



HCI
Suppliers Club Society



DELIVERING AN
UNPARALLELED EXPERIENCE
IN AUTOMOTIVE GLASS.



Asahi India Glass Limited



COMMITTED TO
COMFORT, QUALITY,
AND EFFICIENCY.



ABOUT AIS

AIS is India's leading integrated glass solutions company. AIS a dominant player in the glass segment, providing end-to-end solutions to customers, right from the manufacturing of Automotive & Building before glass segment, processing, fabrication and installation services. It is a sand-to-solutions organisation, offering varied glass products and services for institutional buyers as well as retail customers in the domestic and international markets. AIS successfully adheres to the stringent quality norms of both the global and domestic OEMs and strictly follows all Indian and international quality standards.

Welcomes You All to HCI Suppliers Club National Kaizen Competition

Team

THE OCEAN

I am AIS



HCI

Suppliers Club Society

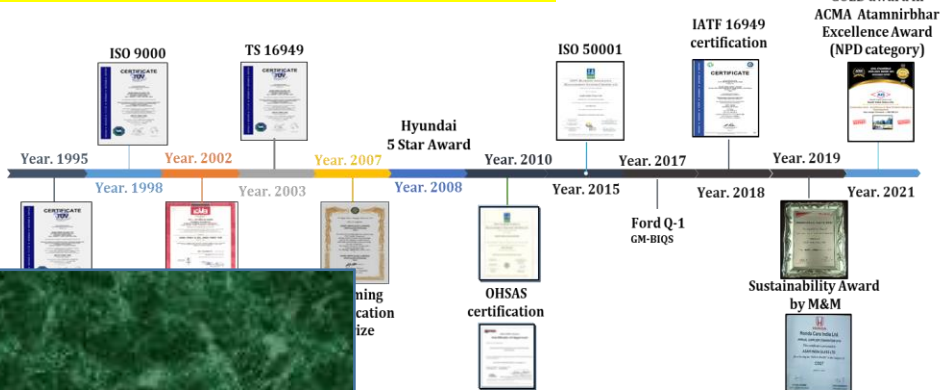
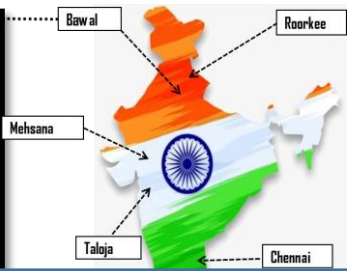
AIS

Quality

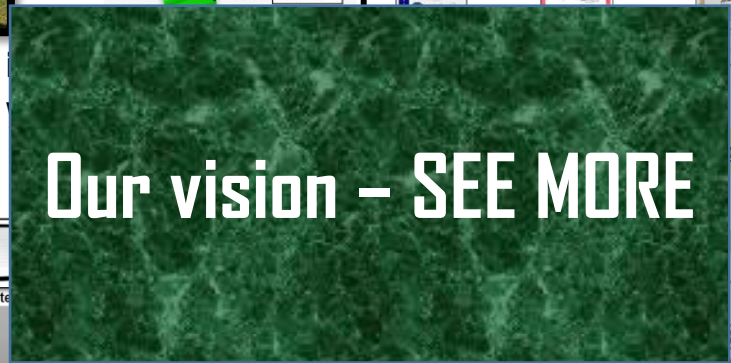
2 of 16

COMPANY INFORMATION

AIS (Auto) Journey Towards Excellence

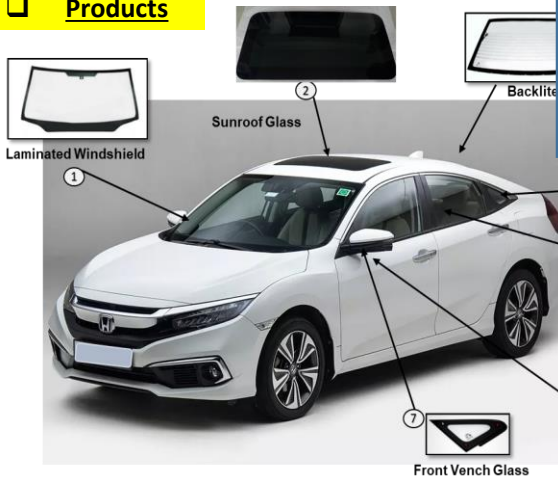


- ❖ Established in 1985, Production Started
- ❖ Production Capacity:- 2.5 million sets /
- ❖ Total Manpower:- 1803 no's



on Gold Award in ACMA Manufacturing Excellence Award

Products



LCV/MHCV Goods Carrier(Trucks)

DAIMLER, Mahindra Rise, TATA, EICHER, ASHOK LEYLAND, SML ISUZU

LCV/MHCV Goods Carrier(Bus)

TATA, Marcopolo, SML ISUZU, ASHOK LEYLAND, VE COMMERCIAL VEHICLES, VOLVO, SCANIA

OFF Highway

JCB, KOBELCO, Mahindra Rise, LEYLAND DEERE, KOMATSU, CATERPILLAR

Metro Coach

HYUNDAI, Rotem, ALSTOM, Whirlpool, IFB

Consumer Glass

Car Market Share:- 73%



- **Kaizen Theme: To Eliminate the rejection (CULLET MARK) on I-94**
- **Month of Implementation :- June 2024**

