

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

Definition:

This standard defines the minimum acceptable cosmetic criteria for all machined & fabricated components, assemblies & enclosures for all ASM (DEK) Printing Machines and its subsidiaries.

ASM (DEK) Application:

This standard applies to each and every external surface of components used on machines, or supplied as a spare by the vendor.

All components must meet the criteria set out in this standard, unless a concession has been granted by ASM (DEK).

Where conflict is found between this standard and any other specification, the priority should be as follows:-

- | | |
|--|-------------------------------------|
| 1 st Customer Specified Requirement. | 3 rd Purchasing contract |
| 2 nd ASM (DEK) Engineering specification. | 4 th This standard |

This standard is not an exhaustive list, any component displaying a non-specified symptom which may cause a customer issue should be reviewed only by authorised ASM(DEK) personnel.

Only upon this approval can the component be released from ASM (DEK) or its vendor.

This standard may be **temporarily** relaxed for a surface, if it is concealed by the attachment of another component or not seen during normal use. Only authorised ASM(DEK) personnel can approve a temporary relaxation.

Through mutual agreement a temporary relaxation can become **permanent** standard practice by implementing the ASM (DEK) DCR procedure which includes updating the engineering drawing.

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

ASM (DEK) Visual Inspection procedure:

Set the distance between the object and the inspector within 300mm – 400mm.

1. Ensure the lighting system in the inspection area is normal and that light intensity is in the region of 800 LUX.
2. Without using any optical magnifying equipment, look at the damaged area with the naked eye only. (The Inspector is allowed to wear their normal prescription glasses but these must be clear transparent glasses and not coded glasses or sun glasses).
3. Refer to comments in chapter **ASM (DEK) Application**, the exception being components that are regularly removed from the machines by customers such as, squeegee blades & mechanisms, ProFlow and USC.

Glossary:

Cracks/ Fractures: Break, split or rupture with or without entire separation.

Gouges: Indentations, dings, pits & nicks usually caused by impact.

Scratches: Shallow surface grooves & abrasions usually caused by sharp objects.

Corrosion: Oxidization of any metal components.

Discolouration: Inconsistent surface appearance due to a change from the original colour or plating procedure plus areas of inconsistent surface finish such as a local departure from gloss to matt. An exclusion is applied to the uncontrolled & variable surface discolouration as a result of heat generated by bare metal welding.

Foreign Material: Unintended inclusions in a material or coating.

Runs (paint): Excessive painting that causes drips.

Non Uniform Coverage: Areas of insufficient or excessive coating or plating, plus small lumps of paint or powder coat which are not constant with the substrate.

Non-Adhesion: Lack of adhesion of the coating/plating to the surface or delamination of bonded components.

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

ASM (DEK) Acceptable Criteria:

- Sheet Metal**

All allowable defects in this table apply to all sheet metal components per 100mm² surface unless otherwise stated on the engineering drawing.

DEFECTS	PAINTED	ANODIZED, GALVANIZED OR PLATED	BARE METAL COMPONENTS	REMARKS
Cracks/ Fractures	None	None	None	Excluding normal 'crazed' surface effect when sheet-metal is folded.
Gouges	One Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter	
Scratches	Two Max Dimension: 0,2mm x 10mm	Two Max Dimension: 0,2mm x 10mm	Two Max Dimension: 0,2mm x 10mm	
Corrosion	None	None	Four Max Dimension: 1,0mm Diameter	Board Clamp foils should have NO corrosion when machine is shipped
Discolouration	Four Max Dimension: 1,0mm Diameter	Four Max Dimension: 1,0mm Diameter	Six Max Dimension: 2,0mm Diameter	Laser cutting burnt edges are acceptable for bare metal components
Foreign Material	Two Max Dimension: 2,0mm x 1,0mm	None	None	
Non -Adhesion	None	None	None	
Non – Uniform coverage	None	None	Not Applicable	
Runs (paint)	Two Max Dimension: 20mm x 20mm	Not Applicable	Not Applicable	MMI components to be completely free of 'runs'
Remarks		See figures 1, 2 & 3 for reference		

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD

MACHINED & FABRICATED COMPONENTS

DSF 3.2.4

ASM (DEK) Acceptable Criteria:

- Machined Components (Metal: ferrous and non-ferrous)**

All allowable defects in this table apply to all sheet metal components per 100mm² surface unless otherwise stated on the engineering drawing.

DEFECTS	PAINTED	ANODIZED, GALVANIZED OR PLATED	BARE METAL COMPONENTS	REMARKS
Cracks/ Fractures	None	None	None	
Gouges	One Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter	
Scratches	Two Max Dimension: 0,2mm x 10mm	Two Max Dimension: 0,2mm x 20mm	Two Max Dimension: 0,2mm x 5mm	
Corrosion	None	None	Four Max Dimension: 1,0mm Diameter	Board Clamp foils should have NO corrosion when machine is shipped
Discolouration	Two Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter	Two Max Dimension: 1,0mm Diameter	Laser cutting burnt edges are acceptable for bare metal components
Foreign Material	Two Max Dimension: 2,0mm x 1,0mm	None	None	
Non -Adhesion	None	None	None	
Non – Uniform coverage	None	None	Not Applicable	
Runs (paint)	Two Max Dimension: 25mm x 25mm	Not Applicable	Not Applicable	MMI components to be completely free of 'runs'
Remarks		See figures 1, 2 & 3 for reference		

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

ASM (DEK) Acceptable Criteria:

• **Machined Components (Non-Metallic)**

All allowable defects in this table apply to all sheet metal components per 100mm² surface unless otherwise stated on the engineering drawing.

