



Grandview Materials Inc.

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CERTIFICATE OF ANALYSIS

FOR

NIOBIUM RRR SHEET

CUSTOMER: N/A	SIZE: .125"Thk x 12.50" x 12.50"
P/O No.: xxxx46	QUANTITY: 12 PIECES
LOT No.: HNB 51307219	TEMPER: ANNEALED

1. CHEMICAL ANALYSIS (% WT)

C	0.0010	Ni	0.0006
N	0.0006	Ti	0.0004
O	0.0006	W	0.0010
H	0.0002	Ta	0.0310
Fe	0.0005		
Mo	0.0011	Nb	REMAINDER

2. MECHANICAL PROPERTIES

RRR	250
TENSILE STRENGTH (ksi)	25
YIELD STRENGTH (ksi)	11
ELONGATION (%)	52
HARDNESS (HV)	51
GRAIN SIZE (ASTM)	6
SURFACE ROUGHNESS (µm)	0.625