Productivity	
Quality	Quality
Cost	
Delivery	
EHS	

TEAM THE OCEAN



Name: Mr. Sonu Kumar
Department: Production



Name: Mr. Bijender
Department: Production

❖ CFT Formation:

1. Mr. Sachin Saini
2. Mr. Sonu Saini
3. Mr. Bijender Kumar
4. Mr. Rohit (Maintenance)
5. Mr. Rajkumar Attri (Electrical Maintenance)

Awards Won

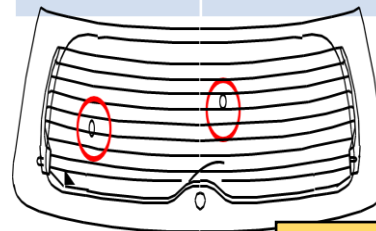
1. *AIS Internal Quality Circle 1st Runner Up – 2023*
2. *AIS Internal Kaizen Competition Winner - 2024*

PROBLEM

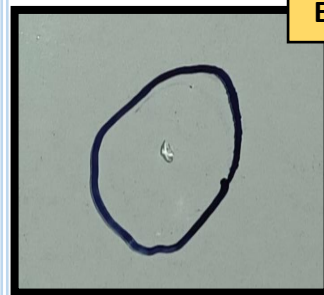
CULLET MARK

DEFINITION

The small pieces of glass that sticks or strikes to glass surface and create distortion are known as Cullet particles (Pieces of Broken Glass stick to OK Glass).



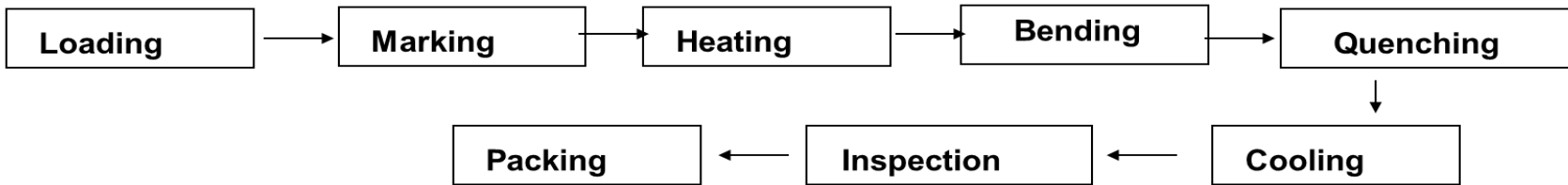
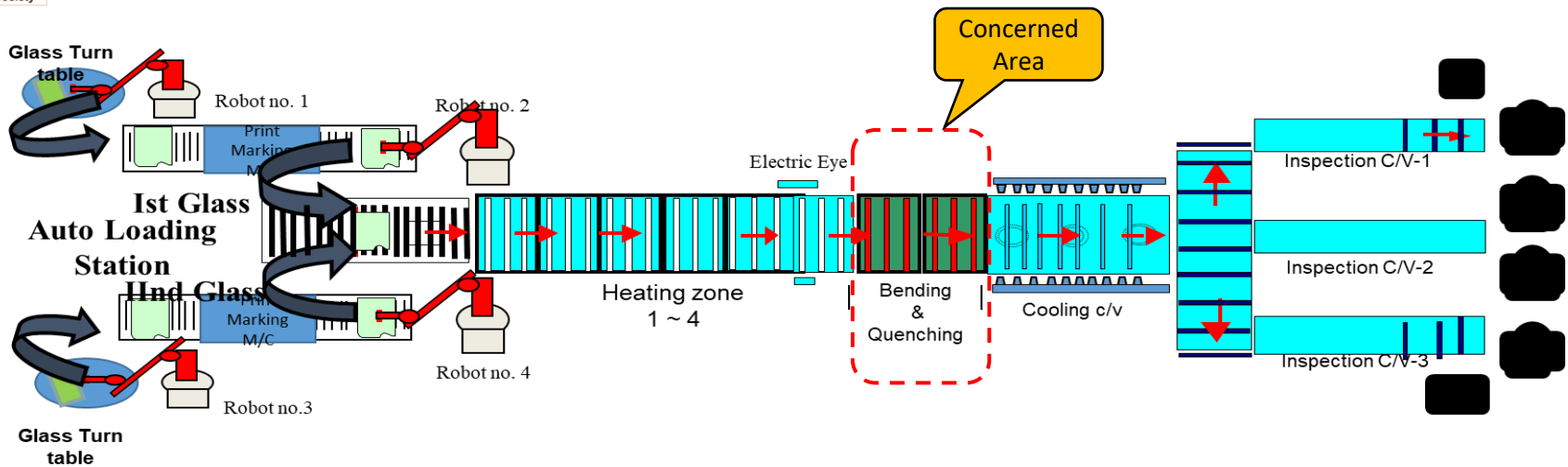
EFFECT



