

ORNL DOT 7A Type A Container Specification

91 ft³ Steel Container

Press  to see Check List only.

Description	Stores Catalog Number	Packaging Filling Instructions	Plant
Container, DOT 7A Type A , Enamel Painted Steel, 12 gauge steel, with bolt lid closure, removable skids, 74 x 47 x 47 in (nominal), 91 ft ³ , 10,000 pound capacity.	02-119-4710	ORNL-PKG-47	ORNL

Mfg. Details Per: ORNL Packaging Specifications
No. 900-D7A-0001
Issue Date: November 15, 2001
Revised Date: September 5, 2002



[A. DESCRIPTION](#)

[B. OVERALL SUMMARY](#)

[C. BASIC INFORMATION](#)

[D. MANUFACTURING REQUIREMENTS](#)

- [1.0 SCOPE](#)
- [2.0 REFERENCES](#)
- [3.0 DESIGN REQUIREMENTS](#)
- [4.0 CONSTRUCTION SPECIFICS](#)
- [5.0 QUALITY PROVISIONS](#)
- [6.0 PACKAGING and HANDLING](#)
- [7.0 RECEIPT INSPECTION](#)
- [8.0 INTENDED USE](#)
- [9.0 SUGGESTED MANUFACTURERS](#)
- [10. AUTHORIZED CHANGES](#)
- [Attachment #1, Offer Data](#)
- [Attachment #2, Data for Approval](#)
- [Attachment #3, Deliverables](#)
- [Attachment #4, Receiver Inspections](#)
- [Attachment #5, Container Drawing](#)
- [Attachment #6, DOE Headmark List](#)

OAK RIDGE NATIONAL LABORATORY (ORNL)

Packaging Specifications

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 1 of 17

Equipment Specification for metal container meeting Department of Transportation (DOT) 7A Type A and industrial packaging, Type IP-3, requirements; i.e., **Type A Metal Container**.

A. DESCRIPTION

Rectangular metal container painted with metal, gasketed lid, bolted closure, and removable skid runners; 74 x 47 x 47 in OD (nominal) [6 x 4 x 4 ft. (approximate)] overall dimensions (91 ft³ internally); Department of Transportation (DOT) 7A Type A and industrial packaging, Type IP-3, in compliance with DOT regulations [Title 49 Code of Federal Regulations (CFR)] referenced in this specification.

B. OVERALL SUMMARY

- | | | |
|-----|--------------------|--|
| 1.0 | Identification: | Type A Metal Container |
| 2.0 | Size: | 74 x 47 x 47 in OD (nominal) [6 x 4 x 4 ft. (approximate)] |
| 3.0 | Payload Capacity: | 10,000 lb net (4,545.5 kg) |
| 4.0 | Volume Capacity: | 91 cu ft (nominal) |
| 5.0 | Material: | 12-gauge low carbon hot-rolled steel, body
10-gauge low carbon hot-rolled steel, lid |
| 6.0 | Stack Height: | Fully loaded boxes, capable of being stacked three (3) high (minimum) |
| 7.0 | Exterior Surface: | Painted, as specified (Ref. C. 13.0 below) |
| 8.0 | Drawing: | Manufactured in accordance with manufacturer's drawing, as approved by ORNL Transportation and Packaging Management (Reference Attachment #5) |
| 9.0 | Stores Catalog No: | 02-119-4710 (enamel-coated) |

C. BASIC INFORMATION

- | | | |
|-----|--------------------------------|---|
| 1.0 | Skid Runners: | These specifications require skid runners to be removable. |
| 2.0 | Lid Gasket: | Gaskets are to be securely glued to box lid of each container. |
| 3.0 | Exterior and Interior Surface: | Painted containers to be painted with two coats of enamel gray paint, 2-1/2 to 3 mils, interior and exterior. |
| 4.0 | Lid Lifting Bracket: | Lid lifting devices to be designed to be removable but shall not detach during normal use. |

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 2 of 17

D. MANUFACTURING REQUIREMENTS

ORNL Container Specification No. 900-D7A-0001

1.0 SCOPE

- 1.1 This specification covers the requirements for a metal container that can be utilized for the packaging of solid Type A material and other material which requires the use of a DOT 7A Type A package or Industrial Packaging, Type IP-3 (such as LSA material).
- 1.2 [Attachment #1](#), Offer Data, provides a listing of the items that must be addressed in the Offeror's response. [Attachment #2](#), Prior to Fabrication, provides a listing of the documentation that must be provided after subcontract award and prior to fabrication. [Attachment #3](#), Deliverables, provides a listing of the documentation that must be provided at time of delivery.

