
	STRATUS AUTOMATION SDN BHD	DOC. NO.	SA-SOP-037
		REV. NO.	00
	CUSTOMER INSPECTION SPECIFICATIONS	EFF. DATE	20/12/2024
		PAGE	1 of 18

AUTHORIZATION

Prepared by	Reviewed by	Approved by
Name: Mohammad Rozimi	Name: Lau Siew Fui	Name: Mar Kheng Tat
Role: QA Engineer	Role: SC Biz Ops Manager	Role: Sr. QA Manager

DOCUMENT STATUS		
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Approval date: 24-Dec-2024

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1.0 Purpose

- 1.1 To ensure the fabricated parts received from the suppliers following the drawing specification in terms of visual (Cosmetics) and dimension.
- 1.2 For the purpose of this Standard, the term "Cosmetic" shall mean that the appearance of a part surface is important in its own right, and thus must invoke the visual inspection and visual acceptance criteria defined in this document.

2.0 Scope

- 2.1 This procedure is applicable to all incoming quality, in process and outgoing quality checking activities for fabricated parts which is supplied from AVL (Approved Vendor List).

3.0 Grade

- 3.1 Cosmetic surfaces are graded first by area Visible and Hidden area

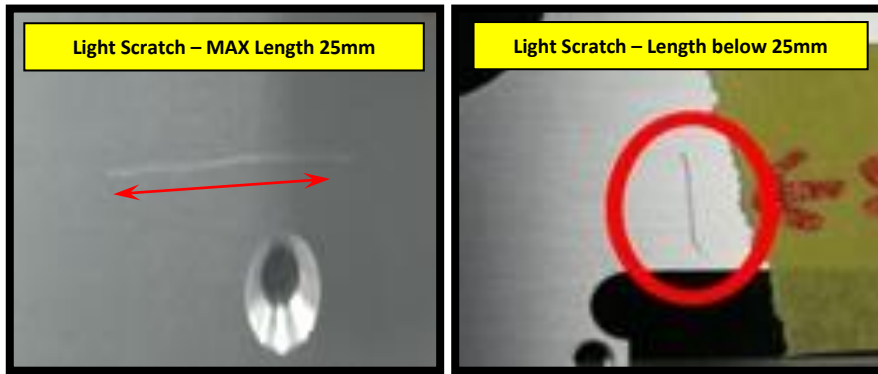
Grade	Area	Remark
Level 1	Visible surface	Visible surface when installed
Level 2	Hidden Surface	Hidden surface when installed

4.0 Inspection Requirements

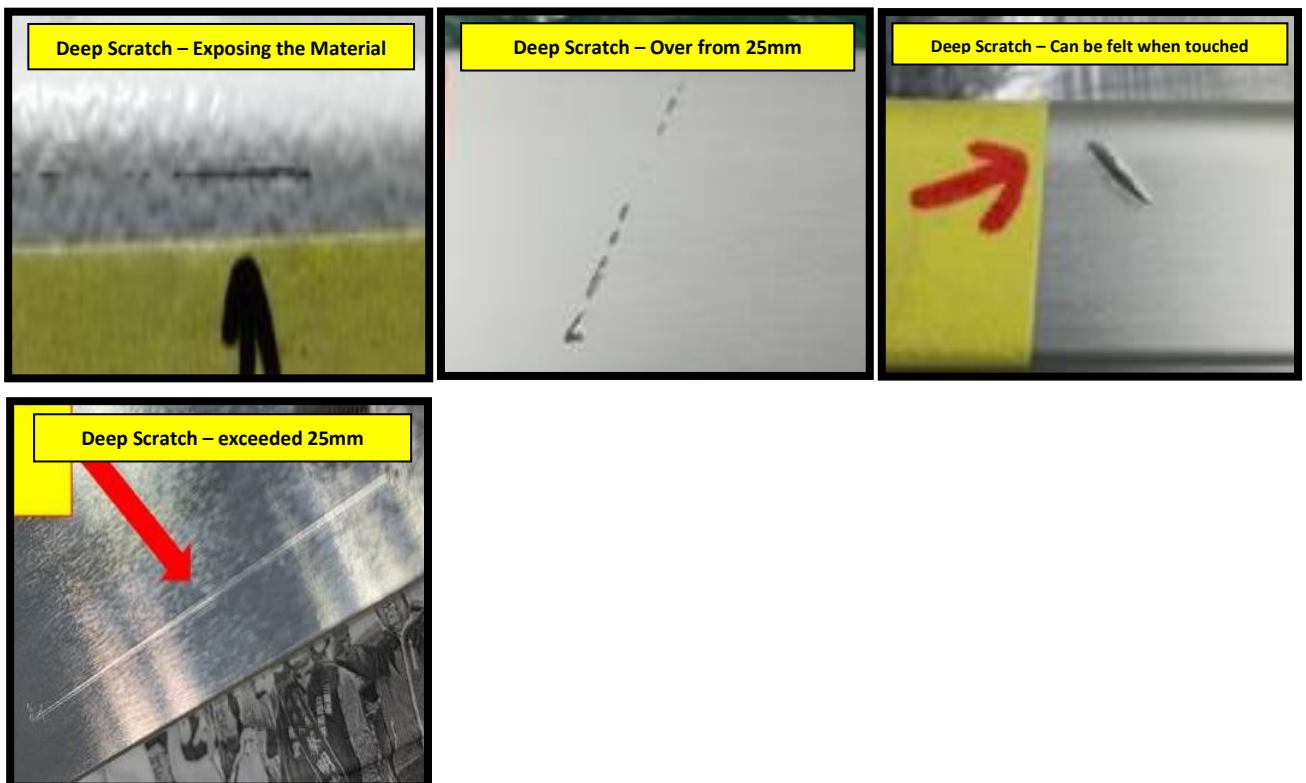
- 4.1 Cosmetic inspection parts shall use the "Time and Distance" (T & D) inspection procedure.
 - 4.1.1 All visual inspection must be conducted at 700.0 mm (One Arm Length) via naked eye view. Tilt 45° within 5 second.
- 4.2 This requirement is used to standardize inspection methods.
- 4.3 May be used to assist in making an "accept/reject" decision when cosmetically judging parts.

TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Scratches • Shallow grooves	<p>Accepted:</p> <ol style="list-style-type: none"> Light Scratches (not detectable by tactile (Touching) means which is not exposing raw material, length of scratch less than 25mm and are not repeating. Small scratch within area 10mm X 10mm and not repeatable. 	<p>Accepted:</p> <ol style="list-style-type: none"> Scratch with no impact to functionality or testing. <p>Rejected:</p> <ol style="list-style-type: none"> Scratch that may induce further surface damage and impact functionality.

