

# ELMET TECHNOLOGIES LLC - SPECIFICATION

DEPARTMENT: **Quality**

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SPECIFICATION: **S-22-024** REVISION: **2**

TITLE: **Vacuum Anneal for Tungsten Heavy Alloy Products**

CONTROLLED COPIES: **NONE**

## 1.0 PURPOSE / SCOPE

This specification defines requirements for vacuum anneal processing of tungsten heavy alloy products.

## 2.0 APPLICABLE DOCUMENTS

2.1. AMS7725 Latest Rev. Tungsten Heavy Alloy Shapes, Sintered, High Density

2.2. Elmet S-22-100 General Quality Assurance Flowdown Clauses & Standards

## 3.0 DEFINITIONS – N/A

## 4.0 SCOPE OF WORK

4.1. Vacuum Anneal processing IAW Specifications listed in 2.0 above, this specification, with the following exceptions:

4.1.1. No mechanical testing required, Elmet responsible for testing

4.1.2. No responsibility for mechanical properties (sections 3.3 , 4.2, 4.3 waived)

4.1.3. Cooling to 932 deg F (500 deg C) in 10 minutes maximum.

4.2. Provide furnace charts with certs.

4.3. Provide Certificate of Conformance (C of C)

4.4. Email C of C and furnace charts to [quality@elmettech.com](mailto:quality@elmettech.com)

## 5.0 SPECIAL PROCESSOR CLAUSE

5.1. Special Processor (Contractor and/or Subtier) shall have current required approval(s) in place at the time of hardware processing. Contractor shall verify approval prior to performing processing.

Definition:

Special Process: A method controlled by a contractually required specification where:

1. A product undergoes a physical, chemical or metallurgical transformation or inspection.

Conformance to the specification cannot be readily verified by normal inspection methods.

2. The quality of the product depends on use of specific equipment operated in a specific manner, under controlled conditions, by trained personnel with instructions, procedures or standards.

Contractually required specifications are identified on the drawing or parts list for build to print items, or identified within a designated section of the controlling specification for items under procurement as the contract line item for Build to Specification items.

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Certain special processes are required to comply with this contract. Special processes shall be performed only by sources that have been surveyed and approved by Elmet to perform those processes.

A special process certification shall be provided with each shipment of item(s) delivered on this contract. Special Process Certifications may be in supplier format and shall include the following:

- Customer's Order number

- Part number(s)

- Serial and/or lot numbers of the hardware processed (if applicable,)

- Material process specification & revision.

- A certification stating the special process was performed per the applicable drawing/specification requirements.

- Processing Organization's name and address.

Each certification must be signed and dated by a company official of the Organization and/or Processor attesting to the acceptance of the processes performed to the required specification(s). The Organization shall insert the substance of this clause, including this sentence, in all lower tier subcontracts for work performed under this contract.

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## 6.0 REVISION TABLE / APPROVALS

REV	DATE	ORIGINATOR	CHANGES
-	07/20/17	D. Drinan	Initial issue
1	5/12/2022	D. Drinan	Clarified scope, added quench rate exception; added email address for certs
2	10/27/2023	D. Drinan	Revised max quench time

Approval:



Digitally signed  
by Dan Drinan