These attachments provide references to the particular specification section to which a specific documentation requirement applies.

NOTE: Prior to subcontract award, the Company will perform a vendor evaluation, or equivalent, according to procedure TPM-QA-2 to verify the Offeror's technical, quality control, and production capabilities, and Offeror's ability to supply these containers in compliance with the definitive standards of this specification.

2.0 REFERENCES

- 2.1 DOT - 49 CFR ¶173.24, 173.465 and 178.350 [Type A] and 173.411(a) and (b)(3) [IP-3]
- 2.2 American Society for Testing and Materials (ASTM) A569
- 2.3 American Welding Society (AWS) D1.1, "AWS Structural Welding Code"
- 2.4 American Welding Society (AWS) D1.3, "AWS Sheet Metal Welding Code"
- 2.5 American Society of Mechanical Engineers (ASME) Section IX, "Welding and Brazing Qualifications"
- 2.6 American Society for Nondestructive Testing, Recommended Practice SNT-TC-1A, Dec. 1988
- 2.7 American Welding Society, Specification for Qualification and Certification of Welding Inspectors, 1988 Edition

3.0 DESIGN REQUIREMENTS

- 3.1 *Construction Materials*
 - 3.1.1 *Body:* 12-gauge (minimum) low carbon hot rolled sheet steel meeting ASTM-A569 specifications, or equivalent; i.e., ASTM A-36.
 - 3.1.2 *Lid:* 10-gauge (minimum) low carbon hot rolled sheet steel meeting ASTM-A569 specifications, or equivalent; i.e., ASTM A-36.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 3 of 17

3.0 DESIGN REQUIREMENTS (continued)

3.1 Construction Materials (continued)

3.1.3 *Lid Gasket:* Closed cell neoprene EDPM foam gasket material, 1/2" x 1 1/4", ASTM D-1056-67, SAE-J-18-SCE42 medium durometer with self adhesive backing on one side; or company approved equal gasket material.

3.1.4 *External/Internal Support:* Any required external and internal support to be fabricated from channel or angle steel.

NOTE: The material certification for all container steel and gasket material shall be submitted for company approval prior to fabrication.

3.2 Structural Requirements

3.2.1 *Payload Capacity:* 10,000 lb net weight (4,545.5 kg).

3.2.2 *Stack Height:* Containers, loaded to design load capacity, must have the capability of being stacked a minimum of three (3) high.

3.2.3 *Strength:* Boxes shall be capable of supporting a uniformly distributed load of at least 4,000 lb/ft². Actual physical testing or design engineering calculations can be used to demonstrate this requirement.

NOTE: Provide proof, as part of the Data for Approval prior to fabrication of the container design load capacity and design stack height in the form of engineering structural calculations or by submission of engineering drawings for an approved container fabrication design that has prior regulatory authority acceptance and meets the stipulated design characteristics and dimensional requirements of this specification.

3.3 Container Dimensional Design

3.3.1 *Container Dimensions -* As per approved drawing; to be 74 x 47 x 47 inch OD (nominal), to yield an 89-91 cubic foot volume, dependent on required internal supports.

3.3.1.1 Allowable container fabrication design tolerances shall be within +/- 1/4" of the dimensions shown on the container drawings, as approved by the Company, or as specifically specified elsewhere in the specification and/or drawing.

NOTE: Container shall be constructed in such a manner as to maintain the outside container dimensions within design tolerances when loaded to the design load capacity of 10,000 lb net.

3.3.2 *Skid Runners:* To provide for ease of retrievability each container shall be fabricated with three (3) each removable skid runners to provide sufficient clearance under the container to allow enough room to accommodate the standard sized forks of a forklift without requiring additional blocking beneath the container.

3.4 Container Closure And Sealing Requirements

3.4.1 *Lid Construction:* The container lid shall incorporate a bolted lid closure method; with angle channels mounted on the sides of the lid, and the top edge of the container. Bolts, 3/8 inch (minimum) x 1-1/2 inch, will close the container by bolting down on the sides of the container/angle channel with sufficient clearance between lid angle channel and container angle channel to compress the gasket without the bolt channels coming into contact with each other.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 4 of 17

