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|-----------------------|---|
| Title:                | J & M Products, Inc. Processing Specification |
| Specification number: | JMS-OP12                                      |



J&M Products, Inc.

| Rev.: | Date:     | Changes:        | By: | Check: | Approval: |
|-------|-----------|-----------------|-----|--------|-----------|
| NC    | 11/7/2012 | Initial release | EMI | RK     | GP        |
|       |           |                 |     |        |           |
|       |           |                 |     |        |           |

SEE: "Part Specific Requirements" for AS21919 and AS85052 Processing Specifications (supercedes Table 1)

**Table 1**

| Process Code   | Process                        | Specification  | Test                                       |
|--|--------------------------------|--|--|
| AN   | Anodize/Brown                  | MIL-A-8625 Rev. F Type 2 Class 2 Brown                         | Per Specification                          |
| BB   | De-burr (Ball Burnishing)      | SEE: Burr and Deburring Specification below                    |  |
| CER  | Ceramic De-burr                | SEE: Burr and Deburring Specification below                    |  |
| CHM  | Chemical Conversion Film       | MIL-DTL-5541 Rev. F CL 1A                                      | Per specification                          |
| CP   | Cadmium Plate White            | SAE AMS-QQ-P-416F Type 1, Class 2                              | Per specification                          |
| CP1  | Cadmium Plate Yellow           | SAE AMS-QQ-P-416F Type 2, Class 2                              | Per specification                          |
| GB   | Glass Bead / Blast             | SEE: Burr and Deburring Specification below                    |  |
| HSTR   | Heat Treat/Stress Relieve      | SAE AMS-H-6875B  | Per specification                          |
| Material Specific: 17-7 Stainless Steel Heat Treat and certified to a TH1100 condition |                                |  |  |
| Material Specific: 1095 Steel - Heat treat to SAE AMS-H-6875B Rockwell 47-51           |                                |  |  |
| HT   | Heat Treat - T42 & T4 Temper   | SAE AMS-2770H & MIL-H-6088G                                    | Per specification                          |
| PASS 2   | Passivate II, Class 4, Table 3 | AMS-QQ-P-35C & AMS2700 E<br><i>Dual Certification Required</i> | Water Immersion Test-24-hours              |
| PASS 6   | Passivate VI                   | AMS-QQ-P-35C & AMS2700 E<br><i>Dual Certification Required</i> | Salt Spray Test                            |
| YZ   | Zinc Yellow                    | ASTM B 633-11 PROVOCOAT  | 350 Hrs. Salt Spray Protection to Red Rust |
| IRR  | Zinc Yellow W/ CHROMATE        | ASTM-B-633-11  | Per specification                          |
| ZP   | Zinc Plate Blue                | ASTM-B-633-11  | Per specification                          |

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Part Specific Requirements:

AS21919

| <b><u>Process</u></b>       | <b><u>Specification</u></b>  | <b><u>Test</u></b> |
|-----------------------------|--|--------------------|
| Heat Treat to T42 Temper    | AMS-H-6088   |                    |
| Passivate Type II           | AMS-QQ-P35 and AMS-2700E<br>▶ <i>DUAL CERTIFICATION REQUIRED</i><br>(Salt Spray Testing as per AC7112/3 7.6.5) | Salt Spray testing |
| Chemical Conversion Coating | MIL-C-5541 Class 1A  |                    |

AS85052

| <b><u>Process</u></b>   | <b><u>Specification</u></b>  | <b><u>Test</u></b> |
|---|--|--------------------|
| Remove scale, Passivate Type II   | AMS-QQ-P35 and AMS-2700E<br>▶ <i>DUAL CERTIFICATION REQUIRED</i><br>(Salt Spray Testing as per AC7112/3 7.6.5) | Salt Spray testing |
| Heat Treat – Stress Relieve: Heat Treat to condition TH1100 after forming | AMS2759/3  |                    |

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## Burr and Deburring Specification

|            |  |
|------------|--|
| <b>1.0</b> | <b>Purpose</b>   |
| 1.1        | This procedure establishes the Manufacturing and Quality inspection criteria for burrs and de-burred parts.  |
| <b>2.0</b> | <b>Scope</b>   |
| 2.1        | The intent of this specification is to define burr conditions, eliminate judgments and establish accept / reject criteria for parts.   |
| <b>3.0</b> | <b>Conflict Statement</b>  |
| 3.1        | As there is no standardized specification for deburring and burr classification, this document will represent the J & M Products, Inc. standard  |
| 3.2        | Clamp blueprints state "remove burrs and sharp edges." This document will represent the J & M Products, Inc. definition of Burrs and Deburring   |
| <b>4.0</b> | <b>Production</b>  |
| 4.1        | Parts will conform to the requirements set forth in the part drawing and to this specification.  |
| 4.2        | Where required, parts will be deburred to conform to the requirements.   |
| <b>5.0</b> | <b>Definitions</b>   |
| 5.1        | <u>Burr</u> - Non-functional material extending from the surface of a part.  |
|            | Class 1 Burr Parts that have gone through (at least) First Operations. This classification of the surface/edge condition is generally detectable by the naked eye or as a non-smooth blemish or nick detectable through tactile means. The presence of a burr could cause installation issues with the part. |
|            | Class 2 Burr Refers to raw materials as delivered from the vendor. This classification of the surface/edge condition is generally detectable by the naked eye or as a non-smooth blemish or nick detectable through tactile means.   |
|            | Class 3 Burr The condition of the edge/surface is detected only with the aid of magnification. This classification would not affect form, fit, or function.  |
| 5.2        | <u>De-burr</u> - Removal of non-functional material  |
| <b>6.0</b> | <b>Inspection Requirements</b>   |
|            | Inspection assumptions: Part is clean and free from debris (other than lubrication). There shall be proper lighting and an ability to manipulate the part to discover burrs from a variety of angles.  |
| 6.1        | Inspect part with the naked eye.   |
|            | <b>NOTE:</b> If required, an optical comparator or magnification may be engaged for this process.  |
| 6.2        | Inspect part through tactile means in order to detect a non-smooth blemish(es) or nick(s).   |
| <b>7.0</b> | <b>Deburring Requirements</b>  |
| 7.1        | Duburring may be done by J & M Products, Inc. production personnel for a specific lot of parts, under the specific guidelines of a Production Manager, Production Supervisor, or designee after such disposition has been determined as per WIQC 8.0 Quality Control NCP (Nonconforming Product) Process.    |
| 7.2        | Duburring may be done by J & M Products, Inc. approved suppliers as per Purchase Order requirements  |
| 7.3        | No burrs shall be allowed that would cause a safety concern for handling of the part.  |
| <b>8.0</b> | <b>Re-Inspection Requirements</b>  |
|            | Inspection assumptions: Part is clean and free from debris (other than lubrication). There shall be proper lighting and an ability to manipulate the part to discover burrs from a variety of angles.  |
| 8.1        | Inspect part with the naked eye.   |
|            | <b>NOTE:</b> If required, an optical comparator or magnification may be engaged for this process.  |
| 8.2        | Inspect part through tactile means in order to detect a non-smooth blemish(es) or nick(s).   |
| 8.3        | No burrs shall be allowed that would cause a safety concern for handling of the part.  |