QFR No - 8000887717

Defect Details

NC No.	8000887717
NC Date	21/08/2024
NC Submission Date	
Part No.	S1HT05507B
Part Name	OUTER SPRING - K1JF
Supplier Name & Code	100186-SAGAR SPRINGS PRIVATE LIMITED
ETL Plant	1136-ETL Suspension Sanand
Defect Details	THICKNESS UNDERSIZE-END COIL THICKNESS UNDERSIZE

1. Problem Description

Defect Description	Tip thickness observed 1 mm against specification 2 mm Min .
Detection Stage	Inprocess
Problem Severity	Function
NG Quantity	156
Is Defect Repeatative?	No
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	quality@sagarsprings.com
Plant Head/CEO Email ID	ajai.singh@sagarsprings.com
MD Email ID	sagar@sagarsprings.com

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	4032	0	0	1500	0	5532
Check Qty	4032	0	0	1500	0	5532
NG Qty	250	0	0	100	0	350

Action taken on NG part

Scrap	350
Rework	0
Under Deviation	0

Containment Action
SSPL Person visited ETL - Sanad plant and 100% inspection done for tip thickness undersize.

3. Process Flow

Process Flow Description
Coiling - Tempering - Spring End Grinding - Shot Peening - Tempering - Scragging - Powder Coating - Final Inspection - Packing - Dispatch

4. Process Details

Process / Operation	Spring End Grinding
Outsource	No
Machine / Cell	Spring End Grinding Machine
Machine / Cell No.	Spring End Grinding

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Man	Untrained operator	Experienced operator working on this part	O
Method	Grinding angle maintained more than spec	Grinding angle maintained maintained more than 300° to maintain spring standing	X
Man	Instructions not followed by operator	Operator is experienced, skilled and following instructions	O
Machine	Grinding machine condition not OK	CNC Grinding machine (German make)	O
Method	Dressing not done in defined frequncy	Auto dressing system in place	O
Material	Free length variation in input springs for Grinding	Free length group wise grinding done	O

6. Inspection Method Analysis (Current)

Inspection Method	Gauge
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	Sampling
Sampling	No
Sample Size	sample pla

7. Root Cause Analysis (Occurance)

Why 1	Grinding angle maintained more
Why 2	Grinding angle maintained more than 300° against 250° Min.
Why 3	Grinding angle maintained more for spring standing
Why 4	Spring standing effects function (Noise issue)
Why 5	To maintain spring standing grinding angle maintained more than 300° caused tip thickness less
Root Cause (Occurance)	To maintain spring standing grinding angle maintained more than 300° caused tip thickness less

Root Cause Analysis (Outflow)

Why 1	Tip thickness less than 2.0 mm passed
Why 2	Tip thickness not checked
Why 3	Spring standing property is functional effecting parameter so, same is checked and passed
Why 4	
Why 5	
Root Cause (Outflow)	Spring standing property is functional effecting parameter so, same is checked and passed

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
Occurance	Grinding angle will be maintained between 250°-300° to maintain standing property, tip thickness and optimize parameters	SSPL	05/09/2024	05/09/2024	Completed
Outflow	Grinding angle 250° marked on gauge for detection control during grinding	SSPL	05/09/2024	05/09/2024	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	Yes
Change Details	Grinding angle 250° marked on gauge
Inspection Method	Gauge
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	Sampling
Sampling	No
Sample Size	sample pla

10. Evidance of Countermeasure

Occurance (Before)	Grinding angle maintained more than 300° 1028_Occurance_Before.pptx
Occurance (After)	Grinding angle will be maintained between 250°-300° to maintain standing property, tip thickness and optimize parameters 1028_Occurance_After.pptx
Outflow (Before)	Grinding angle gauge marked from 270°-330° 1028_Outflow_Before.pptx
Outflow (After)	Grinding angle 250° marked on gauge for detection control during grinding 1028_Outflow_After.pptx

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	Applicable for all Outer Coil Springs

12. Document Review

Documents	PFMEA
Specify Other Document	OPL

13. Effectiveness Of Action

Reviewed Quantity	5

Reason for submission	END COIL THICKNESS UNDERSIZE