3.0 DESIGN REQUIREMENTS (continued)

3.4 Container Closure And Sealing Requirements (continued)

- 3.4.1.1 Lid will be bolted with thirty (30) bolts, nine (9) each long container side and six (6) each short side, with flat washers. Bolt size shall be 3/8" (minimum) X 1 1/2".
- 3.4.1.2 Stainless steel bolts and nuts will be utilized or plated bolts/nuts having stronger torque resistance than the same size SS bolts/nuts. **No counterfeit bolts will be accepted.** (See [Attachment #6](#) for list)
- 3.4.1.3 For delivery, lids will be bolted with two (2) bolts; one (1) at center of each short side; balance of the required bolts, nuts, and washers will be shipped in a bag inside each container.
- 3.4.2 Lid Handles: Shall be incorporated into the lid design to provide a means by which the lid can be easily manipulated during container opening and closure. Lid handle design shall comply with 49 CFR, §173.410 and incorporate the following:
 - 3.4.2.1 Lid handles shall be designed only for the purpose of lifting the lid weight.
 - 3.4.2.2 Lid handles shall be designed to be removable but shall not be designed in such a manner that the handle detaches from the lid during normal use.
 - 3.4.2.3 Four handles shall be provided on each lid: two on each side of the lid's short dimension.
 - 3.4.2.4 Lid handles shall be ergonomically positioned to avoid undue worker strain during routine lid handling operations.
 - 3.4.2.5 Lid handles shall have a minimum clearance of 3" between the lid and the bottom of the handle to allow sufficient grasping room for a worker's hand.
 - 3.4.2.6 Suggested handle design would consist of an approximately 3/8" bent rod, hinged to fold down along the container side so as not to interfere with container stacking.
- 3.4.3 Gasket materials: Shall be glued secure to the lid, such that it provides a continuous sealing surface around the entire circumference of the lid/container contact surface, including the corner joints.
- 3.4.4 Lid security closure devices: Shall be incorporated in the container design characteristics whereby the lid can be locked to the container while in-use to prevent unauthorized waste addition or entry into the container. Locking devices shall be capable of utilizing the available lid closure mechanism bolt holes while the container is in-use and will utilize a minimum of two (2) bolt holes on opposite sides of the lid.
 - 3.4.4.1 Container closure mechanism design shall incorporate a method for the application of Company supplied tamper indicating devices (TID's) once the container is filled and contents are verified. TID's shall utilize dedicated through penetrations between the lid and lid closure flange and allow for the application of two (2) TID's on opposite sides of the lid.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 5 of 17

3.0 DESIGN REQUIREMENTS (continued)

3.5 Container Finish Requirements

- 3.5.1 All container edges and/or surfaces shall be fabricated to minimize sharp edges and protrusions, any edges that do exist on the container shall be ground to minimize personal hazards.
- 3.5.2 Painted Containers:
 - 3.5.2.1 All container interior and exterior surfaces shall be prepared and cleaned of all solvent residue, oil, and other materials prior to painting to ensure adequate paint bonding, uniformity, and proper mil thickness without paint running.
 - 3.5.2.2 All container interior and exterior surfaces shall be painted with two coats of the base finish paint coating, which will be a rust proof, lead-free, enamel paint. Total paint thickness, for both initial and final paint finish coatings, will be a minimum of 2-1/2 to 3 mil dry film thickness (DFT) on all surfaces.
 - 3.5.2.3 Paint color to be gray.
 - 3.5.2.4 Finished, painted surfaces upon visual inspection shall appear smooth and free of any visible pits or imperfections.
 - 3.5.2.5 Painted surfaces shall be allowed time to completely dry prior to placement of the lid onto the box to prevent the lid and gasket from adhering to the box at the time of initial container usage at the Company's facility.

3.6 Container Identification

- 3.6.1 *Location:* Offeror's fabrication data shall be legibly marked, at a minimum, on one of the container long dimensions (front or back) and on one of the container short dimensions (either side), with stenciling, etching or other comparable means of permanent identification.
- 3.6.2 *Identification Marking Specifications:* Offeror's fabrication data shall be permanently affixed to the container in the specified locations in accordance with the following:
 - 3.6.2.1 Identification marking on the container shall be sharp, durable, and capable of being easily read. Markings shall be capable of being read from a distance of 15 feet with the unaided eye.
 - 3.6.2.2 The container identification shall be marked by a permanent and secure method that shall not have any detrimental effects on the container integrity.
- 3.6.3 *Container Data Markings:* The fabrication data to be included on each container as specified above should include, at a minimum, the following information:
 - 3.6.3.1 Seller's Fabrication Facility Name
 - 3.6.3.2 Company's Purchase Order Number