REJECTION OF GLASS

Appearance NG

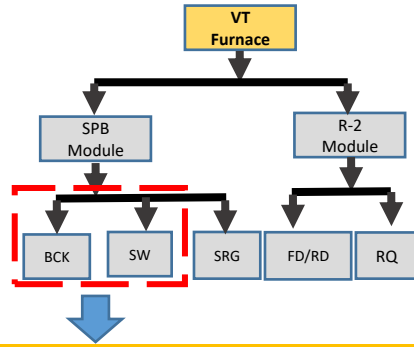
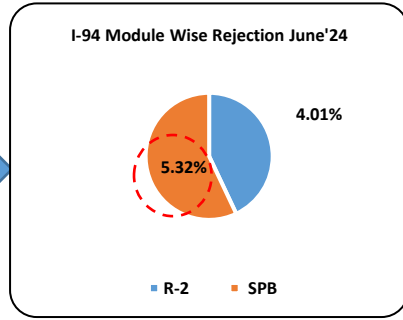
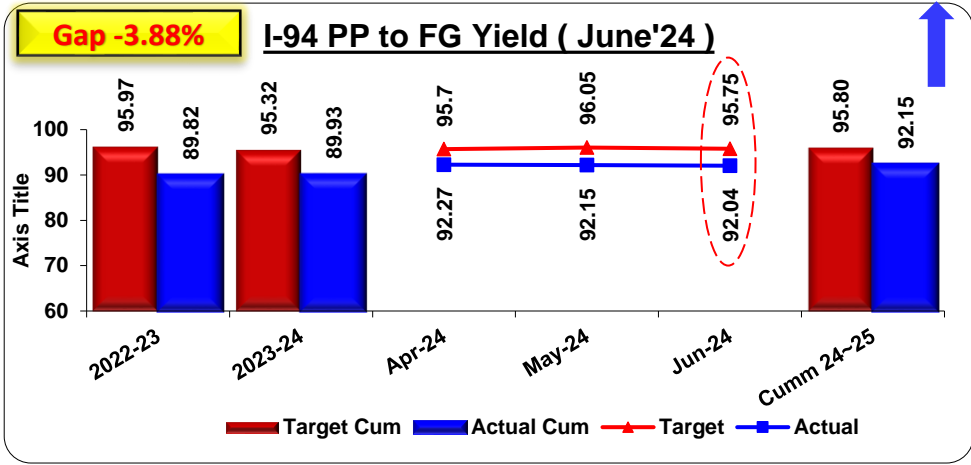
DELIVERY OF GLASS



This is the single machine in the plant which can produce side door glass as well as back door glass.



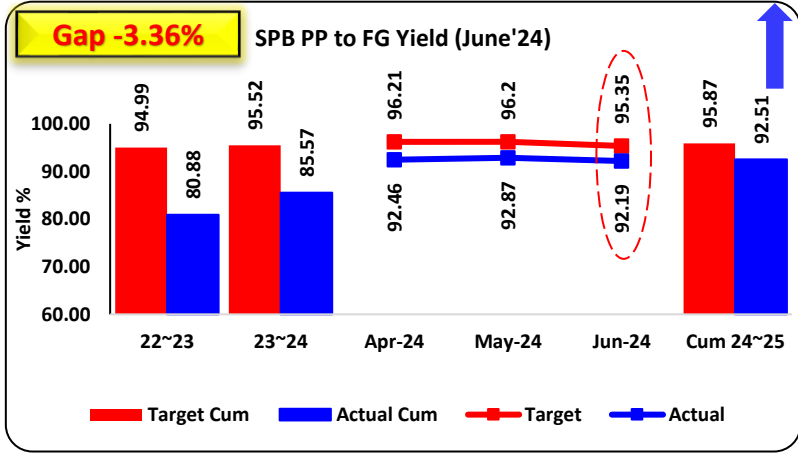
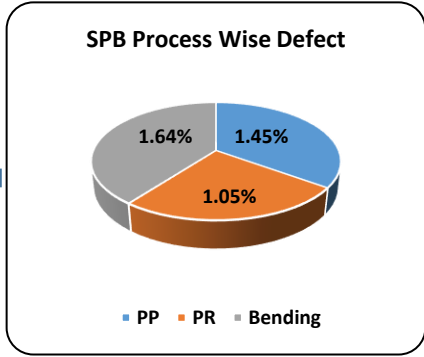
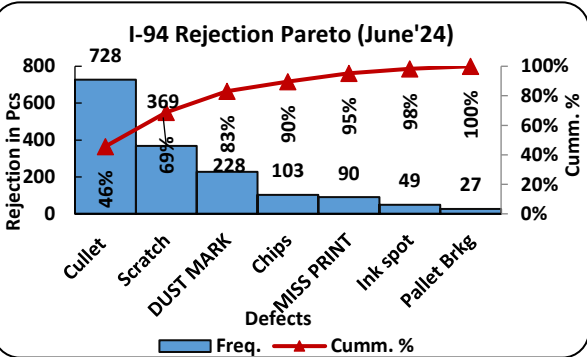
Analysis of Problem