SCRATCHES (ACCEPTED CONDITION)



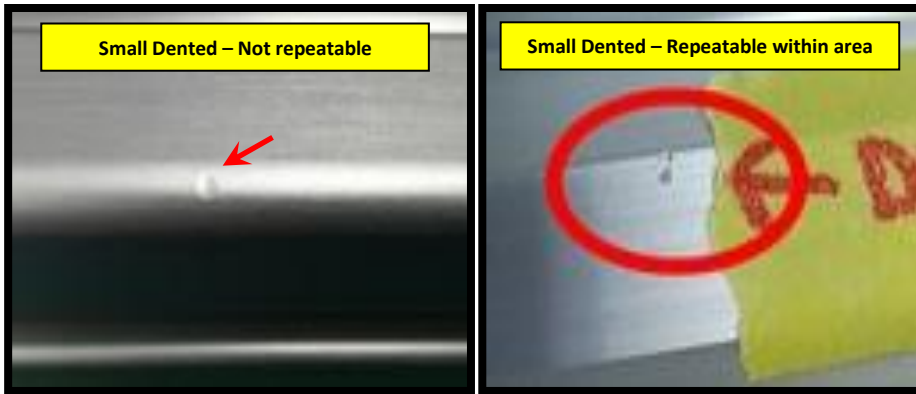
SCRATCHES (REJECT CONDITION)



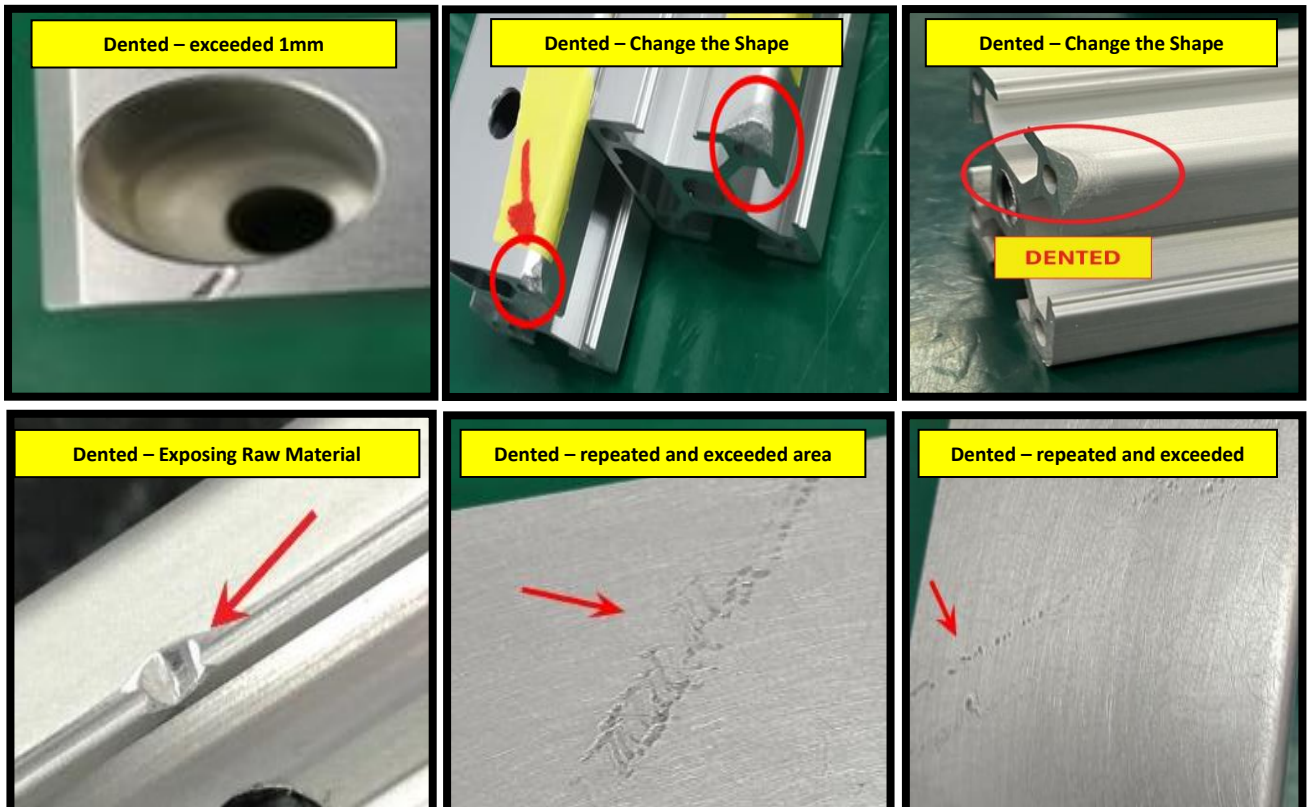
CUSTOMER INSPECTION SPECIFICATIONS

TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Dents <ul style="list-style-type: none"> Marks, indentations, or depressions 	<p>Accepted:</p> <ol style="list-style-type: none"> Dent with length less than 1 mm in any direction. Only 1 dent within area 10mm x 10mm and not repeatable. <p>Rejected:</p> <ol style="list-style-type: none"> Dent with protrusion observed and / or exposing base materials. 	<p>Accepted:</p> <ol style="list-style-type: none"> Dent with no impact to functionality or testing after complete assembly. <p>Rejected:</p> <ol style="list-style-type: none"> Dent that may induce further surface damage and impact functionality.

DENTED (ACCEPTED CONDITION)



DENTED (REJECT CONDITION)