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 6 of 17

3.0 DESIGN REQUIREMENTS (continued)

3.6.3 Container Data Markings (continued)

3.6.3.3 Year of Manufacture

3.6.3.4 Container Lot Number - *marking separately on the container is allowable, in marking proximity*

3.6.3.5 Container Serial Number

3.6.3.6 Container Tare (empty) Weight (lb) [Ref: [§3.7](#)]

3.6.3.7 Container Maximum Net Weight (lb) [10,000 lb; Ref: [§3.2.1](#)]

3.6.3.8 Design waste volume (ft³) (i.e., available internal container volume)

3.6.3.9 Design burial volume (ft³) (i.e., container disposal volume takes into consideration the container's maximum outside dimensions)

3.6.3.10 Container full weight (lbs): blank (sufficient space available for the company to provide the full container weight upon completion of container filling)

3.7 Tare Weight Determinations

3.7.1 Scales for determining Tare Weights will be certified, and capable of weighing within plus (+) or minus (-) two (2) pounds.

3.7.2 The tare weight will be determined on a lot of containers in accordance with:

3.7.2.1 For painted containers, five (5) percent of the lot, randomly sampled, will be weighed, with a minimum of five (5) containers, and the average computed for the lot.

NOTE: A lot will be defined as a batch/quantity of containers made all in the same production run, with the same batch of material, and identified on the container by the lot number (with the serial number) for each order of containers purchased by Oak Ridge National Laboratory (ORNL).

3.7.3 The tare weight will be marked (stamped, printed) on the container per [§3.6.3.6](#).

3.7.3.1 Painted containers will be marked with the calculated average weight from the sampling.

3.7.4 The container tare weights will be marked to the nearest one (1) pound.

NOTE: Certificate of Compliance (CoC) requirements are stated under Quality Provisions, [§5.6.2](#).

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 7 of 17

3.0 DESIGN REQUIREMENTS (continued)

3.8 Fabricator Preconstruction Deliverables:

- 3.8.1 Prior to beginning fabrication, the Approval Data listed in [Attachment #2](#) shall be submitted for the Company's review and approval.

4.0 CONSTRUCTION SPECIFICS

- 4.1 Container construction shall meet the requirements of a Type A container as defined and specified by DOT in 49 CFR ' 173.24 and ' 173.412 and as an industrial packaging; Type IP-3, ' 173.411(a)and (b)(3).
- 4.1.1 Container fabrication shall be such that no weld seams shall be used to piece together smaller pieces of material to fabricate the main box structural panels. Additionally, no through weld seams will be allowed across any of the main box structural panels on the four (4) container sides, lid, or bottom other than those welds required at the container corners to join interfacing panels.
- 4.2 Container drawings shall be furnished and the design shall be approved by ORNL Transportation and Packaging Organization. Any container design modifications/revisions must be submitted in writing, and approved in writing prior to the manufacture of any containers under the purchase order/contract.
- 4.2.1 Standard engineering drawing dimensioning for manufacturing purposes:
- 4.2.1.1 Container engineering drawings shall include as a separate drawing a depiction of the sheet steel bending diagrams which will indicate the sheet steel size, required sheet steel cuts, and sheet steel bends which will be utilized in the fabrication process for each of the container panels.
- 4.2.2 Internal container dimensions available for the waste volume.
- 4.2.3 All container welds shall be clearly identified and appropriately annotated to indicate the size and type of weldment used in the container fabrication.
- 4.2.4 All container design features, such as, lid lifting device, closure mechanisms, forklift base channels, etc. shall be clearly identified and dimensionally annotated to indicate specific design characteristics.
- 4.2.5 State the container design internal container dimensions, waste volume capacity in cubic feet (ft³), container burial volume in cubic feet (ft³), design payload capacity (lb), and maximum design loaded gross weight (lb).
- 4.3 Container body construction shall meet the requirements as prescribed in this specification under [3.0 DESIGN REQUIREMENTS](#).

