

STATEMENT of WORK (SOW)

TITANIUM

1. INTRODUCTION

Titanium (Ti) is a metallic element most known for high-strength-to-weight ratio and excellent corrosion resistance. These properties along with its relatively high melting point makes titanium ideal for jet engines and airframes. Military airframes require a much higher percentage of titanium than commercial planes because of their extreme dynamic and static loads. In addition to aerospace applications, titanium is also used in maritime and industrial applications due to its resistance to corrosion in seawater and acidic environments. Due to its importance, Defense Logistics Agency (DLA) Strategic Materials received authority to procure titanium in the Fiscal Year (FY) 2022 from the National Defense Authorization Act (NDAA).

2. SCOPE OF WORK

DLA intends to purchase aerospace grade titanium ingots as stated in throughout this solicitation.

3. APPLICABLE DOCUMENTS

The Contractor shall abide by the following documents:

- a) Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1200
- b) The United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
- c) Department of Transportation (DoT) Hazardous Materials Regulations (49 CFR 170- 189)
- d) US Code Title 10, Section 2533B (10 U.S.C. 2553b)

4. TECHNICAL REQUIREMENTS

4.1. The Contractor shall provide 1,960.65 MT of Ti6-4 and 1,007.98 MT of Ti6-4 ELI titanium in ingot form only.

4.2. Ingots shall meet the following compositions:

All percentages by Mass		
	Ti 6-4	Ti 6-4 ELI
Aluminum (Al)	5.5-6.75%	5.5-6.5%
Vanadium (V)	3.5-4.5%	3.5-4.5%
Iron (Fe)	<0.3%	<0.25%
Oxygen (O)	<0.2%	<0.13%
Carbon (C)	<0.08%	<0.08%
Nitrogen (N)	<0.05%	<0.03%

Hydrogen (H)	<0.015%	<0.0125%
Yttrium (Y)	<0.005%	<0.005%
Residual Elements Each	<0.100%	<0.100%
Residual Elements Total	<0.400%	<0.400%
Titanium	Balance	Balance

- 4.3. Each individual ingot shall weigh no more than 25,000 lbs. (11.34 MT).
- 4.4. Each individual ingot shall be between 30 inches and 42 inches in diameter and be between 8.3 feet and 19 feet in length.
- 4.5. Material must be non-radioactive, non-licensable per Nuclear Regulatory Commission (NRC) regulations. It must contain less than 0.05 percent combined thorium and uranium by weight.

5. CERTIFICATES OF ANALYSIS

- 5.1. The Contractor shall provide a Certificate of Analysis (COA) for each individual ingot that can be directly correlated to the unique serial number imprinted (or otherwise permanently marked) on the individual ingot the COA covers.
- 5.2. The COA is a legal document, which attests that the material delivered by the Contractor satisfies the requirements stated in the SOW. The Contractor shall sample and test the material to ensure the reliability of each submitted COA.
- 5.3. The COA shall have a statement certifying that the material meets and or exceeds the requirements stated in the SOW. Each COA shall include the following, at a minimum:
 - a) The unique serial number imprinted (or otherwise permanently marked) on the ingot the COA covers.
 - b) The weight of the individual ingot the COA covers.
 - c) The dimensional information (e.g., ingot diameter in inches and length in feet) of the ingot the COA covers.
 - d) List of the tests performed and/or methodology applied.
 - e) Numerical results and qualitative results.
 - f) Error ranges/limits for results.
 - g) Specifications/requirements.
 - h) Results of chemical analysis of the ingot the COA covers.
 - i) Name of the company or name of the laboratory.
 - j) Date each analysis is performed.
 - k) Printed name and signature of analyst.
- 5.4. Each COA shall be sent to the Contracting Officer's Representative (COR) for review and acceptance prior to shipment of each ingot to the delivery point.
- 5.5. The Government will review each COA submitted to determine acceptability and conformance with the requirements stated in the SOW. The COR will notify the

Contractor of the acceptability/unacceptability of each COA within ten (10) business days after receipt of each COA.

- 5.6. The Contractor shall not ship any material prior to the review and acceptance of each submitted COA by the Government.
- 5.7. The COA and all other documents the Contractor submits to the Government, shall be in English.

