintenance contract (AMC). The AMCs are finalized through Purchase dept. The details regarding the required number of service visits, breakdown visits, etc., are specified in the AMC. Purchase dept. co-ordinates with the AMC provider to ensure that the work is carried out as specified in the contract. The record of the visits done, visit due date, etc, is also maintained by Purchase dept. Quality dept. will check and certify after each service visit whether the work has been satisfactorily carried out.

16.0 MONITORING AND MEASUREMENT RESOURCES

(Cl: 7.1.5 of IS/ISO-9001:2015 – Monitoring and measuring resources)

The Quality Assurance Department will maintains inspection, measuring & test Equipment as explained below: -

The following measurements are identified to demonstrate the conformance of product to the specified requirements.

a) Thickness in mm.
b) Linear measurements in mm.
c) Tensile strength in kg/mm^2 or MPa
d) Elongation in %
e) Chemical Composition in Percentage

16.1 The following types of instruments are identified for inspection, measuring & test equipments with following criteria:

Sl. No	Measurements	Instruments Identified	Aceptable Criteria (Max allowable error)	Calibration Frequency
01	Thickness	Micrometer	± 0.004 m	One Year
02	Dimensions a) Linear	a) Micrometers b) Measuring Tape	± 0.004 mm ± 3 mm	One Year One year
03	Tensile Strength	Tensile Testing Machine	± 2% of FSD	One Year
04	Hardness	Brinell Hardness Number (BHN) Machine	5% with ref. To Standard	One Year
05	Chemical Composition	Spectrometer (Spectro)	AS per ASTM/IS standard.	One year
06	Temperature	Thermometer	+/-0.5 Deg. C	One year
07	Specific Gravity (Density)	hydrometers	+/-0.01	One Year
08	Weight measurements	Weighing balances	+/-0.001 grams	One Year
09	Annealing Cycle	Muffle Furnace	+/-10 Deg. C	One year
09	Bursting Strength	Bursting Strength	+/-10 Deg. C	One year

Sr.Manager /Manager (QA) approve the inclusion and removal of the instruments from the list. The details of calibration made as separate work instruction.

All the inspection, measuring & test equipments, used by QA are calibrated/sent for calibration by Quality Assurance Department. The Quality Assurance supervisor and Chemist are authorized & responsible for calibration.

16.2 Calibration Records:

All instruments are identified with a label or sticker showing the status of calibration.

Instruments calibrated by external agencies will have the sticker of the external agency who did the calibration. If the sticker put by the external agency is damaged or lost before the next due date of calibration, then our own sticker / label may be put on the equipment, by referring to the relevant details from the calibration certificate given by the external agency.

For equipments which are calibrated in-house, a label or sticker will be put containing all the details.

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.

16.3 Environmental Condition:

All the measuring, inspection & testing equipments except Hardness tester & tensile tester are calibrated at Room Temperature and used for inspection at room temperature.

The environmental condition for the Metal Analyzer is a room installed with Air Conditioner and protected from direct sunlight & dirt. The room temperature shall be maintained at $20 \pm 3°C$.

16.4 Handling, Preservation & Storage:

Instruments like Vernier, Micrometers shall be stored and preserved in suitable covers or boxes to avoid damages or inaccuracy. Other instruments like Spectrometer, Tensile Testing Machines Bursting Strength Machine etc shall be in the specified location and shall be operated by the authorized personnel.

17.0 FINAL INSPECTION & TEST RECORDS

The inspection & test records are maintained for the final inspection and/or test conducted on the product. The details of records have been given in Annexure No.JAL/R&E/QA/ANX/03.

Final Inspection of the products will be done as per specified limits as mentioned in JAL/R&E/QA/SPEC/01 to JAL/R&E/QA/SPEC/30.

18.0 CONTINUAL IMPROVEMENT

The quality objectives are monitored for improvement during the department meeting 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/01.