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 8 of 17

5.0 QUALITY PROVISIONS

- 5.1 The Company shall have the right of access to witness the manufacturing process involved in the fabrication of the requested containers.
- 5.2 The Company shall be notified within a minimum of 10 working days in advance of the initial container fabrication, in accordance with this specification, to allow for the opportunity at the Company's discretion to witness container fabrication at a mutually agreeable date and time.
- 5.3 All welding procedures and welder certifications shall be in accordance with requirements of AWS D1.1, "AWS Structural Welding Code," AWS D1.3, "AWS Sheet Metal Welding Code," ASME Section IX, "Welding and Brazing Qualifications," as applicable, or other equivalent code which requires mechanical testing of weld coupons.
- 5.3.1 The welding procedures, procedure qualification records (PQR's) and welder certifications (including updates) shall be submitted to the Company as part of the Offer Data.
- 5.4 Weld container inspection shall consist of the following:
- 5.4.1 A visual inspection of one hundred percent (100%) of each container's welds (both container and lid) shall be performed in accordance with AWS D1.1, ' 6 or AWS D1.3, ' 7, and documented accordingly. Acceptance criteria is per AWS D1.1, ' 8.15.1 or AWS D1.3, ' 4.5.
- 5.4.2 Examination Personnel Certification Requirements--personnel performing visual examination of welds shall be currently certified either as an AWS CWI or in accordance with the requirements of SNT-TC-1A, or work under direct supervision of an SNT-TC-1A Level II, III, or CWI. If certified to SNT-TC-1A, satisfy the training and experience requirements by time spent in weld examination related work. (Reference: AWS QC-1, Specification for Qualification and Certification of Welding Inspectors, 1988 edition.)
- 5.4.3 The production water 'float' test is not required; however if performed as a production test, then documentation on the tested containers fabricated should be recorded, percentage tested, and the test should be such that the containers will submerge all weld seams on the container bottom panel and the welds up the side panels.
- 5.4.3.1 As part of the Offer Data, responding Offerors shall include a procedure detailing the Offeror's 'float' test which specifies the amount of time the container will be floated.
- 5.4.4 A copy of the Offeror's quality control (QC) manual and associated procedures shall be provided as part of the Offer Data.
- 5.5 The Offeror shall have established or initiate a mechanism by which each manufactured container is assigned a container fabrication serial number that will allow for the tracking of container fabrication through the entire manufacturing process.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 9 of 17

5.0 QUALITY PROVISIONS (continued)

5.6 The following container specific documentation shall be provided upon delivery of each container and shall include, at a minimum:

5.6.1 Offeror's inspection records for the following:

5.6.1.1 Visual inspection results of each container's welds (both box and lid) as specified by the Offeror's QC requirements.

5.6.1.2 Container 'float' test results and associated weld seam inspection results of each container as specified by the Offeror's quality control requirements.

5.6.1.3 Dimensions inspected meet specifications/drawing requirements.

5.6.1.4 Paint minimum dry film thickness (DFT) verification results for the container's primer and finish coat (2.5 mil minimum on all interior and exterior surfaces).

5.6.1.5 Inspection results for the condition of the following container components: container closure mechanism, lid lift attachment on the container lid.

5.6.2 Certificate of Compliance (CoC) to this Specification shall be provided by the supplier on suppliers letterhead paper and signed by employee of the supplier:

5.6.2.1 The Supplier has manufactured the containers in accordance with these ORNL specifications provided the supplier.

5.6.2.2 The Supplier shall certify that the equipment utilized to determine the tare weight is part of a routine calibration system and that the scale used has been calibrated to be accurate within plus (+) or minus (-) two (2) pounds.

5.6.2.3 The Supplier must provide the "standard deviation" for those containers randomly sampled for the tare weight average.

5.6.2.4 The supplier must provide Type A testing documentation and closure instructions per '173.465.

5.6.3 All Container Deviation Reports and Non-Conformance Reports.

All manufacturing deviations and non-conformance to the Company specifications must be documented to the Company, and a request for waiver or deviation submitted with specific details, and approved by the Company prior to delivery of the container.

NOTE: The above specified container documentation shall be identified to the unique container fabrication serial number, be complete, and authenticated by a cognizant representative of the Offeror's quality control section. One (1) copy of each set of documentation specifically identifying the inspected container(s) shall be submitted with each shipment received by the Company.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 10 of 17

5.0 QUALITY PROVISIONS (continued)

- 5.7 As part of the Offer Data, Offerors shall provide a copy of the documentation described in [§5.6](#).
- 5.8 The Company may perform shop inspections at the Offeror's fabrication facility for approved drawings, procedures, welder certifications, materials, workmanship, suspect/counterfeit parts, and documentation prior to container shipment. The Offeror will be notified in advance of the shop inspection and the inspection times will be established and mutually agreeable between the Offeror and the Company's representative.
- 5.9 The Offeror shall notify the Company upon fabrication completion of the first lot of containers prior to painting. The Company's inspector shall be afforded the opportunity to perform first article weld fabrication container source inspection prior to container painting. Any identified deficiencies will be corrected prior to painting. The Company's inspector will be notified of container deficiency correction and be allowed the opportunity to reinspect the containers prior to container painting.

