DCMA NSEO MANUFACTURING PROCESS SURVEILLANCE (MPS) CHECKLIST #27

TEFLON COATING

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| **SUPPLIER & CAGE:**  |  |
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| **LOCATION:** |  |
|  |  |
| **Program Type:**

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| --- | --- | --- | --- | --- | --- |
|  | Level I/SUSBAFE (LI/SS) |  | Navy Propulsion Program (NPP) |  | Deep Submergence Systems/Scope of Certification Program (DSS-SOC) |
|  | Nuclear Plant Material (NPM) |  | Naval Nuclear Propulsion Program (NNPP) |  | Aircraft Launch & Recovery Equipment (ALRE) |
|  | Fly By Wire Ships Control Systems (FBWSCS) |  | Ships Critical Safety Items (SCSIs) |  | Other: |

**Contractual Requirement(s) for this process:**

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**Supplier Procedure Number(s), Title(s) & Revision Level(s)/Date(s):**

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| --- | --- |
| Surveillance Performed By:  |  |
|  |  |
| Date(s) of Surveillance: |  |
| Contract Number(s): |  |
|  |  |
| Part Number(s)/Serial number(s)/NSN: |  |
|  |  |
| Part Nomenclature(s): |  |
|  |  |
| Supplier Personnel Contacted and Titles: |  |
|  |  |
| Drawing Number & Revision: |  |

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**Process Concerns and Guidance:**

* Teflon coatings are used to provide lubricity. Failure of the coating may result in seizing of parts, resulting in part and possible system failure.
* Surfaces must be clean and properly prepared for adequate coating adhesion and coverage.
* Improper cleaning and surface preparation techniques can result in poorly adherent coatings of inadequate or non-uniform thickness.
* Thick coating passes tend to be less adherent than thinner passes.
* The shelf-life of the Teflon coating material is significantly affected by storage temperature; the use of out-dated or improperly stored products will likely cause premature failure.
* Coating material not stored properly (at proper temperatures)
* Coating material containers not labeled with expiration dates
* Oven control (Uniformity and System Accuracy Checks) not performed as required
* Thickness testing equipment verification not performed as required
* Processing equipment maintenance inadequate
* Surfaces to be coated are touched with bare hands (oil from the hands will interfere with proper coating).
* Pitting and undesirable marks where rack hooks contact the parts
* Failure to provide uniform coating thickness and/or complete coverage

**QARs should use the “BASIS OF DETERMINATION” column to document the objective quality evidence and/or clarify the rationale used to support their decision. (e.g. direct observation, documents verified etc.)**

S = Satisfactory U = Unsatisfactory

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| **SURVEILLANCE QUESTIONS** | **S** | **U** | **BASIS OF DETERMINATION** |
| 1. Are the personnel performing the coating and inspection functions of the appropriate skill/experience level and/or properly trained/certified to produce conforming product? ***What are the requirements?***
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| 1. Does the supplier have procedures for cleaning, surface preparation, coating, and baking that meet applicable contract/drawing/specification requirements, are readily available to shop personnel, and cover all applicable processes performed? Have the procedures been approved by the customer if required?
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| 1. Is inspection and testing equipment of the required adequacy, accuracy, precision, and range to assure supplies produced comply with specifications and drawings? *What Items were sampled and were they part of the supplier’s calibration program and within the calibration/check cycle?*
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| 1. Is material/product, which has been through the coating or inspection process, positively controlled, traceable, and have the inspections/processes performed been documented adequately to provide a positive indication of the status of the material and maintained to confirm the inspection process was performed (e.g. individual inspected, operation sign-off, inspection stamped/initialed/signed accepted or rejected)?
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| 1. Are parts protected from contamination and damage before, during, and after the coating process?
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| 1. Are all lot tests required by the coating specification being performed?
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| 1. Are certifications for raw materials used in the process reviewed for acceptance and maintained on file for review?
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| 1. Are coating materials traceable/identified with batch numbers?
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| 1. Are the shelf-lives of coating materials monitored and validated before use? How?
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| 1. Is grit blasting equipment checked for sources of moisture, oil or hydrocarbons?
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| 1. Is the coating spray area enclosed or isolated?
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| 1. Document the procedure used to determine acceptance for repair if applicable. Is welding repair performed? If yes, list the procedures used.
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| 1. Are adequate controls in place for temperature, humidity, and sources of contamination?
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| 1. Are all the in-process inspections, performed and adequately documented?
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| Other observations: |  |  |  |
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| **Overall MPS Results:** | **SATISFACTORY** |  | **UNSATISFACTORY** |  |

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| **Corrective Action Generated?** | **No** |  |  | **Yes** |  |  | **CAR#** |  |

**FOLLOW-UP ACTION REQUIRED?**

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**SUMMARY/NOTES/COMMENTS/CONCERNS**:

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