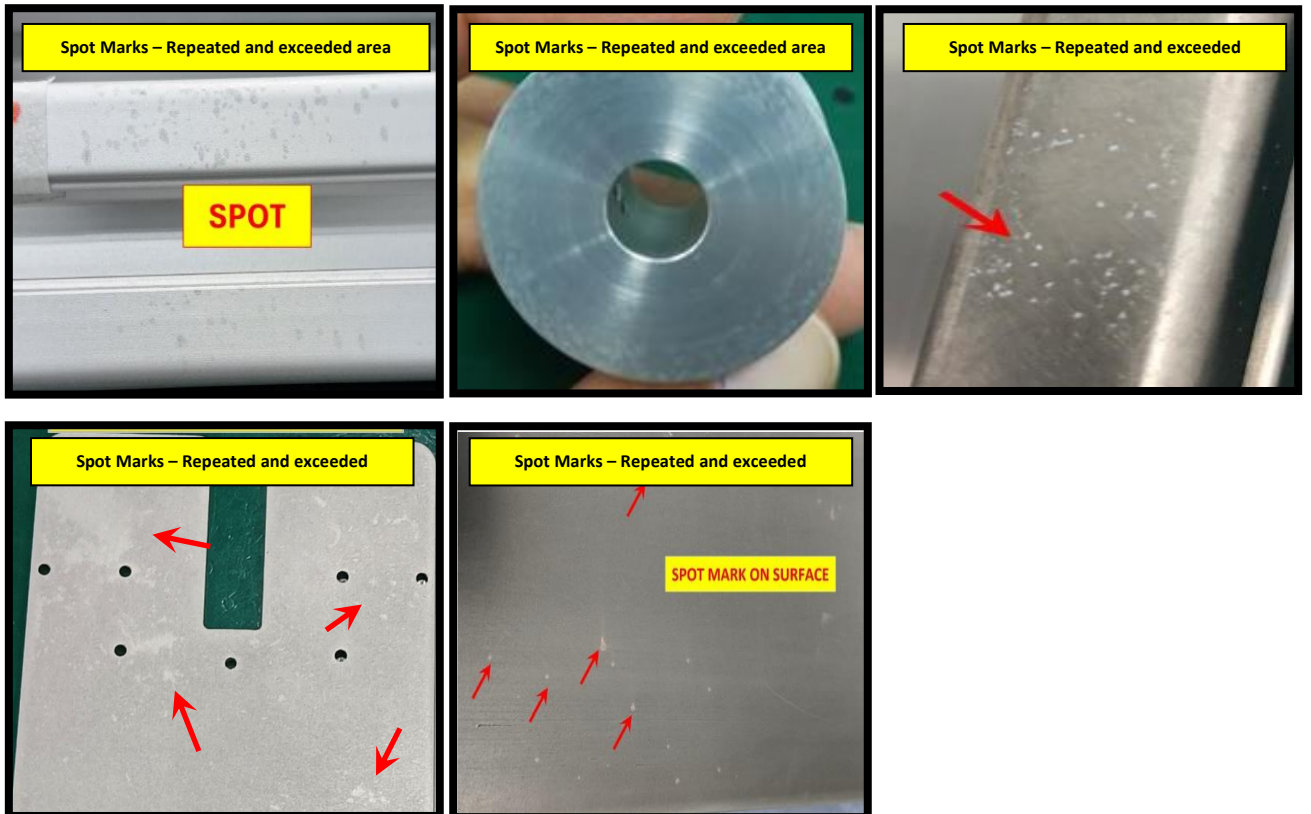
CUSTOMER INSPECTION SPECIFICATIONS

TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Spot Marks <ul style="list-style-type: none"> A small round or roundish mark, differing in colour or texture from the surface around it. 	Accepted: 1. Spot Marks within area 10mm x 10mm and not repeatable.	Accepted: 1. Spot Marks with no impact to functionality or testing after complete assembly. Rejected: 2. Spot Marks that may induce further surface damage and impact functionality.

SPOT MARKS (ACCEPTED CONDITION)

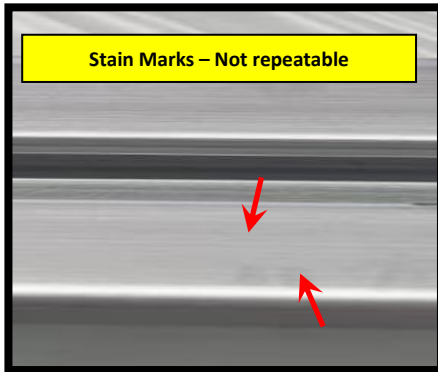


SPOT MARKS (REJECT CONDITION)

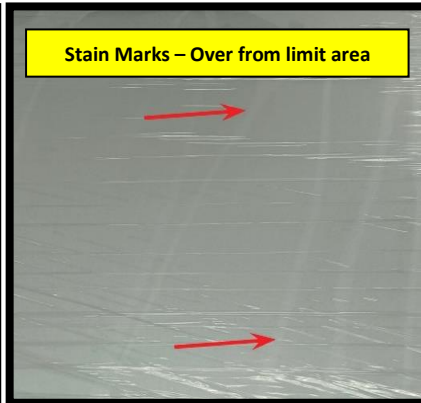
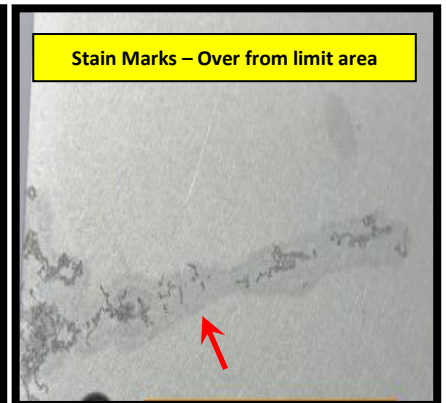
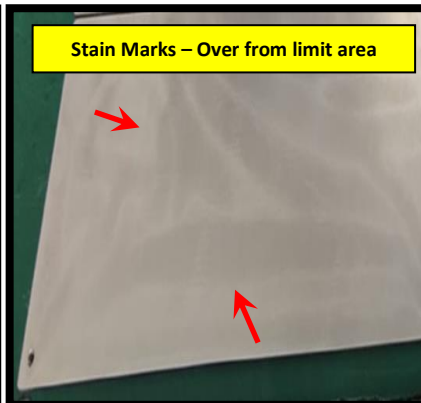


TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Stain Marks <ul style="list-style-type: none"> Discoloration of a surface color caused by the presence of water or other liquid. 	Accepted: 1. The size for the stain should be below the allowed size area 10mm x 10mm and not repeatable.	Accepted: 1. Stain mark with no impact to functionality or testing after complete assembly.