6. PACKAGING AND LABELING

- 6.1. A copy of the Safety Data Sheet (SDS) for each individual ingot shall be provided with each ingot at the time of delivery.
- 6.2. Each ingot shall be packaged in accordance with (IAW) standard industry practices that at a minimum protect the ingot from damage during shipping and handling.
- 6.3. Each individual ingot shall be imprinted (or otherwise permanently marked) with a unique serial number that is traceable to that individual ingot only. The use of paint/ink to mark/label ingots is not acceptable.
- 6.4. The unique serial number imprinted (or otherwise permanently marked) on each individual ingot shall correlate to an individual COA.
- 6.5. The font size of markings imprinted (or otherwise permanently marked) on each ingot shall be sufficient in size to be legible to the unaided eye.
- 6.6. Ingots may be stored outside. All markings shall be permanent in nature to the extent that they remain completely legible to the unaided eye for a minimum of twenty years.
- 6.7. All markings shall be in English.
- 6.8. If the material is considered hazardous as defined by the Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1200 and the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), a label will be prepared and affixed to each ingot in accordance with these requirements.
- 6.9. In accordance with The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), the SDS shall contain the chemical name and concentration or concentration range of all ingredients which are classified as health hazards and are: present above their cut-off/concentration limits or present a health risk below the cut-off/concentration limits. The SDS shall be in English.
- 6.10. The Contractor shall submit a written document to the government for each individual ingot of material that includes the following information;
 - a) Commodity Name
 - b) Commodity Grade, Type, or Form
 - c) Country of Origin
 - d) Producer Name
 - e) Net Weight in pounds and metric units (Metric units shall be in parentheses)
 - f) Unique ingot number
 - g) Government Contract Number
 - h) Manufacturer's Specification, Name, Number and Date

- i) A statement certifying the accuracy of the information included in the submitted document.
- j) Printed name and signature of the person certifying the accuracy of the submitted written document and the date this certification was signed.

The submitted written document shall not include a security classification or anything indicating DLA Strategic Materials ownership other than the contract number, purchase specification number and date.

The submitted document shall be in English.

7. TRANSPORTATION

- 7.1. The Contractor shall be responsible for transport, as well as for Carrier and Insurance Paid To (CIP) of the material to Point of Delivery. The transportation of this material shall comply with all relevant Federal, State, and Local laws, including the Department of Transportation (DoT) Hazardous Materials Regulations (49 CFR 170-189) where appropriate, including SDS documentation inclusion in shipping requirements.
- 7.2. The Contractor, its agents, and employees shall comply with the Environmental, Safety, and Occupational Health (ESOH) Policy of DLA Strategic Materials while in storage facilities where stockpile material is stored. The policy can be found in Attachment #1 or on the DLA Strategic Materials website:
<http://www.dla.mil/HQ/Acquisition/StrategicMaterials/iamthekey.aspx>
- 7.3. The Contractor shall deliver materials within twenty-four months of the contract being completed.

8. DELIVERY AND ACCEPTANCE

8.1 DELIVERY

The Contractor shall deliver materials to the Delivery Point:

Defense Logistics Agency
Hawthorne Army Depot
1 South Main Ave.
Hawthorne, NV 89415-9404
Telephone: (775)-945-7001

Shipping Hours: 0800 to 1430 Pacific Standard Time (PST) Monday through Thursday. (exceptions of Federal, State and local holidays and days of closure due to inclement weather and/or other emergencies.)

Accessibility: Truck/Rail scale is available (Truck scale weight capacity is 90,000 lbs. and the rail scale capacity is 500,000 lbs.).

Truck Lot Receiving Procedures: Transportation companies are required to use the (CAS) Carrier Appointment System SDDC for deliveries to Hawthorne Army Depot. Transportation companies must schedule an appointment 24 hours in advance by CAS or by calling 775-945-7950 or 775-945-7949. Hawthorne Army Depot must review passports, naturalization papers and citizenship for admittance and reserves the right to reject non-compliant transportation. Any deliveries must be pre-approved prior to arriving in Hawthorne.