6.0 PACKAGING AND HANDLING

- 6.1 *Container Storage At The Offeror's Facility* - Container storage shall be in such a manner as to ensure the inside of the containers will remain dry and no accumulated moisture will be present in the containers prior to shipment to the Company.
- 6.2 *Container Packaging For Shipment* - Each container shall be packaged in a manner to ensure safe delivery and comply with all carrier's regulations.
- 6.2.1 Containers loaded for shipment to the Company will be tied down in such a manner so as to avoid any damage and/or distortion to the container during transportation which would cause design tolerances to be exceeded.
- 6.2.2 Containers shall be packaged for shipment to the Company in such a manner as to ensure the inside of the containers remain dry during transport.

7.0 RECEIPT INSPECTION

- 7.1 Final acceptance of each shipment received at the Company's site will be upon the Company's verification that the following documentation requirements have been met:
- 7.1.1 Container Documentation (For Each Container) as prescribed in this specification under **5.0 QUALITY PROVISIONS**, [§5.6](#) and
- 7.1.2 Container Data Markings; as prescribed in this specification under **3.0 REQUIREMENTS**, [§3.6](#), Offeror's Approval Data.
- 7.2 *Receiving Inspection*: The receiving inspection will be performed using [Attachment #3](#) of this specification, the QC checklist. Verification that no shipping damage has been incurred during transport to the Company is included. Minor paint scratches will not be reason for rejection.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 11 of 17

8.0 INTENDED USE

Containers are intended for packaging solid Type A material and other material which requires the used of a DOT 7A Type A package or an Industrial Package, Type IP-3, such as LSA material.

9.0 SUGGESTED MANUFACTURERS

The following list of suggested manufacturers have demonstrated ability to comply to the requirements set forth in this document. However, this list does not guarantee current or continued availability as a suggested manufacturer source:

- \$ Bull Run Metal; Clinton, Tennessee
- \$ Container Technologies Incorporated; Helenwood, Tennessee

The Seller must advise the Company prior to any change in the current source (manufacturer) of packaging materials described in these Packaging Specifications.

Any Manufacturer that satisfactorily demonstrates to the Company the capability to furnish packaging in compliance with these Packaging Specifications, may be added to the above listing.

10.0 AUTHORIZED CHANGES

Changes/revisions in the requirements specified in this document will only be authorized by ORNL Packaging Operations as coordinated with Oak Ridge facilities packaging operations.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 12 of 17

Attachment # 1 Offer Data

<i>Item No.</i>	<i>Specification Section</i>	<i>Deliverable Description</i>
1	§15.3.1	Provide a copy of all applicable fabrication welding procedures for Company's review.
2	§15.4.4	Provide a copy of the Offeror's QC manual.
3	§15.7	Provide copy of the Offeror's specific forms which address each of the container requirements described in §15.6 of this specification.

NOTE: Offers may not be considered if the Offer Data is not provided.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 13 of 17

Attachment # 2

Data for Approval – Prior to Fabrication

<i>Item No.</i>	<i>Specification Section</i>	<i>Description</i>
1	§3.1 Note	Provide material certification for steel used for the fabrication of the container body and lid.
2	§3.1 Note	Provide material certification for the container lid gasket material.
3	§3.2 Note	Provide proof of the container design load capacity and design stack height for Company's review and approval.
4	§4.2	Provide a copy of the finalized container detail design drawings for the Company's review and approval.
5	§5.3.1	Provide a sample of applicable welder certifications for the fabrication personnel who will be performing welding operations during container fabrication for Company's review.
6	§5.4.1	Provide random container selection, fabrication lot size determination, weld spot check for Company's review as specified in this section of the specifications.
7	§5.4.3.1	Provide a description of the Offeror's fabrication facility "float test", when used as a production test.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 14 of 17

Attachment #3 Deliverables

<i>Item No.</i>	<i>Specification Section</i>	<i>Description</i>
1	¶5.6.2	Provide Certificate of Compliance (CoC) on suppliers letterhead, signed by a supplier employee, stating containers are manufactured to Specification 900-D7A-0001.
2	¶5.6.2.2	Provide certification of calibration for equipment used to determine tare weight.
3	¶5.6.2.3	Provide the “standard deviation” for tare weight average.
4	¶5.6.2.4	Provide Type A testing documentation and closing instructions per 49 CFR §173.465..
5	¶5.6.1	Provide Inspection Records for:
	¶5.6.1.1	Container weld visual inspection.
	¶5.6.1.2	“Float” test results and weld seam inspection for <i>each</i> container, if performed.
	¶5.6.1.3	Dimensions meeting specifications/drawing requirements.
	¶5.6.1.4	Dry film thickness (DFT) verification.
	¶5.6.1.5	Container closure mechanism and lid lift mechanism.
6	¶5.6.3	Provide, approved by ORNL, manufacturing deviations and non-conformance reports for specific containers.