STAIN MARKS (ACCEPTED CONDITION)

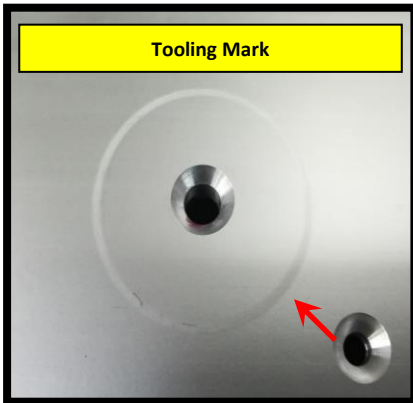


STAIN MARKS (REJECT CONDITION)



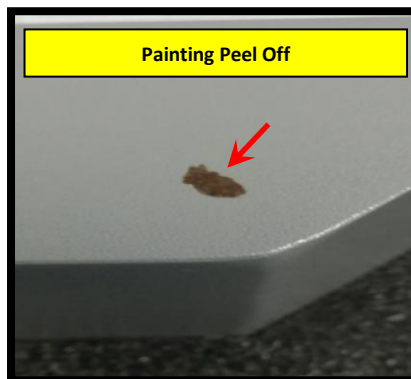
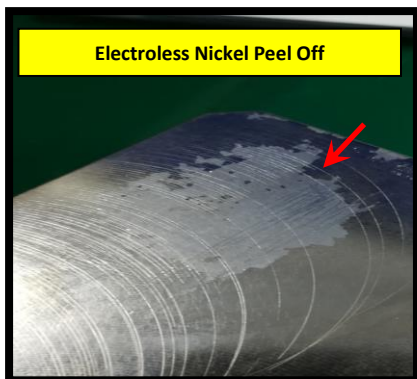
TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Tooling Marks <ul style="list-style-type: none"> Any impression, scratch, gouge, cut, or abrasion made when a tool is brought into contact with another object 	Tooling marks are generally acceptable EXCEPT : 1. Exceeding the cutting / milling area and areas where there should be no trace of tooling mark. 2. Tooling marks that cause the surface to become rough affecting the functionality.	

TOOLING MARKS (REJECT CONDITION)

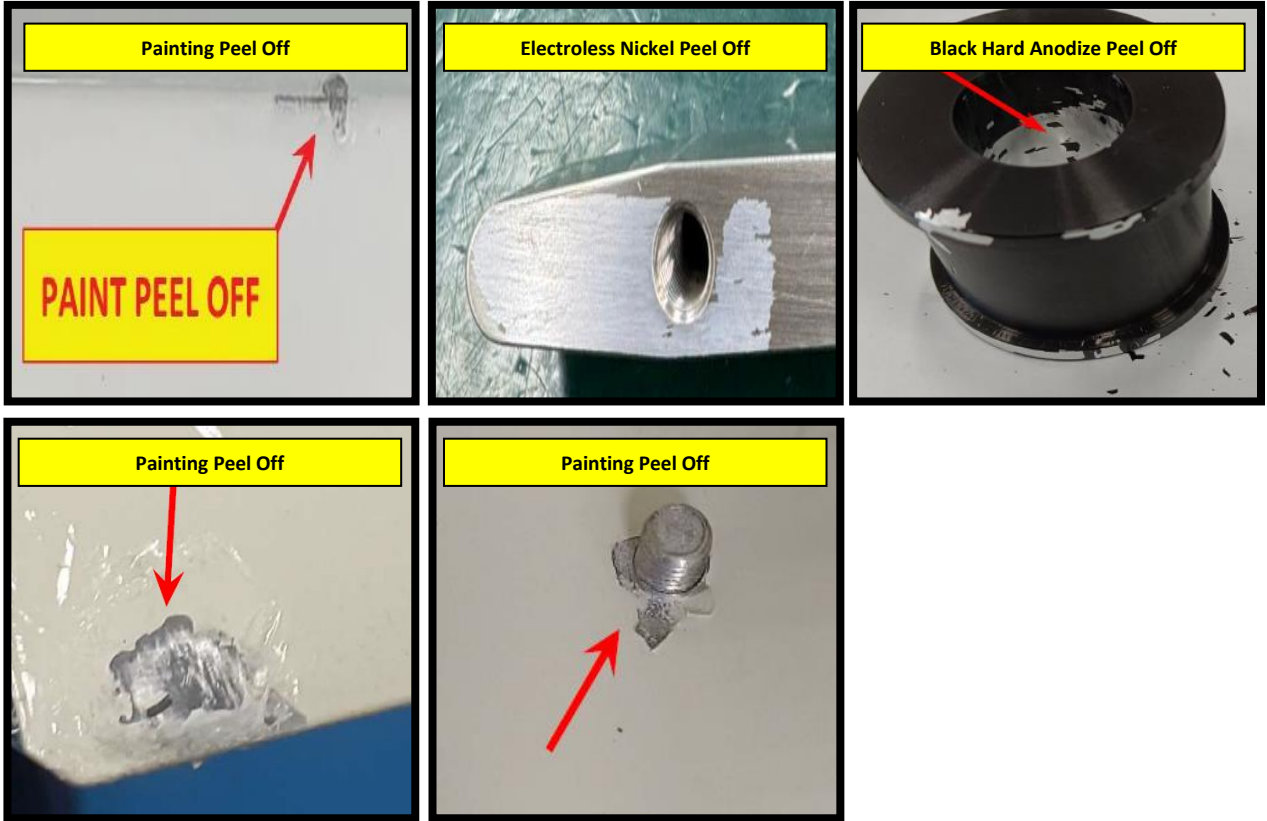


TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Coating Peel Off <ul style="list-style-type: none"> The coating that covers the part peel off. 	Rejected: 1. Any peel-off coating exposing the base material.	

COATING PEEL OFF (REJECT CONDITION)



CUSTOMER INSPECTION SPECIFICATIONS

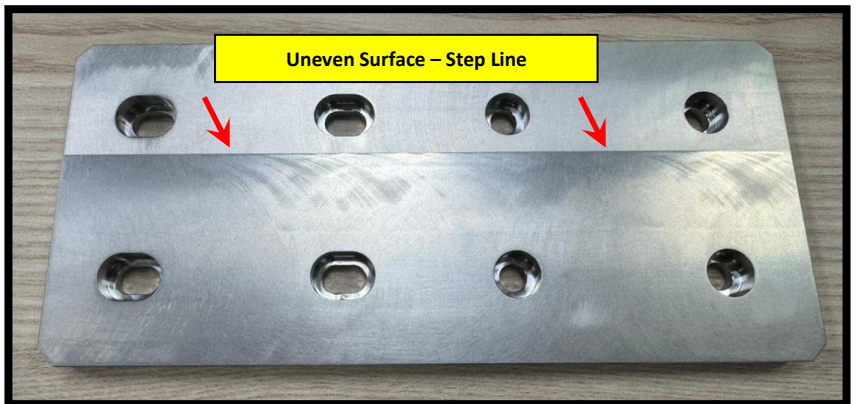
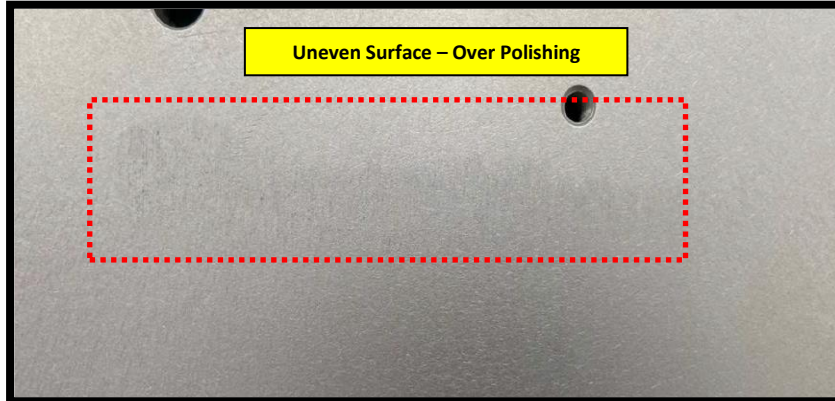


TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Uneven Surface • Differences in colour appearance and uneven dimension.	Rejected: 1. Any uneven surface finish attribute to misprocessing.	