Inference :-

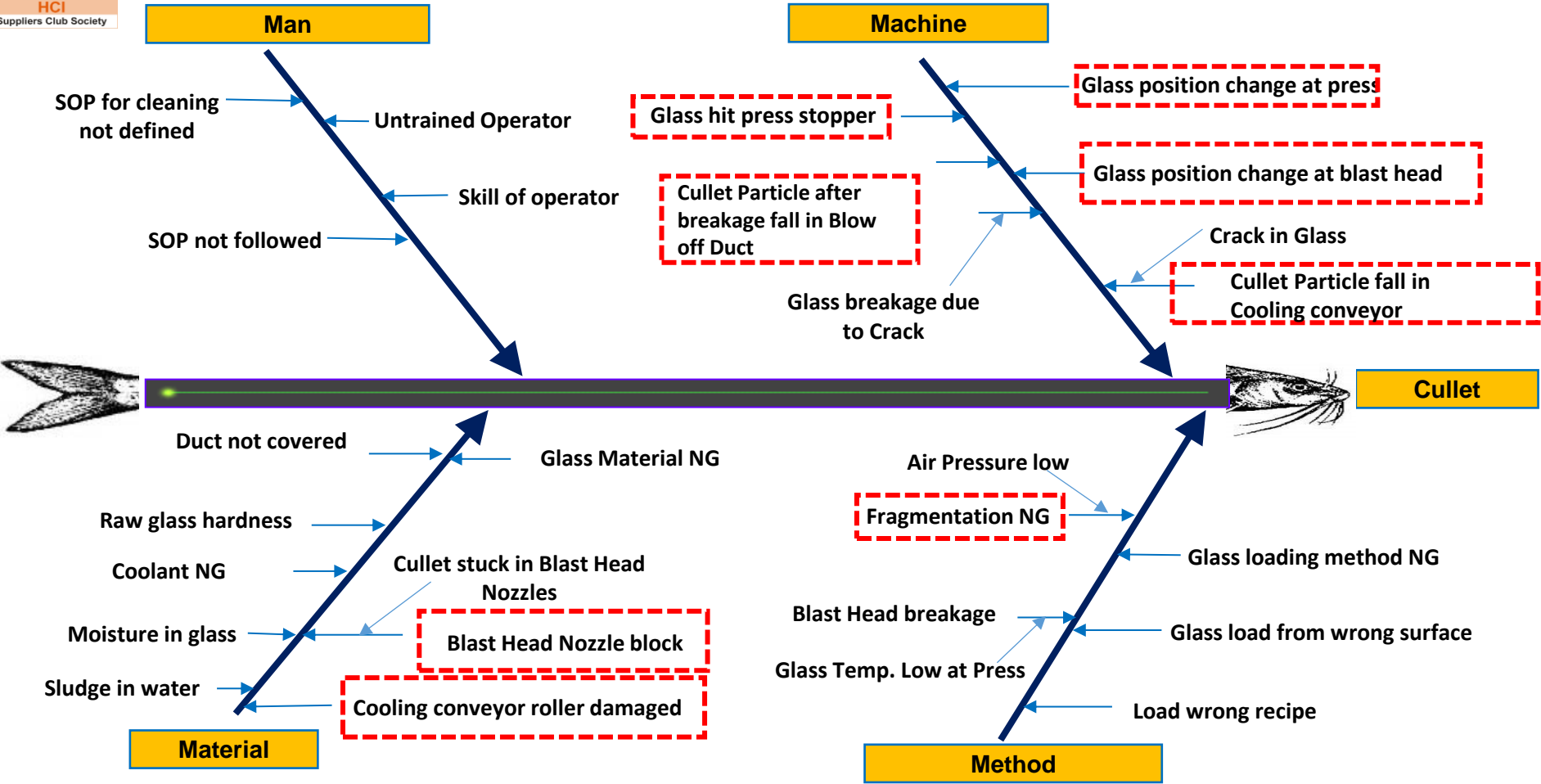
- SPB is highly contributor in PP to FG rejection .

Inference :-
Cullet is top contributor





Cause & Effect Diagram for Cullet Mark :-





Validation of Potential Cause

S.No	Potential Causes	Validation Method	Specification	Actual	Judgement
1.	Glass hit Press Stopper	Gemba	660 mm at P1	320 mm & Glass Crack	Invalid Cause
2.	Cullet particle after breakage fall in blow off duct	Gemba	No Cullet particles in Blow off Duct	Cullet Particles found in Blow off Duct	Valid Cause
3.	Blast Head Nozzle block	Gemba	Air should pass through each nozzle	Nozzle condition found OK	Invalid Cause
4.	Glass position change at blast head	Gemba	Glass not rotate at B/H	Glass rotate at Blast head & break	Valid Cause
5.	Glass hit press stopper	Gemba	As per standard	Observed glass at required position	Invalid Cause
6.	Cullet Particles fall in Cooling conveyor after Glass breakage	Gemba	Should not worn out	All roller found in good condition .	Invalid Cause
7.	Inadequate temperature	Gemba	As per program	As per operating condition	Invalid Cause
8.	Fragmentation NG	Gemba	As per program	As per operating condition	Invalid Cause

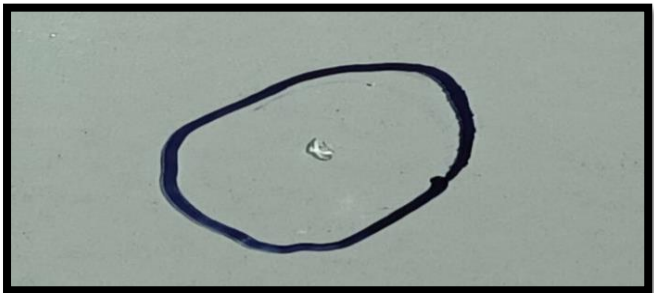
Valid Cause- 2

Invalid Cause-6



PROBLEM: Glass breakage issue due to Glass position change & causing CULLET MARK issue.