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

19.0 ORGANIZATIONAL KNOWLEDGE, COMPETENCE & TRAINING

Training has defined as separate procedure in the Doc No: JAL/R&E/TRG/PR/22.

List of training records is shown in the Annexure No JAL/R&E/QA/ANX/03 & responsible by HOD.

Competency chart is identified for all position in Rolling-QA department as per Annexure No JAL/R&E/QA/ANX/05

RAW MATERIAL & OTHER CONSUMABLE ACCEPTANCE OF CRITERIA

Sr. No	Description of Material	Acceptance Criteria
01	Vergin ingots	Conformance to the composition as per specification of supplier's contract
02	Furnace Oil	As per Standard Specification JAL/R&E/QA/RM/SPEC/01
03	Rolling Oil	As per Standard Specification JAL/R&E/QA/RM/SPEC/02
04	Foil stock	As per Standard Specification JAL/R&E/QA/RM/SPEC/03
05	Diesel	As per Standard Specification JAL/R&E/QA/RM/SPEC/04
06	Wood	As per Standard Specification JAL/R&E/QA/RM/SPEC/05
07	LDPE	As per Standard Specification JAL/R&E/QA/RM/SPEC/06

Note: All Raw Material & other consumable Standard Specification are attached.

QUALITY TEST PLAN FOR ROLLING MILL

Sl. No.	Stage	Test	Sample size / frequency	Acceptance criteria	Remarks
1.	CC Cast Coils	Chemical composition	3 sample per Cast	All samples must confirm to the alloy specification as per internal standards JAL/R&E/QA/STD/0001	Format no. JAL/R&E/QA/STD/0001
		Grain structure	1 sample per coil	Fine grain as per WI JAL/R&E/QA/WI/02	Cast coil log book
		Profile	1 sample per coil	+0.50 to 1.20%	Cast coil log book
2.	Rolling Mill	Tensile Strength & Elongation	One sample per coil in Special requirement	Should conform To PRODUCT SPECIFICATION	Product specification JAL/R&E/QA/SPEC/01 -30
3.	Finishing line (CTL/Slitter/ TLL/Roofing)	Tensile strength, Elongation, Thickness, Width, Length, Diagonal (As applicable)	One sample per coil	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01 -30
4.	Slitting Machine for foil	GSM, width, thickness, Surface tension, Tensile Strength & Elongation (As Applicable)	Three sample per mother coil (Start, middle, end)	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01 -30
5.	Annealing for Sheet/Coil	Tensile strength & Elongation, Thickness	One sample per part	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01-29
6.	Annealing for foil	GSM, Dyne level, Bursting Strength	One sample per part	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01 -30
7.	Circle	Thickness, Diameter, Tensile & Elongation, BHN, Grain Size	Two Sample of each Specification	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01 -30
8.	Slug	Thickness, Diameter, BHN, Grain Size	Five sample of each specification	Should conform To Product specification	Product specification JAL/R&E/QA/SPEC/01 -30