UNEVEN SURFACE (REJECT CONDITION)

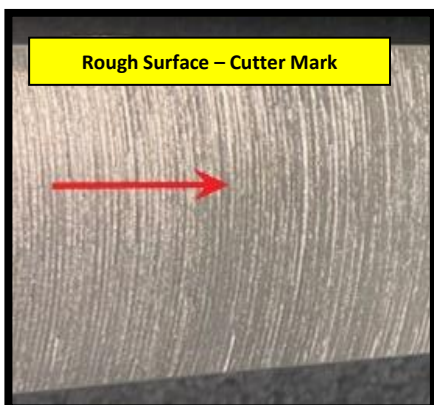


CUSTOMER INSPECTION SPECIFICATIONS

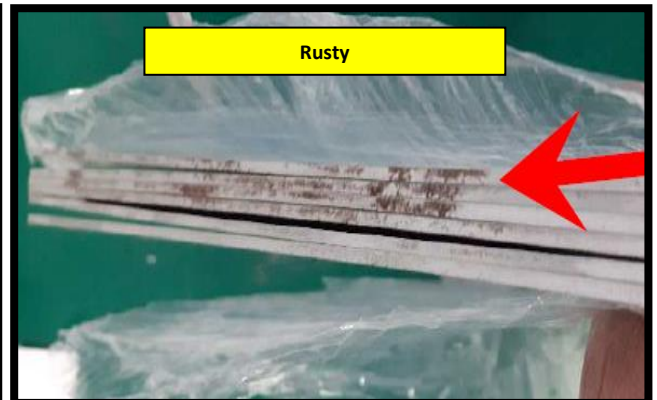
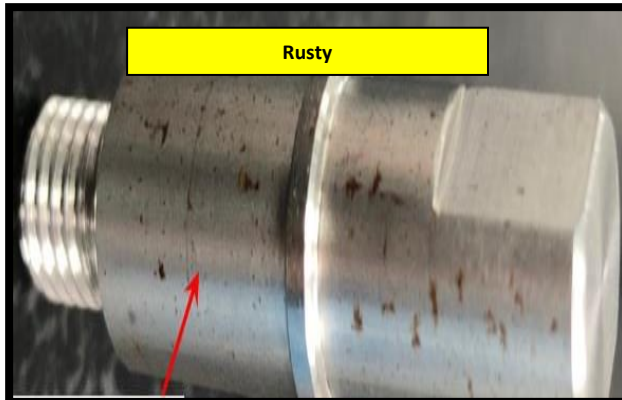
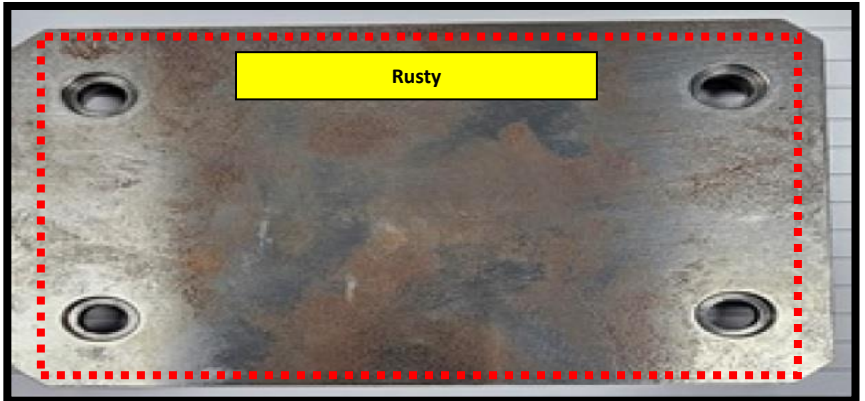
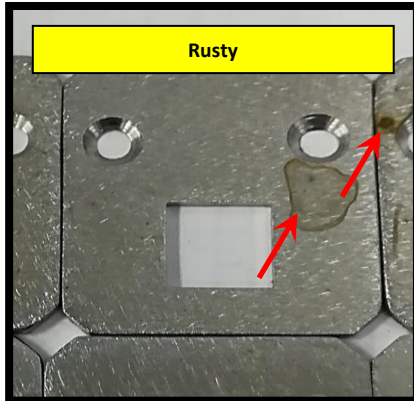


TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Rough Surface • Surface irregularities that cause friction between objects in contact with it.	Rejected: 1. Any surface irregularities that may induce unintended friction and can make it harder for object to slide across the surface.	

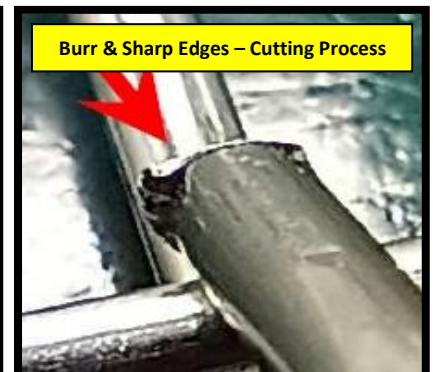
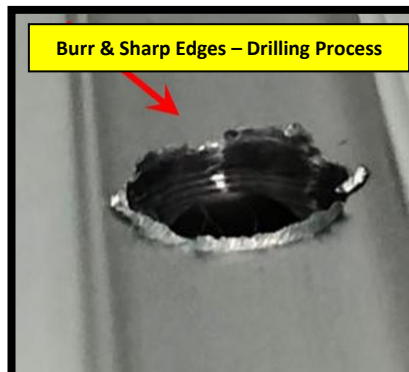
ROUGH SURFACE (REJECT CONDITION)