DEFECTS	PAINTED	BARE MATERIAL OR COMPONENTS		REMARKS
Cracks/ Fractures	None	None		
Gouges	One Max Dimension: 1,0mm Diameter	One Max Dimension: 1,0mm Diameter		
Scratches	Two Max Dimension: 0,5mm x 10mm	Two Max Dimension: 0,5mm x 5mm		
Corrosion	Not Applicable	Not Applicable		
Discolouration	Two Max Dimension: 1,0mm Diameter	Two Max Dimension: 1,0mm Diameter		Differences in colour due to different substrate surface finishes.
Foreign Material	Two Max Dimension: 2,0mm x 1,0mm	None		
Non -Adhesion	None	None		
Non – Uniform coverage	None	Not Applicable		
Runs (paint)	Two Max Dimension: 20mm x 20mm	Not Applicable		MMI components to be completely free of 'runs'
Remarks				

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

ASM (DEK) Workmanship Standard:

- **General Requirements**

Scratches: around captive fasteners are to be expected and are acceptable if they are within a 5mm zone of the fastener maximum diameter.

Scratches: (straight lines) are acceptable provided they do not exceed the criteria in both chapters:-

ASM (DEK) Application and ASM (DEK) Acceptable Criteria

Plating: components should be free of **corrosion**, bubbling, peeling, contamination or permanent fingerprints. No attempt should be made to repair a plated layer. If a component shows damage before plating, it will be accepted after it is plated provided it does not exceed the criteria in chapter:-

ASM (DEK) Acceptable Criteria

Discolouration: Some plated finishes will result in variations of colour over the extent of the surface. This is acceptable provided it does not exceed the criteria in chapter:-

ASM (DEK) Acceptable Criteria

Where decorative mechanical finishes are specified (ie: Grit Blasting, Linishing or Circular Grinding) the acceptance criteria will be specified on the engineering drawing.

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							

COSMETIC FINISH STANDARD
MACHINED & FABRICATED COMPONENTS
DSF 3.2.4

Discoloration Reference :

Fig. 1; This Finish Is Unacceptable



Fig. 2; This Finish Is Acceptable

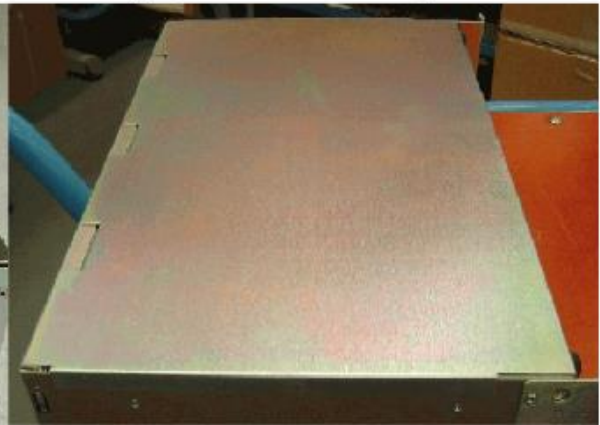
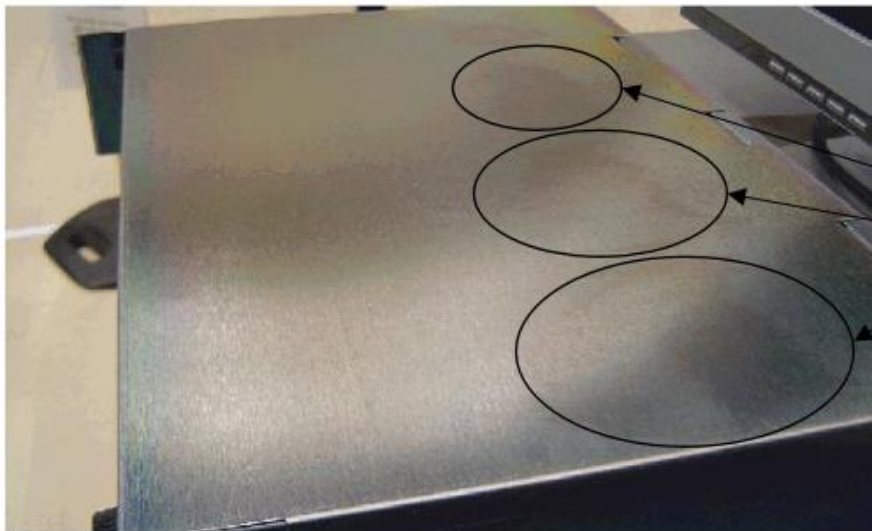


Fig. 3; This Finish Is Questionable



Questionable areas
of colour that are
not considered as
coming of the
normal colour
variation for the
finish being used.

With this type of surface flaw, an attempt should be made to produce an acceptable finish by applying an Engineering approved surface treatment. If an acceptable improvement is not achieved then the component(s) should be presented the Cell Supervisor, Quality Representative and Product Manager in that order until a decision whether to accept or not has been reached.

Issue	01	02	03	04	05	06	07	08	09
DCR	40017	44734							