LIST OF INSPECTION & TEST RECORDS

Sl. No	RECORD NAME	RECORD NUMBER	RESPONSIBLE PERSON	RETENTION PERIOD
01	CAST COIL REGISTER	JAL/R&E/QA/F/01	HOD	1 year
02	STAMCO REGISTER	JAL/R&E/QA/F/02		1 year
03	CTL REGISTER	JAL/R&E/QA/F/03		1 year
04	BHOOMI REGISTER	JAL/R&E/QA/F/04		1 year
05	ANNEALING REGISTER FOR FOIL	JAL/R&E/QA/F/05A		1 year
06	ANNEALING REGISTER FOR SHEET	JAL/R&E/QA/F/05B		1 year
07	INTIMATION REPORT (QA PACKING)	JAL/R&E/QA/F/06		1 year
08	INCOMING MATERIAL CHECKING REPORT	JAL/R&E/QA/F/07		1 year
09	FINAL INSPECTION – SLITTER	JAL/R&E/QA/F/08		1 year
10	ROLLING OIL - HEAVY ENDS REGISTER *	JAL/R&E/QA/F/09		1 year
11	MULTI SLITTING LOG BOOK	JAL/R&E/QA/F/10		1 year
12	INTERNAL NC REGISTER *	JAL/R&E/QA/F/11		1 year
13	CUSTOMER COMPLAINT REGISTER *	JAL/R&E/QA/F/12		1 year
14	OIL TESTING REGISTER	JAL/R&E/QA/F/13		1 year
15	CIRCLE REGISTER	JAL/R&E/QA/F/14		1 year
16	SLUG REGISTER	JAL/R&E/QA/F/15		1 year
17	SALES RETURN REGISTER *	JAL/R&E/QA/F/16		1 year
18	TLL REGISTER	JAL/R&E/QA/F/17		1 year
19	ROOFING REGISTER	JAL/R&E/QA/F/18		1 year
20	CONTROL OF NONCONFORMING OUTPUTS *	JAL/R&E/NCO/F/01		1 year
21	NON CONFORMITY & CORRECTIVE ACTION *	JAL/R&E/NCA/F/01		Till Implementation of NC
22	CORRECTIVE& PREVENTIVE ACTION (Only Customer complaint)	JAL/R&E/CPA/F/01		1 year

Note: * Indicates that soft copies of records are maintained & Rest all registers are hard copies available up to retention period

CALIBRATION RECORDS

Sl. No	Record name	Record No.	Responsible Person	Retention Period
01	List of instruments for Calibration	JAL/R&E/CAL/F/01	HOD	1 Year

TRAINING RECORDS

Sl. No	Record name	Record No.	Responsible Person	Retention Period
01	Skill matrix	JAL/R&E/TRG/F/01	HOD	Till end of service
02	Training needs identified	JAL/R&E/TRG/F/02		1 Year
03	Record of Training Imparted	JAL/R&E/TRG/F/03		1 year
04	Review of Training effectiveness	JAL/R&E/TRG/F/04		1 year

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.

PRODUCT SPECIFICATION

Sl No	Product	Specification No
1	Specification for 0.0065 mm Soft Foil	JAL/R&E/QA/SPEC/01
2	Specification for 0.007 mm Soft Foil	JAL/R&E/QA/SPEC/02
3	Specification for 0.008 mm Soft Foil	JAL/R&E/QA/SPEC/03
4	Specification for 0.009 mm Soft Foil	JAL/R&E/QA/SPEC/04
5	Specification for 0.010 mm Soft Foil	JAL/R&E/QA/SPEC/05
6	Specification for 0.011 mm Soft Foil	JAL/R&E/QA/SPEC/06
7	Specification for 0.012 mm Soft Foil	JAL/R&E/QA/SPEC/07
8	Specification for 0.015 mm Soft Foil	JAL/R&E/QA/SPEC/08
9	Specification for 0.018 mm Soft Foil	JAL/R&E/QA/SPEC/09
10	Specification for 0.012 mm Soft Foil (HOUSE FOIL)	JAL/R&E/QA/SPEC/10
11	Specification for 0.018 mm Soft Foil (HOUSE FOIL)	JAL/R&E/QA/SPEC/11
12	Specification for 0.020mm Soft Foil	JAL/R&E/QA/SPEC/12
13	Specification for 0.025 mm Soft Foil	JAL/R&E/QA/SPEC/13
14	Specification for 0.030 mm Soft Foil	JAL/R&E/QA/SPEC/14
15	Specification for 0.040 mm Soft Foil	JAL/R&E/QA/SPEC/15
16	Specification for 0.020 mm Plain Foil	JAL/R&E/QA/SPEC/16
17	Specification for 0.025 mm Hard foil	JAL/R&E/QA/SPEC/17
18	Specification for 0.030 mm Hard foil	JAL/R&E/QA/SPEC/18
19	Specification for 0.038 mm Hard foil	JAL/R&E/QA/SPEC/19
20	Specification for 0.040 mm Hard foil	JAL/R&E/QA/SPEC/20
21	Specification for PP Cap Sheet / Coil in thickness of 0.15 / 0.16/0.17/0.175/0.18/0.185/0.20/0.21/0.23 mm	JAL/R&E/QA/SPEC/21
22	Specification for ROPP Cap Coil in thickness of 0.12 mm to 0.23 mm	JAL/R&E/QA/SPEC/22
23	Specification for Insulation Coil in thickness of 0.71 mm	JAL/R&E/QA/SPEC/23
24	Specification for Sheet & Coil	JAL/R&E/QA/SPEC/24
25	Specification for Chequered Sheet	JAL/R&E/QA/SPEC/25
26	Specification for Circle	JAL/R&E/QA/SPEC/26
27	Specification for Slug	JAL/R&E/QA/SPEC/27
28	Specification for SRC Foils	JAL/R&E/QA/SPEC/28
29	Specification for Alu-Alu-Foil	JAL/R&E/QA/SPEC/29
30	Specification for Roofing Sheet (Trapezoidal & Circular)	JAL/R&E/QA/SPEC/30