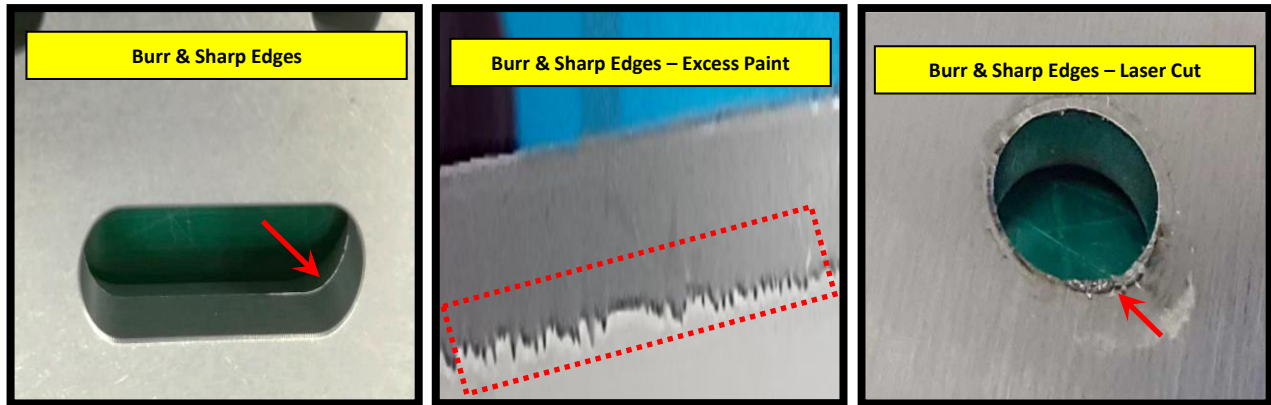
TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Rusty <ul style="list-style-type: none"> • Reddish brown film on iron surface as a byproduct of oxidation. 	Rejected: 1. Any visible reddish brown film.	
RUSTY (REJECT CONDITION)		



TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Burr and Sharp Edges <ul style="list-style-type: none"> • A rough edge or ridge left on an object (especially of metal) 	Rejected: 1. Any unintended burr and sharp edges left over from prior machining process.	
BURR AND SHARP EDGES (REJECT CONDITION)		

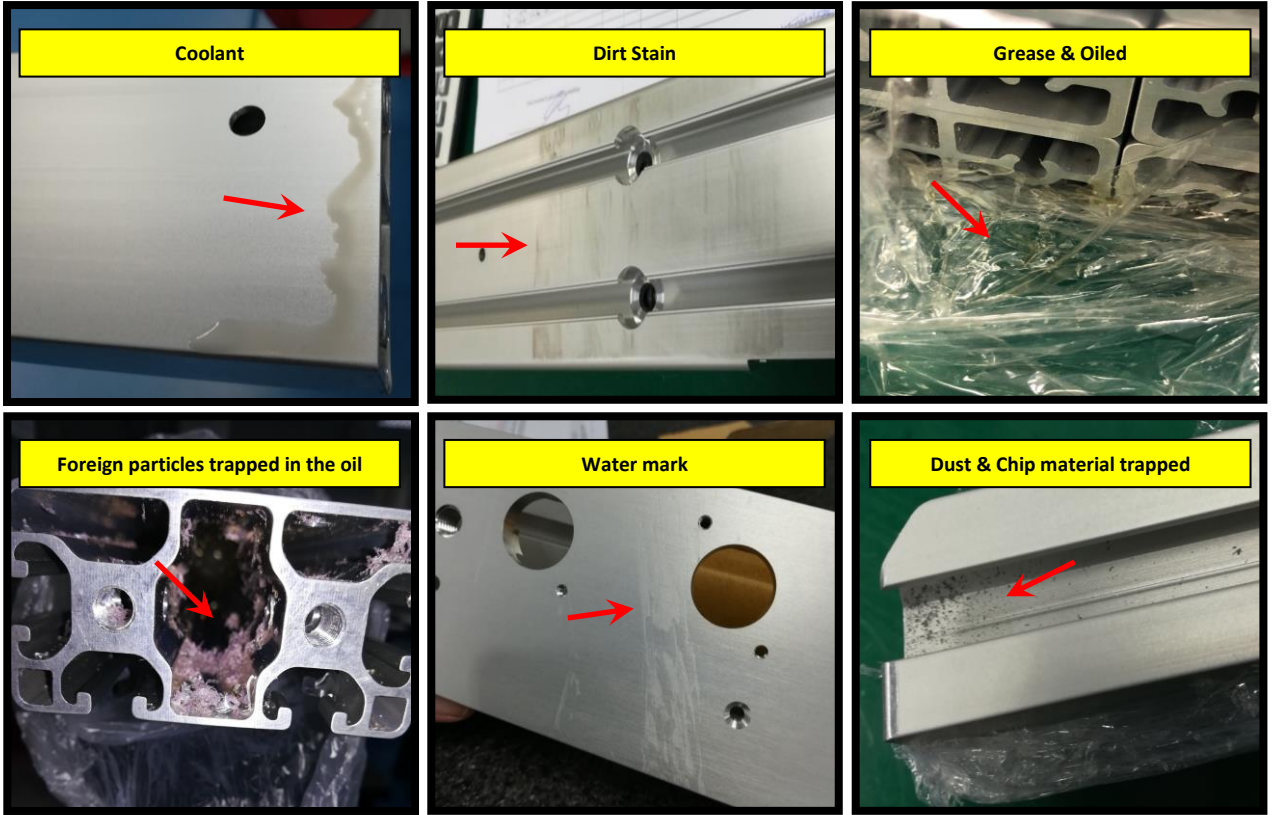


CUSTOMER INSPECTION SPECIFICATIONS



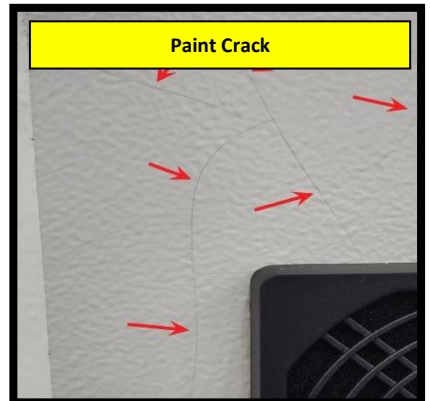
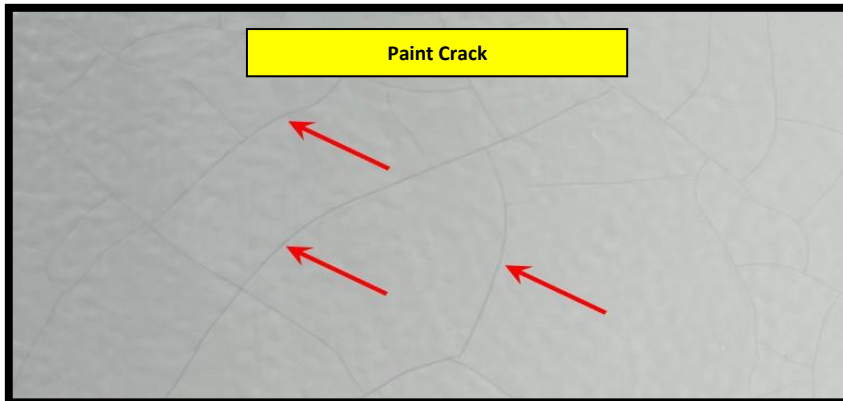
TYPE OF DEFECT	LIVEL 1 (VISIBLE SURFACE)	LIVEL 2 (HIDDEN SURFACE)
<p>Cleanliness</p> <ul style="list-style-type: none"> The residue from the chip material, liquid and foreign object attached to the liquid is not properly cleaned. 	<p>Rejected:</p> <p>1. Any parts found with contamination / residues / foreign material such as coolant, grease, trapped particles, dust..etc.</p>	