Why 1	Why the Glass breakage happed at quenching ?
Ans. 1	Because hit with hard site of blast head .
Why 2	Why glass hit with hard site of blast head ?
Ans. 2	Because glass position shift while glass lift up by bottom B/H .
Why 3	Why glass position shift while glass lift up by bottom B/H ?
Ans. 3	Because air flows continuously from upper blast head .
Why 4	Why air flows continuously from upper blast head ?
Ans. 4	Because blower damper install much far .



Cullet mark which generated due to glass breakage.

Root Cause

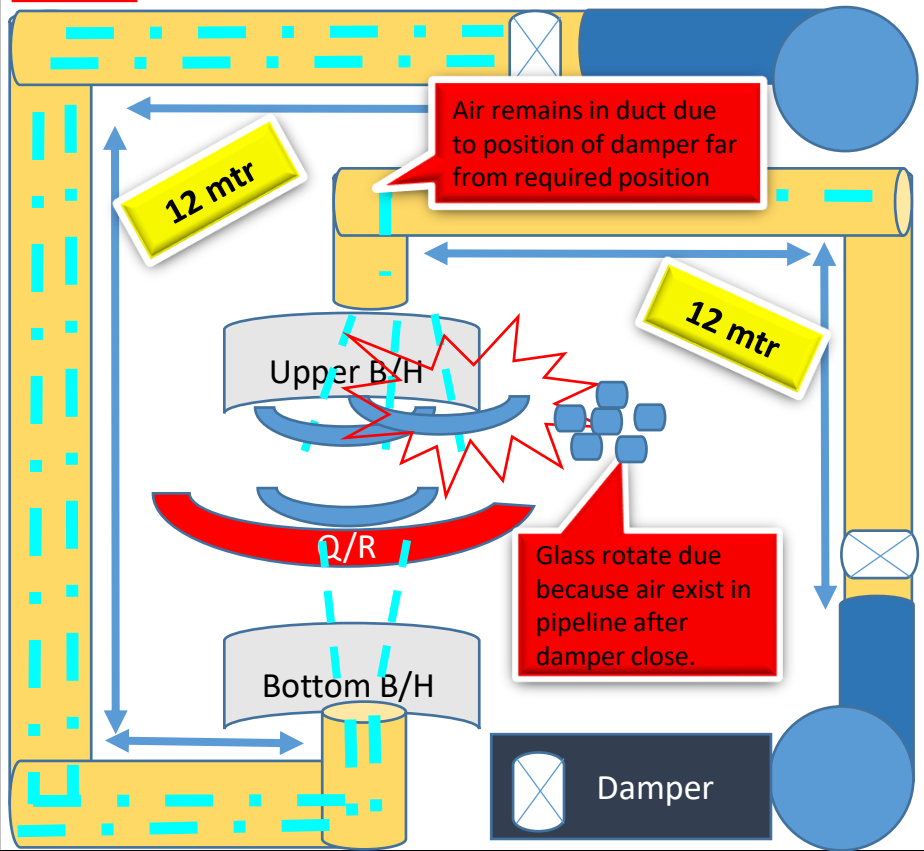
ROOT CAUSE: Damper position far from blast head .

ROOT CAUSE - 01	SUGGESTED ACTIONS	REMARKS
Nozzle not as per standard	Can we reduce the air pressure ?	Fragmentation will be NG .
	Can we change the location of blower damper ?	Yes it can be done



