CERTIFICATE OF COMPLIANCE

CABOT

CERT NO: 17378

01/27/2009

ORPHAN

Customer:	FERMILAB
Part Number:	401750005
Purchase Order:	575901
Description:	Sheet Nb .124(RRR)x24.0x24.0
Dimensions:	3.15mm(0.124") x 610mm(24.0") x 610mm(2

Originating Lot: 298312 Finished Lot: 302768-02 Temper: Annealed Anneal No.: 10097-1 #8

Chemistry: Originating Material

All results in parts per million (ppm) unless noted.

Element	Result	Element	Result	Element	Result	Element	Result
C	<10	Fe	<2	H	<2	Hf	<1
Mo	4	N	<10	Nb	99.98 %	Ni	<1
O	11	Si	<10	Ta	<100	Ti	<1
W	29	Zr	1				

Mechanical and Other Properties:

Chemistry: Finished Product

Element	Result
C	<10
H	<2
N	<10
O	16

Electrical Properties:

Additional Information:

Mechanical and Other Properties:	
ELONG-L_%	65.31 %
ELONG-T_%	62.61 %
Exponent	0.4712875
Gauge Length	1.000 in
GS_ASTM Avg	6.8
Photos Opt-L	YES
Photos Opt-L	YES
Photos Opt-T	YES
Photos Opt-T	YES
Recry_%	98.76 %
Resistance	426.75 K
UTS-L_ksi	23.888 KSI
UTS-L_N/mm2	164.70 N/mm2
UTS-T_ksi	23.545 KSI
UTS-T_N/mm2	162.34 N/mm2
VHN-10KG Avg	52 VHN-10KG
Yield-L_ksi	8.52 KSI
Yield-L_N/mm2	58.71 N/mm2
Yield-T-ksi	8.80 KSI
Yield-T_N/mm2	60.68 N/mm2

Drawing 5520.000-MB-441836

RRR Samples: 2mm x 3mm x 50mm Tol. +0.2mm/-0

Flat Within 2% Max.

"As Etched" Surface

Specification:

5500-ES-371037 Rev.0 w/ exceptions

This document certifies that the above material conforms to the requirement of your order and your specification.

Dawne Fitzgerald

Authorized Signature 1/27/09

Cabot Supermetals P.O. Box 1608 County Line Rd. Boyertown, PA 19512 tel (610) 367-1500 fax (610) 369-8259