ATLANTIC EQUIPMENT ENGINEERS
HIGH PURITY METALS & COMPOUNDS

ZIRCONIUM
(Granular or powdered)
MIL-Z-399D
1 October 1971
Superseding
MIL-Z-399C
19 February 1969

Chemical Requirements

Requirement	Type I	Type II		
		Class 1	Class 2	Class 3
Total zirconium, % min	96.0	94.0	95.0	95.0
Calcium, % max	0.05	0.10	0.05	0.05
Iron, % max	0.30	0.20	0.03	0.05
Aluminum, % max	0.10	0.30	0.15	0.10
Hydrogen, % max	0.20	0.20	0.20	---
Chloride (asCl), % max	0.03	---	---	---
Silicon, % max	0.10	---	---	---
Tin, % max	0.75	---	---	---
Ignition gain, percent	---	30.2 - 33.0	30.2 - 33.0	30.2 - 33.0

Particle size requirements for type I zirconium

Sieve (percent by weight)	Class 1	Class 2	Class 3
Thru 20 mesh	99.0 min	---	---
Thru 60 mesh	5 max	---	---
Thru 80 mesh	---	100	---
Thru 100 mesh	---	98 min	---
Thru 170 mesh	---	---	100
Thru 200 mesh	---	50 max	98 min
Thru 325 mesh	---	25 max	---
Sub-sieve			
<20 microns	---	---	10.0 max
<10 microns	---	2.0 max	---

Information presented herein is believed to be accurate and reliable but is not intended to meet any specification and does not imply any guarantee or warranty by Atlantic Equipment Engineers. For more information and assistance, please call (201) 384-5606.

Particle size requirements for type II zirconium

Sieve (percent by weight)	Class 1	Class 2	Class 3
Thru 120 mesh	100	100	99.5 min
Thru 200 mesh	---	50 max	98 min
Thru buckbee mears 26 sieve (20 microns)	99 min	99 min	---
Sub-sieve			
<9 microns	85 min	85 min	---
3 microns	70-90	70-90	---
0.75 microns	12-30	12-30	---
Average Particle Size	1.5 - 3.5	1.7 - 2.3	2.0 - 4.0

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