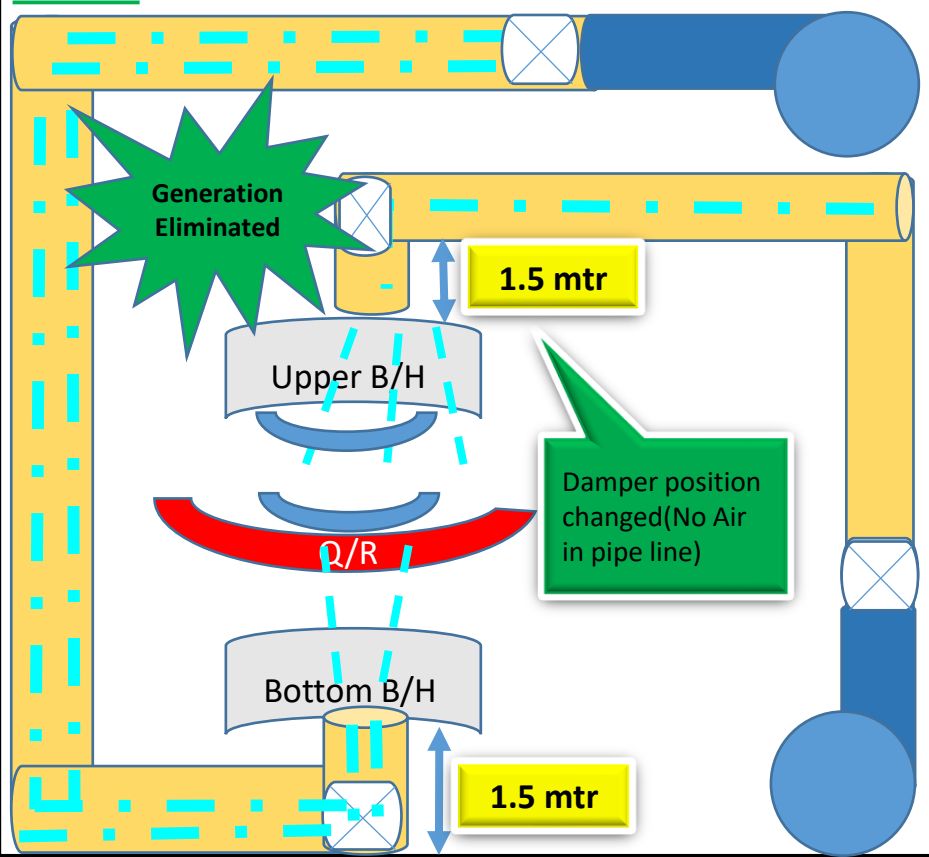


Before:



Blower Damper Position Change

After :-





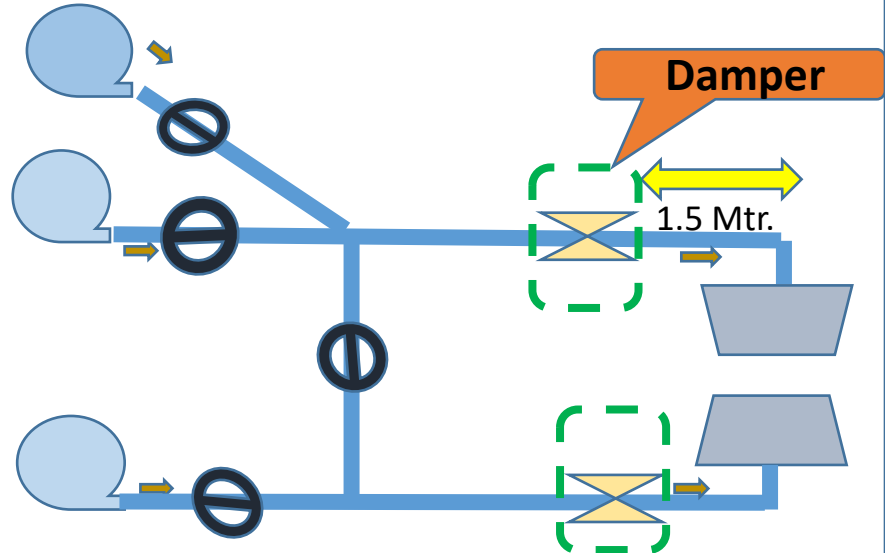
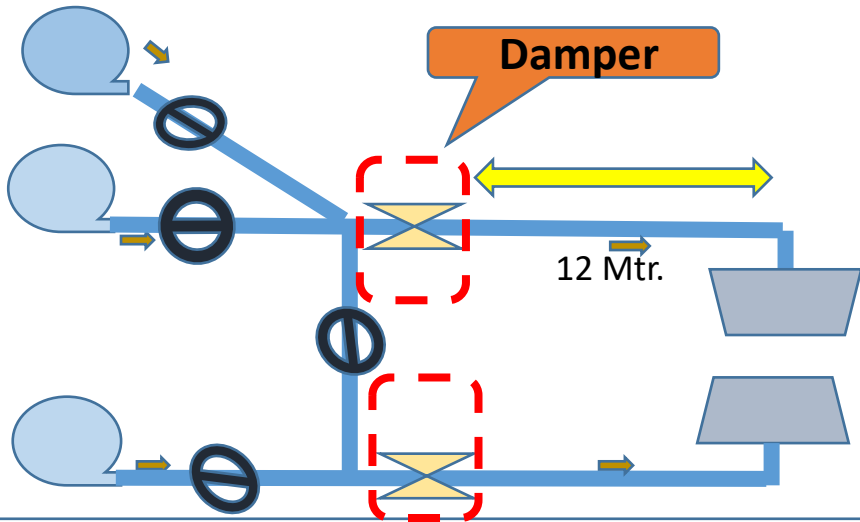
Implementation Date :-04-06-24

BEFORE KAIZEN

AFTER KAIZEN

Photograph/Video

Photograph/Video



Before status:

- Previously damper location was at 12 meter distance so glass rotate in B/H

After status:

- Now damper position changed from 12 meter to 1.5 meter and now no glass position changes

Benefits- Reduction in generation of Cullet.



PROBLEM – Generation of Cullet Mark.

Ans. 1	Breakage cullet particles hitting the glass.
Why. 2	Why Breakage cullet particles hitting the glass?
Ans. 2	Because Blow off duct sending the cullet particles on glass.
Why 3	Why Blow off duct sending the cullet particles on glass?
Ans. 3	Because there were cullet particles present inside blow off fins.
Why .4	Why there were cullet particles present inside blow off fins?
Ans.4	Because blow off fins are open.
ROOT CAUSE:- Because blow off fins are open.	

Root Cause



Design weakness in Blow off duct
Cullet blow up & hit with glass .

