

Niobium Powder

INTRODUCTION

ATI produces niobium powder in two compositions: Grade 1 and Grade 2, with Grade 1 being lower in tantalum.

Applications for niobium powders include:

- High-temperature components, especially for the aerospace industry
- Alloy additions, including some for superconducting materials
- Plasma spray coatings
- Filters
- Certain corrosion-resistant applications

TYPICAL COMPOSITION

Table 1. Typical Chemical Analysis (Commercial) on Nb metal basis ppm				
Element	Grade 1 -60 mesh	Grade 1 -325 mesh	Grade 2 -60 mesh	Grade 2 -325 mesh
Carbon	< 100	< 100	< 100	< 100
Nitrogen	60	150	60	150
Hydrogen	250	250	250	250
Oxygen	< 1500	< 3000	< 1500	< 3000
Aluminum	150	150	150	150
Iron	< 200	< 300	< 200	< 300
Silicon	< 100	< 100	< 100	< 100
Tantalum	< 1000	< 1000	< 3000	< 3000

NOMINAL NIOBIUM POWDER TECHNICAL DATA

The following values are expressed as percent of sample retained upon test sieve of given mesh size.

Table 2. Typical Sieve Analysis								
Nominal Mesh	20 Mesh Sieve	40 Mesh Sieve	60 Mesh Sieve	80 Mesh Sieve	100 Mesh Sieve	200 Mesh Sieve	325 Mesh Sieve	Pan
-20Xdown	< 9	25	28		16	13	5	7
-60Xdown			< 9	27	14	11	13	14
-200Xdown						< 9	51	45

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Technical Data Sheet

-325Xdown								< 9	> 91
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Table 3. Density (g/cc)	
Nominal Manufactured Mesh	Tap Density (for info only)
-20Xdown	5.2
-60Xdown	4.9
-200Xdown	4.6
-325Xdown	3.9

Contact us for technical assistance regarding your specific application, additional mesh sizes and available alloys.