CLEANLINESS (REJECT CONDITION)



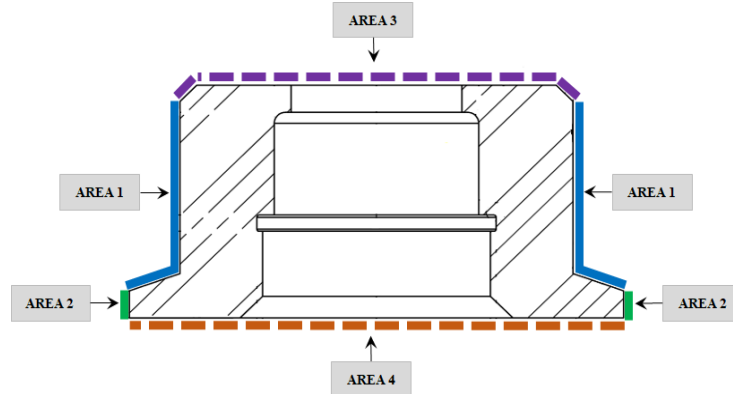
TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Crack • A line on the surface of something along which it has split without breaking apart.	Rejected: 1. Any unintended visible crack (e.g. Welding or paint crack)	

CRACK (REJECT CONDITION)

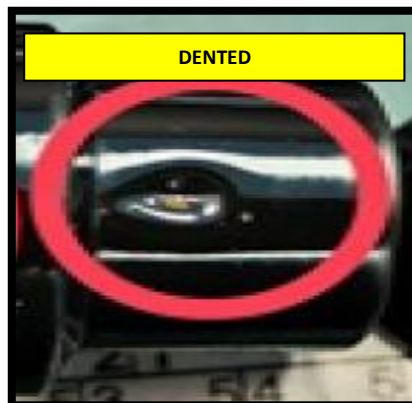
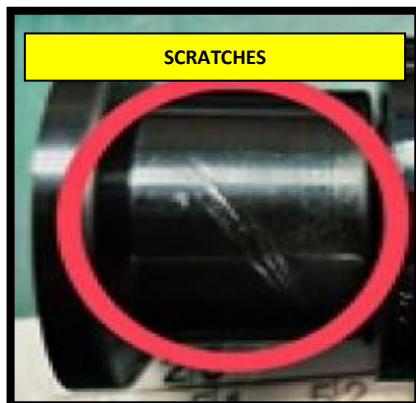


PU ROLLER COSMETICS REQUIREMENTS

PU ROLLER	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
<ul style="list-style-type: none"> Scratches, dents, deformation, pin holes / voids, uneven surface, flashing on moulded parts (PU Roller) 	Area 1 and 2: Critical for PU Roller surface finishing (Cosmetic)	Area 3 and 4: Non-Critical for PU Roller surface finishing (Cosmetics)
GUIDELINE INSPECTION		CHECKING METHOD
Area 1 and 2 No Scratches, Dented, Flashing, Uneven Surface, Bubble and Pinholes (Cosmetic defects) are not allowed this area.		152.4 mm (6 Inches) away via naked eye view
Area 3 No Scratches, Dented, Flashing, Uneven Surface, Bubble and Pinholes (Cosmetic defects) are not allowed this area.		700.0 mm (one arm length) away via naked eye view
Area 4 3 or less voids or pinholes (not bigger than 0.5mm in diameter) allowed within this area.		700.0 mm (one arm length) away via naked eye view

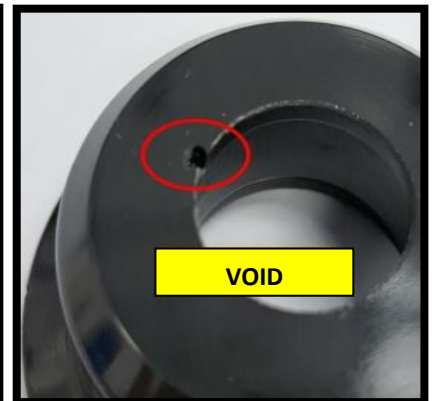


PU ROLLER DEFECT (REJECT CONDITION)



CUSTOMER INSPECTION SPECIFICATIONS

PU ROLLER DEFECT (REJECT CONDITION)



CUSTOMER INSPECTION SPECIFICATIONS

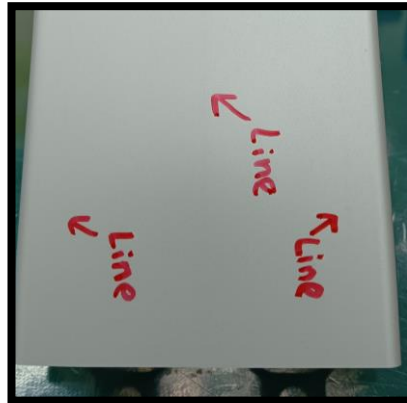
TYPE OF DEFECT	LEVEL 1 (VISIBLE SURFACE)	LEVEL 2 (HIDDEN SURFACE)
Pressure lines, Blasting marks, Scratches, Dents, rough / uneven surface	<p>Rejected:</p> <p>1. Any unintended visible Pressure lines, blasting marks, Scratches, Dents, Rough / Uneven surface observed on raw material (Aluminium profile, Metal Sheet, Bar, ESD Perspex)</p>	

RAW MATERIAL DEFECT (ACCEPTED CONDITION)



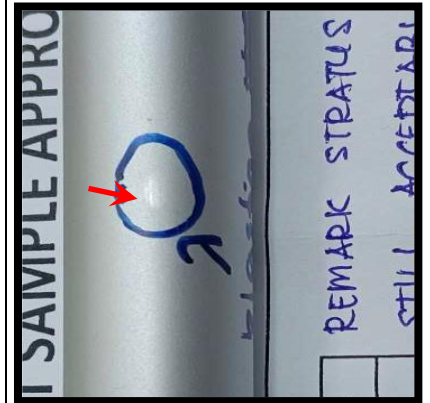
Pressure Line

- If not clearly visible based on (T&D) is acceptable.