NOTE: All 30 Specifications are attached

COMPETENCY CHART

Name of department: QA				
IS/ISO 9001:2015 clause number 7.2				
Sl. No.	Position	Required qualification*	Experience required	Relaxation in qualification in case of having sufficient experience in relevant field.
1	HOD - QA	M.Sc. in Chemistry OR BE/B Tech in MTG/Mech	15 Years	20 years
2	Senior Manager-QA	M.Sc. in Chemistry OR BE/B Tech in MTG/Mech	12 Years	16 years
3	Manager-QA	M.Sc. in Chemistry OR BE/B Tech in MTG/Mech	10 Years	14 years
4	Dy. Manager QA	Dip in Mech /MTG/ B.Sc chemistry.	6 Years	10 years
5	Assistant Manager QA	Dip in Mech /MTG/ B.Sc chemistry	4 Years	7 years
6	Engineer/Supervisor QA	Dip in Mech /MTG/ B.Sc chemistry	2 Years	4 years
7	Management trainee	Dip in Mech / MTG/ B.Sc chemistry	0 Year	----------

ABBREVIATIONS:

1. MTG: Metallurgy
2. BE: Bachelor of engineering
3. B.Tech: Bachelor of Technology
4. Mech: Mechanical
5. M.Sc: Master of science
6. B.Sc: Bachelor of science

Customer complaint handling

Sr. No.	Activity	Responsibility	Ref. Doc.
1	Receipt of Customer complaint Intimation letter / MCR by either Customer / Mktg. Dept.	HOD-QA	JAL/R&E/MAR/F/01
2	The nature of the complaint and Problem is discussed with Unit Head and concerned department HOD/In charges.	HOD-QA	---
3	A technical representative will be deputed to attend the complaint, if required.	HOD-QA/ Concerned HOD	---
4	In case if technical visit not required, regarding material disposal / salvage is conveyed to Marketing / Customer directly.	Concerned HODs	---
5	Details of the visit is discussed with the Unit Head/ HOD's of the concerned dept.'s and based on the discussions decision is taken for disposal of the material.	Representative	---
6	A detailed Visit report is prepared by the Representative and given to all concerned including Marketing department.	Representative	---
7	Intimation regarding the disposal of the material is conveyed to Customer through letter / Mail /Verbally.	Representative	---
8	Based on the Visit report / MOM / Sales return, top 5 defects are analyzed by using structural problem solving techniques such as fish bone diagram, why-why analysis etc. and corrective & preventive action shall be taken.	All Concerned HOD/In charge	---
9	In case there is no feedback from the customer within 30 days after submitting CAPA, complaint will be treated as closed.	QA-In charge	MCR Register-(PC) Soft copy/Hard Copy
10	Summary of each visit report with MOM is prepared and attached with QA-Monthly report.	QA-In charge	