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 15 of 17

Attachment #4 RECEIVER INSPECTIONS:

The following inspections will be performed on the incoming containers by the Company to determine whether the containers meet quality standards and the requirements of this specification document, and the contract. However, the receiver is not limited to the below inspections to determine quality and specification conformance. Conformance will be indicated by a **Y or N** in the "Y/N" column, and negative responses documented on UCN 11457 and attached to the checklist.

This Checklist is to be reproduced for QC Inspections.

Receiver Inspection Quality Control (QC) Check-list for Incoming Containers:			
QC Conformance	Y/N	<< "No's" are to be documented, and attached to this checklist.	
1	Dimensions		Containers meet nominal dimensions stated in ' D13.3.1 of this specification.
2	Container Lids		Lids fit containers without binding sidewalls; easily removable.
3	Lid Closures		Closure bolt holes are aligned; bolts (30) supplied, with nuts/ washers. Closure bolts are SS or plated; 3/8 inch minimum, 1-1/2 inch (' D13.4.1).
4	Exterior/Interior		Painted gray per ' D13.5.2 of this specification No significant scratches, corrosion, dents, bare metal areas, etc.
5	Lid Handles		Lid handles installed on the lid per ' D13.4.2 of this specification
6	Lid Gasket		Gasket in good condition; no tears, etc.; and securely glued in and around lid - no gaps.
7	Exterior Bracing		All welds "in-tack" (no breaks) and showing no corrosion in seams, etc.
8	Container Identification		Container marked per ' D13.6 .
9	Skid Runners		Three each removable forklift steel skid runners mounted on bottom of Container, per ' D13.3.2 of this specification.
10	COC		Certificate of Compliance provided in accordance with ' D15.6.2 .
11	Closing Instructions		Closing Instructions will be provided with each shipment per ' D15.6.2.4 .
12	Deviation Reports/NCRs		Deviation and/or non-conformance reports provided identifying the inspected containers per SD15.6.3 .
13	Inspection Records		Offeror's inspection records provided in accordance with SD15.6.1 .

Drwg/Id Number _____

P.O. Number _____

Total Units Received _____

Inspection Method: Per TPM QC Inspection Plan

Sample Size _____

[Based on ANSI/ASQC Z1.4-1993]

Equipment Used _____ ID# _____

Inspector/Date _____

Calibration Date _____

MFG. Certification/Test Report Received _____

If additional comments are provided on back,
check yes ____

This QC inspection check list shall be accomplished for each order, based on random samples of the received containers, by QC personnel to determine manufacturer's conformance to the specified packaging specifications.

DOT 7A Type A Container – 91 ft³

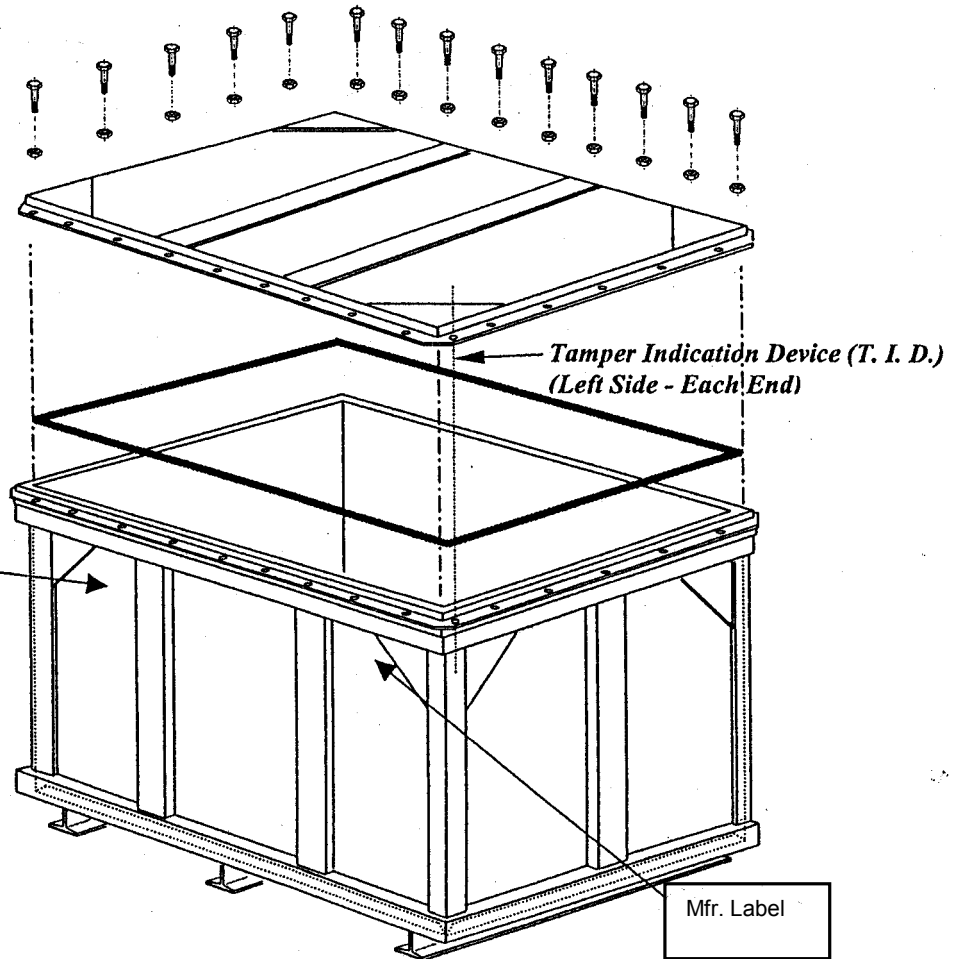
Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 16 of 17