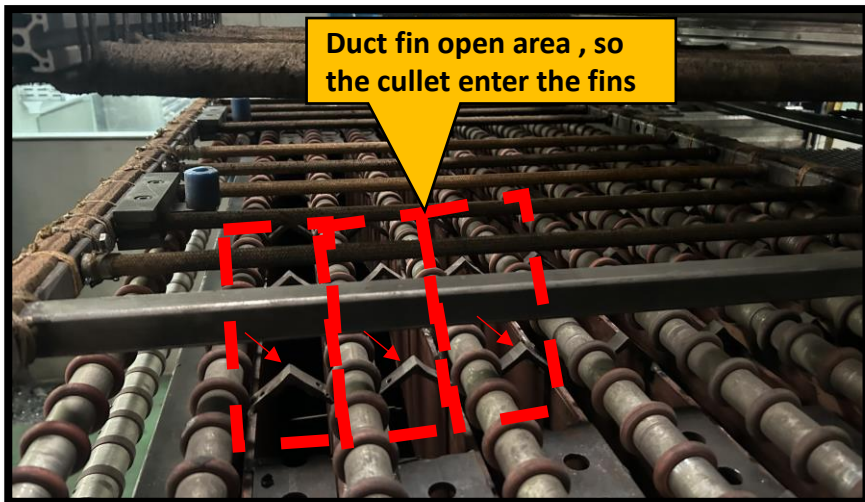
ROOT CAUSE 01	Suggested action	REMARKS
Blow off duct fins are open	Reduce the Blow off Pressure	Cannot meet the glass blow up properly. ❌
	Provide mesh on the fins of Blow off Duct	Accepted ✅



Implementation Date :-05-06-24

BEFORE KAIZEN

Photograph/Video

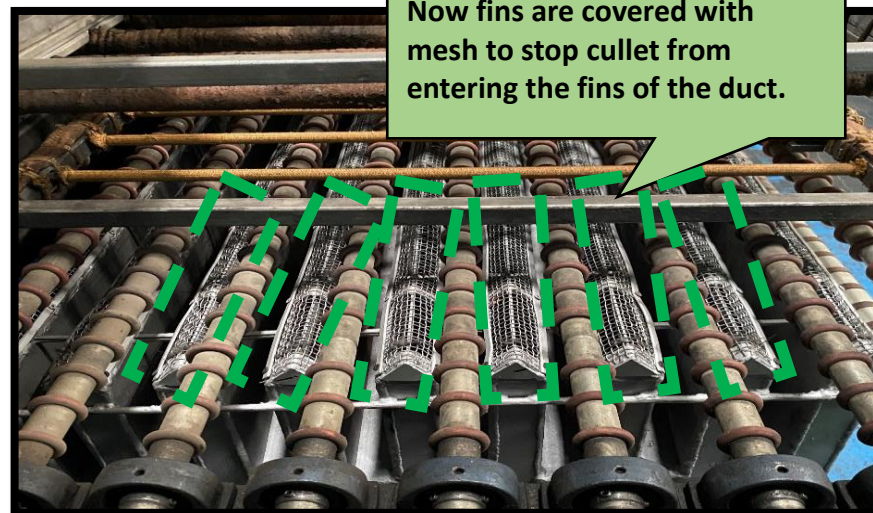


Before status:

- Earlier at I-94 blow off station , Cullet enters the blow off fins as no coverage provided.

AFTER KAIZEN

Photograph/Video



After status:

- Now we have added mesh (Mesh Size- 4X4 mm) over the fins to stop cullet entry into the fins of Blow off duct.

Benefits- Reduction in generation of Cullet.



Implementation Date :-04-06-24

BEFORE KAIZEN

Photograph/Video

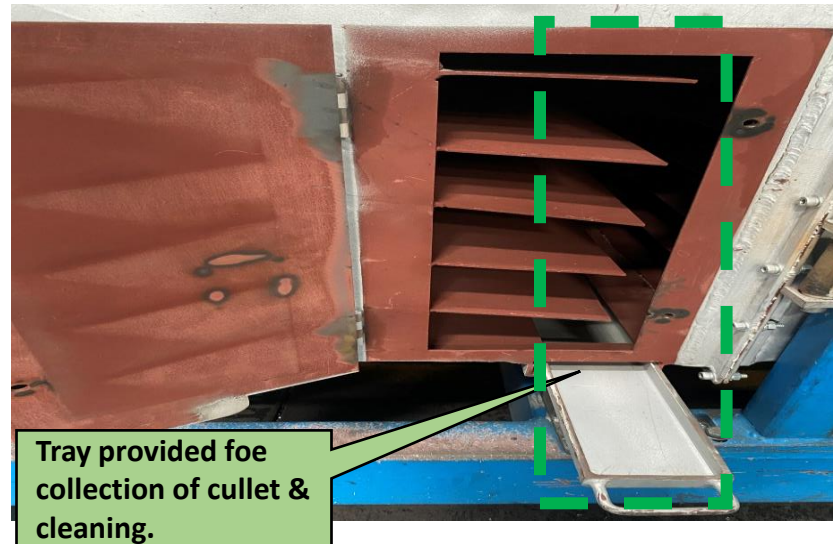


Before status:

- Earlier at I-94 Cullet Cleaning done using broom inside of cleaning duct, so small particles are left behind

AFTER KAIZEN

Photograph/Video



After status:

