

Defect Details

NC No.	7000852947
NC Date	01/08/2022
NC Submission Date	
Part No.	520AE04002
Part Name	CORE PLATE (C20002)
Supplier Name & Code	100915-CHIRAG DIE CAST PVT LTD
ETL Plant	1132-ETL K-226/1 TRANSMISSION
Defect Details	NOT AS PER SPECIFICATION-hardness obs 37 ~46 hrb against 52~62 hr

1. Problem Description

Defect Description	Hardness Observed 37 ~46 HRB As against 52~62 HRB
Detection Stage	Receipt
Problem Severity	Function
NG Quantity	1000
Is Defect Repeatative?	No
Defect Sketch / Photo	

Supplier Communication Details

Quality Head Email ID	qualityassurance@chiragdiecast.com
Plant Head/CEO Email ID	operationshead@chiragdiecast.com
MD Email ID	chirag.gupta@chiragdiecast.com

2. Stock Details & action taken for NG parts

Location	ETL End	Warehouse	Transit	Supplier FG	Supplier WIP	Total
Total Qty	1000	0	0	0	0	1000
Check Qty	1000	0	0	0	0	1000
NG Qty	1000	0	0	0	0	1000

Action taken on NG part

Scrap	1000
Rework	0
Under Deviation	0

Containment Action

Tested samples will send with each lot for Cross Verification

3. Process Flow

Process Flow Description

PDC , Trimming & shaving , Shot Blasting , Visual Inspection , Stress Reliving, 100% Gauging for Flatness, Packing & Dispatch

4. Process Details

Process / Operation	High Pressure Die Casting
Outsource	No
Machine / Cell	HPDC
Machine / Cell No.	PDC

5. Problem Analysis

Type	Possible Cause	Fact Verification	Jud
Material	Mg. at Lower side of Specification of ADC-12	Mg. observed in component 0.18	O
Method	Measurement Variation in Hardness Testing	Difference observed upto 6 points in HRB	O

6. Inspection Method Analysis (Current)

Inspection Method	Instrument
Other Inspection Method	
Check Point at Final Inspection	No
Checking Freq.	Sampling
Sampling	No
Sample Size	5 pcs .

7. Root Cause Analysis (Occurance)

Why 1	Mg. found lower side 0.12% as against 0.30 Max. specification of ADC-12
Why 2	Mg. burn during HPDC process
Why 3	Symptoms / phenomenon of process
Why 4	
Why 5	
Root Cause (Occurance)	Lower side Mg.% will affect the hardness in lower side against the specification.

Root Cause Analysis (Outflow)

Why 1	Part to part & Claw to claw variation (In our samples we have observed 48 to 58 HRB
Why 2	Mix up of Runner riser in PDC Process (2 or 3 Times)
Why 3	Mixing of Runner Riser & al. Ingot is the part of process.
Why 4	
Why 5	
Root Cause (Outflow)	Hardness Tester results variation & Mg % Variation Part to Part & Claw to claw variation.

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

Type	Countermeasure Details	Responsibility	Target Date	Actual Date	Status
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Outflow	We will send 5 Pcs duly hardness tested with each lot for cross verification.	Chirag Die Cast	18/08/2022	18/08/2022	Completed
Occurance	We will maintain % age of Mg. in molten Material Minimum 0.20% by addition of Pure Mg. (On the basis of as & when required) during PDC process.	Chirag Die Cast	18/08/2022	18/08/2022	Completed

9. Inspection Method After Customer Complaint

Change In Inspection System	No
Change Details	No Change
Inspection Method	Instrument
Other Inspection Method	
Check Point at Final Inspection	Yes
Checking Freq.	Sampling
Sampling	No
Sample Size	5 Nos.

10. Evidence of Countermeasure

Occurance (Before)	We were not adding Mg. during HPDC Process 217_Occurance_Before.pdf
Occurance (After)	As per Process Inspection Report PDC , we have maintain the % of Mg as Min 0.2% in Molten Material & Hardness observed (48 to 60 HRB) 217_Occurance_After.pdf
Outflow (Before)	No submission of hardness tested samples for cross verification 217_Outflow_Before.pdf
Outflow (After)	We will send 5 Pcs. duly hardness tested with each lot for cross verification at ETL to ensure variation in Testing Machine.(10 Points band of Hardness requesting to increase) as same Pc covered all the tolerance band. 217_Outflow_After.pdf

11. Horizontal Deployment

Horizontal Deployment Required	Yes
Applicable Machine / Model / Plant	Applicable for other core plates , where ETL asked for Hardness .

12. Document Review

Documents	WISOP
Specify Other Document	PIR for Mg add & HRB

13. Effectiveness Of Action

Reviewed Quantity	5000
Reason for submission	OK