Attachment #5 Container Drawing



PO# nnnnnnnnn
Year Mfg. YYYY
Lot# nn, Serial# nnn
Tare Wt. nnnn Lbs.
Max Gross Wt. nnnnn Lbs
Waste Vol. Capacity nn Cu. Ft.
Burial Volume nn Cu. Ft.
Full Wt. _____ Lbs.

Mfr. Label

Container Description:

Model: 7A Type A (Specialized)
Specification: 900-D7A
Volume Capacity: 91 ft³
Container Weight: 1130 lb (approximate)
Payload: 10,000 lb.
Max. Gross Weight: 11,130 lb (approximate)
Material: Low Carbon Hot Rolled Steel – Panels (ASTM A569)
Carbon Steel – Structural Members (ASTM A36)
Dimension: 74 x 47 x 47 in OD (nominal)

Additional Information:

Security maintained with lockable closed system
AWS Welding & Inspection performed
Bolted Closure System (as shown)

DOT 7A Type A Container – 91 ft³

Specification No. 900-D7A-0001

Issued: 11/15/2001

Revised: 9/5/2002

Page 17 of 17

Attachment #6 DOE Headmark List

ANY BOLT ON THIS LIST SHOULD BE TREATED AS DEFECTIVE WITHOUT FURTHER TESTING.



ALL GRADE 5 AND GRADE 8 FASTENERS OF FOREIGN ORIGIN WHICH DO NOT BEAR ANY MANUFACTURERS' HEADMARKS:



GRADE 5



GRADE 8

GRADE 5 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:

<u>MARK</u>	<u>MANUFACTURER</u>	<u>MARK</u>	<u>MANUFACTURER</u>
	J Jinn Her (TW)		KS Kosaka Kogyo (JP)

GRADE 8 FASTENERS WITH THE FOLLOWING MANUFACTURERS' HEADMARKS:

<u>MARK</u>	<u>MANUFACTURER</u>	<u>MARK</u>	<u>MANUFACTURER</u>
	A Asahi Mfg (JP)		KS Kosaka Kogyo (JP)
	NF Nippon Fasteners (JP)		RT Takai Ltd (JP)
	H Hinomoto Metal (JP)		FM Fastener Co of Japan (JP)
	M Minamida Sleybo (JP)		KY Kyoel Mfg (JP)
	MS Minato Kogyo (JP)		J Jinn Her (TW)
	Hollow Triangle Infasca (CA TW JP YU) (Greater than 1/2 inch dia.)		
	E Dalai (JP)		UNV Unytite (JP)

GRADE 8.2 FASTENERS WITH THE FOLLOWING HEADMARKS:

<u>MARK</u>	<u>MANUFACTURER</u>
	KS Kosaka Kogyo (JP)

GRADE A325 FASTENERS (BENNETT DENVER TARGET ONLY) WITH THE FOLLOWING HEADMARKS:

<u>MARK</u>	<u>MANUFACTURER</u>
Type 1	A325 KS Kosaka Kogyo (JP)
Type 2	
Type 3	

Key: CA-Canada, JP-Japan, TW-Taiwan, YU-Yugoslavia