QFR No - 8000890800

Defect Details

NC No.	8000890800
NC Date	12/09/2024
NC Submission Date	
Part No.	F2FA19033M
Part Name	K0PG FORK PIPE MACHINED
Supplier Name & Code	101109-TUBE INVESTMENTS OF INDIA LIMI
ETL Plant	1136-ETL Suspension Sanand
Defect Details	CRACK-HEAVY CRACK PART

1. Problem Description

Defect Description	Fork pipe K0PG crack problem.
Detection Stage	Inprocess
Problem Severity	Function
NG Quantity	1
Is Defect Repeatative?	No
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	anandms@tii.murugappa.com
Plant Head/CEO Email ID	girisha@tii.murugappa.com
MD Email ID	mukeshahuja@tii.murugappa.com

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	5000	0	0	1500	67000	73500
Check Qty	5000	0	0	1500	12000	18500
NG Qty	4	0	0	0	0	4

Action taken on NG part

Scrap	4
Rework	0
Under Deviation	0

Containment Action
100 % Visual inspection done for all available material at ETL after Grinding & will continue for next 1 week. & 100% Visual Inspection stated after machining operation for all available Raw material stock before dispatch to ETL.

3. Process Flow

Process Flow Description
TUBE FORMING - ANNEALING - WET PROCESS - PUSH POINTING - DRAWING - STRESS RELIEVING - STRAIGHTENING - ECT - CTL - FACING & CHAMFERING - FINAL INSPECTION - PACKING - DISPATCH TO SANAND W/H - INWARD - CNC MACHINING - DRILLING - DIBURRING - FINAL INSPECTION - PACKING - DISPATCH TO ETL.

4. Process Details

Process / Operation	Tube FORMING
Outsource	No
Machine / Cell	---
Machine / Cell No.	---

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Method	Impeder damage	Auto mode paper filter mechanism monitoring every day through IMI Check list.	O
Method	Insufficient Argon gas flow	Inter lock available for detection alarm if in case of variation in argon flow.	O
Method	Fin blade broken	As Per report found Seam guide fin blades are broken while thickness change over.	X
Machine	Less power during start of mill	Auto paint spray unit mechnaism (1st Part - NG Paint spray) monitoring through IMI Check	O

6. Inspection Method Analysis (Current)

Inspection Method	Other
Other Inspection Method	Eddy Current Testing
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	100%

7. Root Cause Analysis (Occurance)

Why 1	Tube Crack found at customer end after grinding operation.
Why 2	Paste weld at localized area .
Why 3	18th pass fin blade broken as Excess load act on blade side face
Why 4	Small weld bead material hit on the fin blade while wall thickness change over.
Why 5	Insufficient grinding of end weld joint edges with the current practice.
Root Cause (Occurance)	Insufficient grinding of end weld joint edges with the current practice.

Root Cause Analysis (Outflow)

Why 1	Tube Crack found at customer end after grinding operation.
Why 2	Crack occurred after grinding process load
Why 3	Paste weld at localized area & it is not detected.
Why 4	Eddy current testing m/c is not capture the defect.

Why 5	
Root Cause (Outflow)	Eddy current testing m/c is not capture the defect.

8. Countermeasure (Occurrence , Outflow & System side Actions)

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Occurance	Concave c-shape grinding to be done on both edge up to 2 mm from strip width(Grinding strip width allowance: 130 mm to 132 mm).	Mr. Satish	15/10/2024	10/10/2024	Completed
Occurance	The end weld ground strip to be verified snap gauge for each end weld period.	Mr. Satish	15/10/2024	10/10/2024	Completed
Outflow	ECT setting threshold limit changed from 50% to 40% for stringent control	Mr. Satish	15/10/2024	10/10/2024	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	No
Change Details	ECT setting threshold limit changed from 50% to 40% for stringent control
Inspection Method	Other
Other Inspection Method	Eddy current testing
Check Point at Final Inspection	Yes
Checking Freq.	100%
Sampling	No
Sample Size	100%

10. Evidance of Countermeasure

Occurance (Before)	1.Fine edge bead projection even after flat grinding of end weld joint. 2. Visual inspection after every end weld grinding 1089_Occurance_Before.pptx
Occurance (After)	1.Concave c-shape grinding to be done on both edge up to 2 mm from strip width. 2.The end weld ground strip to be verified snap gauge for each end weld period. 1089_Occurance_After.pptx
Outflow (Before)	Eddy current test threshold setting of upper & lower controlled with 50% 1089_Outflow_Before.pptx
Outflow (After)	ECT setting threshold limit changed from 50% to 40% for stringent control 1089_Outflow_After.pptx

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	ALL TFF SIZES.

12. Document Review

Documents	WISOP
Specify Other Document	NO

13. Effectiveness Of Action

Reviewed Quantity	
Reason for submission	