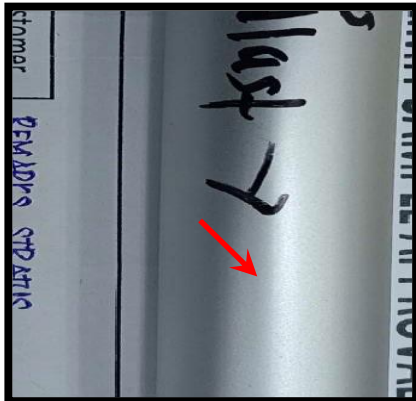
Pressure Line

- If not clearly visible based on (T&D) is acceptable.



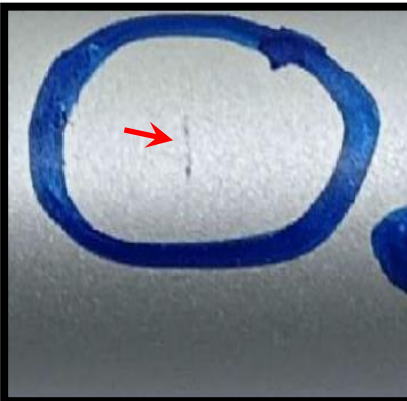
Blasting Marks

- Only 1 Marks allowed within area 1000mm



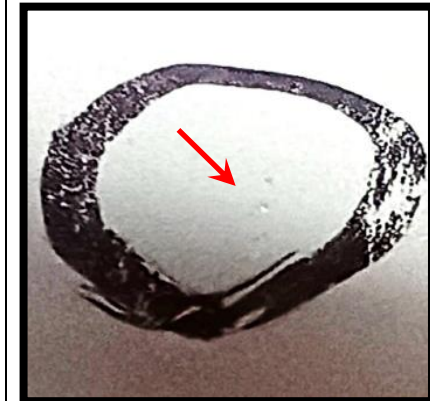
Less Sandblasting

- If not clearly visible based on (T&D) is acceptable, and not repeated within range 1000mm



Scratch

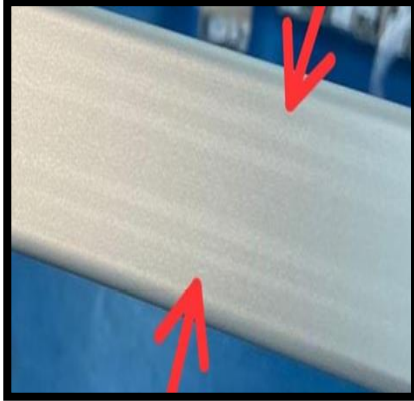
- The maximum length allowed is 10mm, not felt by the touch and not revealing the raw material is still acceptable.



Dents

- If not clearly visible based on (T&D) is acceptable, and not repeated within range 1000mm

RAW MATERIAL DEFECT (REJECT CONDITION)



Pressure Line

- If it is clearly visible based on (T&D) is rejected



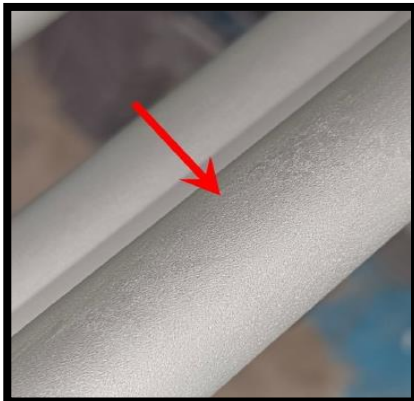
Pressure Line

- If it is clearly visible based on (T&D) is rejected



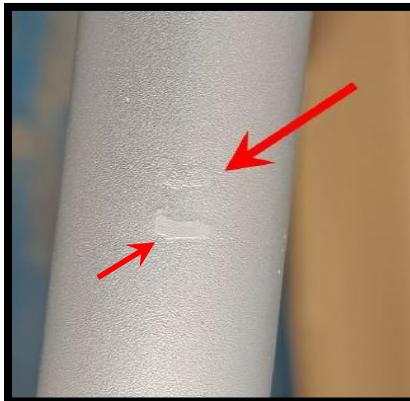
Line Mark

- If it is clearly visible based on (T&D) is rejected



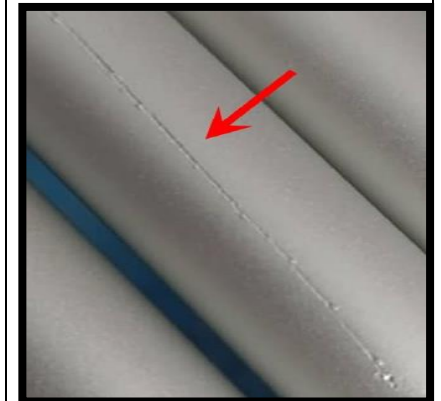
Rough Blasting

- If it is clearly visible based on (T&D) is rejected even cannot be felt through tactile means.




Jiggling Mark

- Only 1 Marks allowed within area 1000mm




Scratch

- Not allowed for deep scratch, can be felt through tactile means or exposed raw material is rejected.

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REVISION CHANGE HISTORY				
REV NO.	DCN NO.	DESCRIPTION OF CHANGE	AUTHOR	EFFECTIVE DATE
00	DCN-2024-205	Initial release	Mohammad Rozimi	17/12/2024

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Approvals

Report • Printed on December 24, 2024

Approved

Please approve: SA-SOP-037_Cosmetic Inspection Specification_00

The item 'SA-SOP-037_Cosmetic Inspection Specification_00' is submitted for approval by .

The message with the request:

Please help to approve.

Reminder set to 1 day.

Please review, and then approve or reject the request.

▼ Attachments



SA-SOP-037_Cosmetic Inspect

<https://stratusautomation.sharepoint>

▼ Final status: Approved



Approved by
Lau Siew Fui

24-Dec-24 1:46:36 PM



Approved by
Mar Kheng Tat

24-Dec-24 8:24:15 AM



Approved by
Mohammad Rozimi bin Abdul Rahman

24-Dec-24 8:11:23 AM



Requested by
Anis Khairunnisa Binti Hasan

24-Dec-24 8:05:33 AM