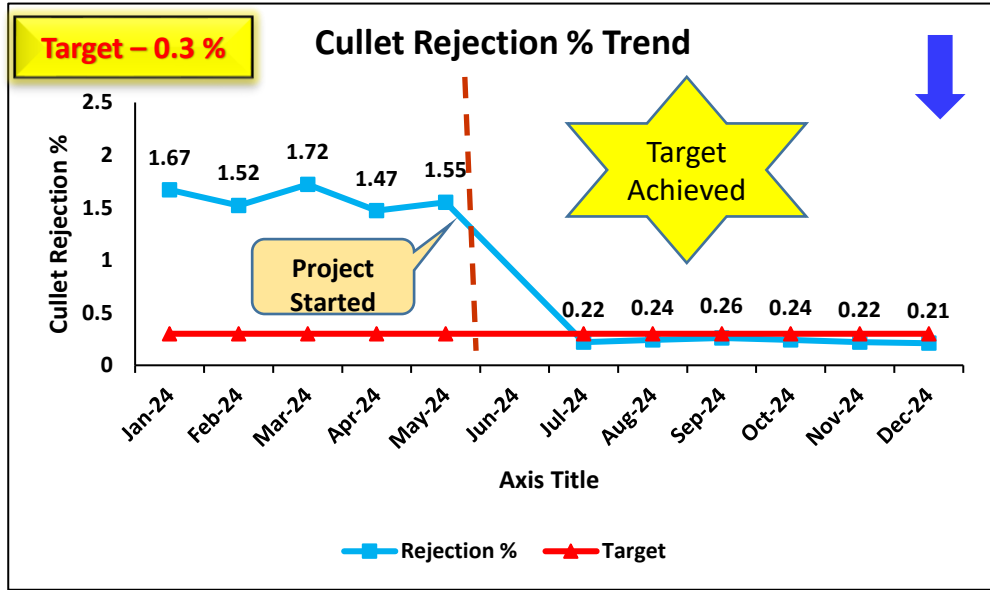
- Now we have provided Tray for collection of cullet & cleaning.

Benefits- Reduction in generation of Cullet.



Pls tick ✓ the benefits in below heads

Productivity up %				Quality			Cost Saving In Rs/month		Delivery			EHS			
Process	Material yield improvement	Space saving (sq. ft.)	Other	Rejection reduction (%)	Poka yoke	Others	Direct	Notional	Lead Time reduction	Customer delivery rating improvement	Others	Effect on Environment	Human Safety	Machine safety	Others
✓				✓			✓			✓					✓



Saving :- Rs. 38,85,641/-

Cost Summary :

Cost Investment :-

- Cost of Damper Relocation - 36870/-
- Cost of Mesh : Rs. 13789/-
- Cost of Tray : Rs. 1200/-
- Total cost investment:- 51859/-**

Cost Saving :-

- Total cost of glass including RG & Processing Cost :- Rs.375/-
- Glass Saving Per Month = 875 pcs
- Total glass save per year :- 10500 pcs
- Revenue per year by saved glass :- Rs. 39,37,500 /-
- Cost Saving excluding investment :- 38,85,641/-**



Standardization :-

Pls tick ✓ the benefits in below heads

Productivity up %				Quality			Cost Saving In Rs/month		Delivery			EHS			
Process	Material yield Improvement	Space saving (sq. ft.)	Other	Rejection reduction (%)	Poka yoke	Others	Direct	Notional	Lead Time reduction	Customer delivery rating improvement	Others	Effect on Environment	Human Safety	Machine safety	Others
✓				✓			✓			✓					✓

S. No.	ITEM	CHECKING POINT	STANDARD	CHECKING METHOD	Decision	Remarks by Tooling
1	Mail	Surface finish (Surface Ra)	Should be smooth (Smooth finish required)	Check with the hand feeling (Hand feel required)		
2	Pho-Framing Rail	Pho-Framing Rail (Pho-Framing Rail)	Should not damaged (Damaged parts should be replaced)	Check with the hand feeling there is no leakage in pipe (Hand feel required)		
3	Quench Ring	Alignment level (Level should be equal on both side)	Alignment should be equal on both side (Level should be equal on both side)	Check on the surface gauge (Use level gauge)		
4	Blow Head	Blow Head (Blow Head)	No damage (No damage)	Check visually (Visual check)		
5	Blow Off	Blow Off (Blow Off)	Check visually (Visual check)	Check visually (Visual check)		

Check Point added in Next Model Tooling Check sheet.

Improvement Theme: I-94 Furnace SPB Tool provided Tray for collection of cullet & clearing.		Date: 04/06/2024																																				
Cause: Cullet Tray NA		Completed By: R&D																																				
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Registration Code: _____																																						
Remarks: _____																																						
For use in I-95 Furnace.																																						

MPIS sheets for New SPB Module.

Improvement Theme: I-94 Furnace SPB Tool we have to shift damper duct position.		Date: 04/06/2024																																				
Cause: Wire Mesh added on Blow-off Duct		Completed By: R&D																																				
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horizontally deploy on below listed departments																																						

Horizontal Deployment in AIS-Chennai & AGC Thailand.



THANK YOU



TO FURTHER REDUCE JOB CHANGE TIME OF I-94

Your Questions and Valuable suggestions are Welcome

