

Class	Bow Allowed per inch		Allowed Burr	Allowed Nibs	Defect type A	Defect type B	Defect type C	Defect type D	Defect type E	Interleave Parts with Styrofoam
	Flat	Formed								
P1	.001”	.003”	None	None	Unlimited	Unlimited	1	None	None	Yes
P2	.002”	.006	Normal	Normal	Unlimited	Unlimited	4	1	None	Unless noted on traveler
P3	.004”	.010”	Normal	Normal	Unlimited	Unlimited	Unlimited	6	1	None
F1	.001”	.003”	None	None	No scratch No scuff 2 pits	None	None	None	None	Yes
F2	.002”	.006”	Minimal	Normal	Unlimited	1 scratch 1 scuff 6 pits	No scratch No scuff 4 pits	No scratch No scuff 1 pit	None	Unless noted on traveler
F3	.004”	.010”	Normal	Normal	Unlimited	Unlimited	6	2	1	None
N1	.001”	.003”	None	None	No scratch No scuff 2 pits	None	None	None	None	Yes
N2	.002”	.006”	Minimal	Normal	Unlimited	1 scratch 1 scuff 6 pits	No scratch No scuff 4 pits	No scratch No scuff 1 pit	None	Unless noted on traveler
N3	.004”	.010”	Normal	Normal	Unlimited	Unlimited	6	2	1	None

LEGEND:

P = Painted (powder coat or wet paint)
F = Finish treated surface (anodized, zinc plated, chromated)
N = No finish (bare metal)

1 = Best possible standard of workmanship - not usually used, reserved for highly critical cosmetic parts
2 = Good standard of workmanship – most parts fit into this category
3 = Most often used for inside surfaces, non-visible surfaces or for parts that are designed for rough duty.

All shaker tabs must be removed on all parts unless otherwise noted on drawing or traveler

Under Defect type, if it states “2” for example, that means 2 of each type of defect permissible. 2 scratches, 2 scuffs, 2 pits.

No burr – see sample board (The sample boards are located at preform and inspection lab)
Minimal burr – see sample board
Normal burr – see sample board

Allowable Surface Defects: Allowed defects are counted per type for a surface specified with a class

Refer to the tables on the right for definitions of surface defects.

All LASER Cut parts

All the metalwork appearance codes apply to laser cut parts as well as the extra requirements below:

All classes of parts must be free of spatter on laser cut edges. Pay special attention to holes to make sure they are free of spatter in the hole as well as around the holes.

If you find any parts displaying these issues, see your coordinator for instructions on how to proceed.

- Inspection conditions

1. Units will be viewed without the aid of magnification, viewing the part at arm’s length, under fluorescent lighting at an angle of 45 or 90 degrees to avoid light brightness to the surface being inspected for a time not exceeding 5 seconds. Cosmetic qualities only shall be considered.

2. Whereas customer specification is not provided, Wesgar finish class applies as per defined on the finish class stamped on customer drawing using the same inspection conditions detailed in point 1.

SURFACE DEFECT DEFINITION TABLE				
Scratch - Longer narrow lines caused by sharp edges or objects				
Type	Width (inch)	Length (inch)	Minimum Separation (inch)	
		F or N	P	
A	≤ .005	any	any	any
B	> .005 - ≤ .010	≤ 4	any	2
C	> .010 - ≤ .015	≤ 2	any	2
D	> .015 - ≤ .020	≤ 1	any	2
E	> .020 - ≤ .050	≤ 1	any	2
Scratches wider than .050” are rejectable				
Scuff / Mar -Similar to scratches but usually wider and not as deep -Usually associated with operator made, not machine made				
Type	Width (inch)	Length (inch)	Minimum Separation (inch)	
		F or N	P	
A	≤ .020	≤ .250	any	any
B	> .020 - ≤ .060	≤ .250	any	2
C	> .060 - ≤ .100	≤ .250	any	2
D	> .100 - ≤ .250	≤ 1	any	2
E	> .250 - ≤ .500	≤ 1	any	2
Scuffs wider than .500” - check with coordinator				
Gouge / Pit - Sharp blows to surface - Measured within 4 square inches (2" x 2")				
Type	Width (inch)	Length (inch)	Minimum Separation (inch)	
		for all 3 classes	for all 3 classes	
A	≤ .010	≤ .250	any	
B	> .010 - ≤ .015	≤ .250	2	
C	> .015 - ≤ .020	≤ .250	2	
D	> .020 - ≤ .025	≤ 1	2	
E	> .025 - ≤ .050	≤ 6	2	
Gouges and pits wider than .050” are rejectable				

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	Metalwork Appearance Codes	Rev. # 10

Note to persons printing this document:

Please print on double sided paper so revisions and control information is on the back of the document. Do not post the printout unless you have notified QM as the control information will need to be modified.

Revision Control:

Rev. 1 document created and was not controlled

Rev. 2 to 9 – Minor clarifications and formatting done

Rev. 10 – reformatted and clarified, added revision control information and control information. PD 1/11/2011

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