

CERAMIC BOAT (IVD EVAPORATION UNIT)

1. SCOPE

1.1 This specification establishes the requirements for intermetallic composite evaporation sources (boats) used in the ion vapor deposition (Ivadizer) process.

3. REQUIREMENTS

3.1 Material and Workmanship: Material shall be uniform in quality and condition, clean, sound and free from internal and external imperfections detrimental to its use for ion vapor deposition.

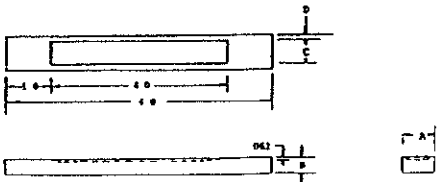
3.2 The material supplied to this specification shall be a boron nitride/titanium diboride composition and have the following mechanical and thermal characteristics:

- a) Density - 2.68 to 3.04 gm/cm
- b) Moisture Pickup @ 100% R.H. - .04 to .07% by wt.
- c) Thermal Conductivity - .05 to 0.2 cal/cm<sup>2</sup>/Sec/ °C/cm
- d) Co-efficient of Thermal Expansion - 7.6 x 10<sup>-6</sup>/°C
- e) Resistivity - as specified below:

Evaporation CERAMIC BOAT Vendor*	Resistivity Range (micro-ohm-cm)
Sylvania, Borax	600-900
Union Carbide	600-750

4) DIMENSIONAL TOLERANCES 3/4" BOAT

A + .003 - .000	B + .060	C + .010	D + .010
.751	.375	.500	.125



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REVISIONS

CHANGE	ITEM NO	DESCRIPTION	DATE	DRAWN	CHECKED	STRESS	APPROVED
A		10 <sup>-6</sup> ADDED TO REQMT'S NOTE 3.2 (d).	18 91	R	PL		

5) IDENTIFICATION

1. Each container must be permanently and legibly marked with the following information:

- i) Ceramic Boat (IVD EVAPORATION UNIT)  
ii) deHavilland Aircraft Co. DSC-461  
iii) Purchase Order Number \_\_\_\_\_  
iv) Manufacturer's Part Number \_\_\_\_\_

2) Each package must be marked with the following information:

Part Number DSC 461  
Resistivity \_\_\_\_\_  
Lot Number \_\_\_\_\_

6.1 Responsibility for Inspection: The vendor shall be responsible for compliance to this specification. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to assure that the product conforms to the requirements of this specification.

6.2 The vendor of the product shall furnish with each shipment a report stating that the product conforms to the technical requirements of this specification number, size and quantity.

Approved Suppliers:

Sylvania Emissive Products  
Exeter, NH  
1-800-258-8290  
603-772-9710

Union Carbide

7. PREPARATION FOR DELIVERY

7.1 Packaging and Packing: Packaging shall be accomplished by sealing all boats in polyethylene or equivalent containers and further packing to insure that the boats, during shipment and storage, will be protected against mechanical damage and moisture absorption. Maximum of two sources per sealed package.

8. NOTES

8.1 Intended use: The material covered by this specification is intended for use in the ion vapour deposition process.

8.2 Ordering Data: Procurement documents should specify the following:

- a) Number, title, and date of specification.
- b) Tolerance, if other than as specified in 3.3
- c) Boat model number (includes size)
- d) DSC and vendor part number.

SOURCE CONTROL DRAWING

Only the item(s) listed on this drawing and identified by vendor's name(s) address(es) and part number(s) have been approved by the de Havilland Aircraft Company of Canada for use in DHC aircraft. A substitute item shall not be used without prior approval by the de Havilland Aircraft Company of Canada.

deHAVILLAND  
AIRCRAFT COMPANY  
CANADA

DRAWING TITLE		CERAMIC BOAT, IVD Evaporation Unit	
DWG SIZE	CODE IDENT NO	DRAWING NO	RELEASE
B	71867	DSC 461	A
SCALE	WGT CALC	ACTUAL	SHEET

DRAWN	Kromkamp	18/6/91
CHECKED	P. Lam	91.06.19
APPROVED	L. SALINAS	11.7.91
MTL & STDS	Kromkamp	11.7.91
STRESS		
CH DRAFTN		

REPORT ALL DRAWING ERRORS  
TO ENGINEERING