

10-27-08

c.c. C. Becker
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To: Jim Rabbia
From: Mark Conklin

RE: Plating Inspection of PN 202562 700 XMP TRIG SIDE PLATE

Summary:

A sample lot of plated M/700 XMP Trigger Side Plates were provided in the plated condition. The parts were to be plated with 0.0002 – 0.0004” high phosphorous electroless nickel. The parts were inspected for plating thickness and adhesion. The lot failed the inspection. One sample was above the maximum specified thickness. One sample had evidence of poor adhesion (flaking) when bent.

Samples:

Part Name: 700 XMP TRIG SIDE PLATE
Part Number: 202562
Quantity Thickness test: 10 Pieces
Quantity Adhesion test: 3 Pieces
Quantity Metallographic Evaluation: 1 Piece

Procedure:

Thickness:

10 Samples were evaluated for plating thickness utilizing a Fischer X-Ray Florescence Coating Thickness Analyzer. The Results are presented below

Adhesion:

3 Pieces were clamped in a vice and bent with a hammer to approximately 30 degrees. The samples were visually evaluated for flaking. Results presented below.

Metallography:

One Sample was metallurgically mounted and prepared through 0.5 micron polishing media. The sample was etched with 2% nital. The plating thickness was then evaluated utilizing a metallographic microscope. Results presented below.

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Results:Thickness.

Below is the X-ray

Thickness Results.

Note Sample 5 is above
the Max. Specified
Thickness.

Specification	
0.0002 - 0.0004 inch	
Sample #	Thickness
	(0.001")
1	0.329
2	0.332
3	0.328
4	0.302
5	0.440
6	0.304
7	0.291
8	0.298
9	0.325
10	0.262
Average	0.321
Max	0.440
Min	0.262

Adhesion:

Figure 1 is a 10 X Mag. image of the side plate after adhesion testing. Note areas of flaking circled.

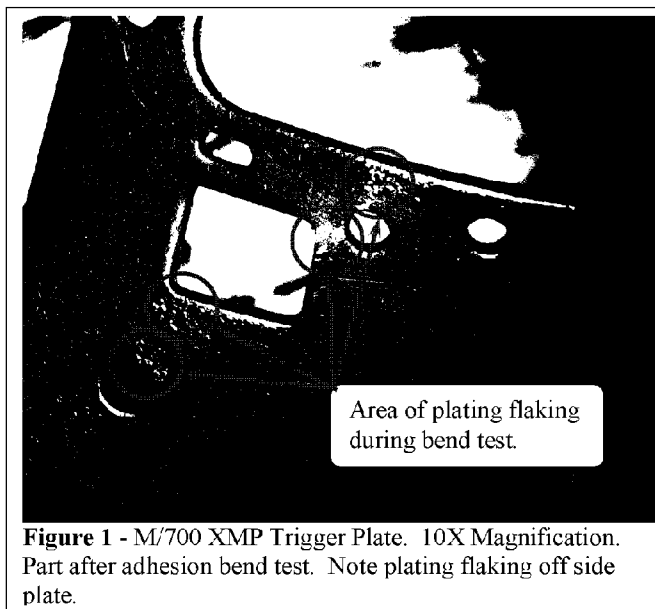
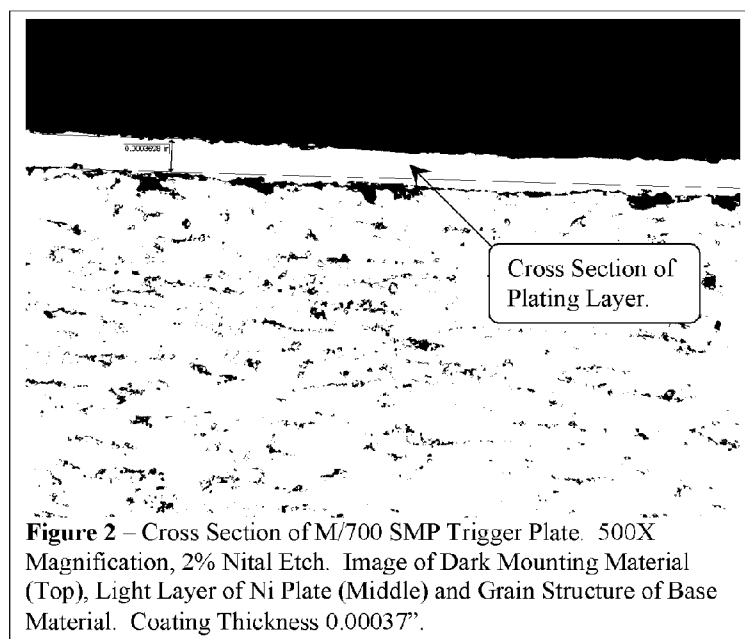


Figure 1 - M/700 XMP Trigger Plate. 10X Magnification.
Part after adhesion bend test. Note plating flaking off side plate.

Metallographic Evaluation:

Figure 2 below is a micrograph of a plated M/700 XMP Side Plate. Note the sample thickness is 0.00337".

**Summary:**

The samples provided would not have passed a first article inspection. One of the of the sample parts was above the maximum plating thickness specification. The sample had a plating thickness of 0.000440 for a specified 0.0004 maximum. Also the adhesion showed signs of flaking during the bend adhesion testing.