- 8.1.1. The Contractor shall submit documentation of proposed ingot shipping schedule for the period of performance in this solicitation to the Contracting Officer (KO) 30-days prior to shipping material to the Government. Any changes to the proposed shipping schedule need to be sent to the KO 30-days in advance of implementation of proposed changes.
- 8.1.2. The Contractor shall submit a COA for each individual ingot to the COR for review and acceptance prior to shipment of each ingot to the delivery point.
- 8.1.3. The Government will review each COA submitted to determine acceptability and compliance with the requirements stated in the SOW. The COR will notify the Contractor of the acceptability/unacceptability of each COA within ten (10) business days after receipt of each COA.
- 8.1.4 The Contractor shall be free to schedule each delivery with the COR only after the CoA is accepted. The Contractor shall schedule in writing with the COR all deliveries a minimum of twenty (20) business days in advance of their delivery and receive written acceptance of the proposed delivery schedule from the COR prior to any shipping.

8.2 INSPECTION and ACCEPTANCE

- 8.2.1 The material visual inspection and acceptance location will be at the delivery point.
- 8.2.2 The Government will perform visual inspections of each ingot of material upon receipt at the delivery point to verify conformance with the requirements stated in the SOW that can be verified visually.
- 8.2.3 The Government reserves the right to sample and test each ingot of material received to verify the material meets the material specifications set forth in the SOW.
- 8.2.4 The Government reserves the right to witness the sampling and/or testing of each ingot of material. The Contractor shall permit the Government access to

activities associated with sample collection and distribution; at the time the Contractor is manufacturing each ingot of material the Contractor intends to provide to the Government. The Contractor's ingot production facilities must be within the Continental United States (CONUS) for all ingots the Contractor intends to supply the Government.

- 8.2.5 The Contractor shall provide the Government with written notice of the date(s) the Contractor intends to begin processing and sampling and testing activities of ingots of material it intends to provide to the Government, a minimum of thirty (30) business days prior to that date. The Contractor shall provide the Government with a written summary (via email and in PDF format) of its sampling plan and activities; that summary will clearly describe the sampling process and it will cite any relevant sampling standards it uses in its sampling, as applicable. The Contractor shall submit this summary to the Government no later than thirty (30) business days prior to sampling of the ingots of material the Contractor intends to provide to the Government. If subsequent Contractor sampling plans and processes remain unchanged from previous sampling plans and processes the Contractor submitted to the Government, the Contractor shall submit an email to the Government, stating the Contractor has no changes to its sampling plan and processes ten (10) business days prior to the date the Contractor begins its sampling activities.
- 8.2.6 The Contractor shall collect samples for each ingot of material it intends to provide to the Government. The Contractor shall permit the Government to inspect and observe the Contractor's sampling process. The Contractor shall collect three equivalent sets of samples for each ingot of material the contractor intends to supply to the Government – one set of samples for the Contractor's purposes, one set of samples for the Government and one set of samples for laboratory reserve. All three samples shall be of the same size and form. The Contractor shall provide the Government observer with the Government's samples and the laboratory reserve samples at the time the Contractor performs the sampling activities. The Government will maintain a written chain of custody of all samples provided to the Government.
- 8.2.7 The Government will provide written notification of the acceptance/rejection of each delivered ingot of material to the Contractor within ninety (90) calendar days of delivery. The Contractor shall not submit an invoice until the COR has issued a notification of Acceptance of each ingot of material delivered.
- 8.2.8 If any delivered ingot of material or other deliverables does not conform to the requirements stated in the SOW the Government reserves the right to reject the non-conforming material.
- 8.2.9 The Contractor shall be responsible for removal and replacement of rejected ingots of material, including all attendant costs, within ninety (90) calendar days of the final delivery. The Government reserves the right to ask for compensation for lost time.

APPENDIX 1: List of Abbreviations/Acronyms

CFR	Code of Federal Regulations
CIP	Carrier and Insurance Paid To
CoA	Certificate of Analysis
COR	Contracting Officer Representative
DoT	Department of Transportation
DLA	Defense Logistics Agency
DFARS	Defense Federal Acquisition Regulation Supplement
ESOH	Environmental, Safety, and Occupational Health
FAR	Federal Acquisition Regulation
FY	Fiscal Year
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IWA	In Accordance With
Lbs.	Pounds
MT	Metric Tons
NDAA	National Defense Authorization Act
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety & Health Administration
PST	Pacific Standard Time
SOW	Statement of Work
SDS	Safety Data Sheet
Ti	Titanium