ATLANTIC EQUIPMENT ENGINEERS
HIGH PURITY METALS & COMPOUNDS

ALUMINUM POWDER, FLAKED GRAINED, AND ATOMIZED

MIL-DTL-512D
23 March 2018
Superseding
MIL-DTL-512C
3 December 2001

Classification

Type	Grade	Class
Type I – Flaked	A	1
	B	2
		2A
		3
Type II – grained or atomized	C	4
		4A
		5
		5A
		6
Type III - atomized	C	6
		7
		8
	G	9
	H	10

Chemical Characteristics

Requirement, weight %	Grade A	Grade B	Grade C	Grade G	Grade H
Aluminum, min	98.0	98.0	99.0	98.75	99.0
Copper, max	0.50	0.50	0.50	-	-
Iron, max	0.50	0.50	0.50	0.55	0.20
Silicon, max	0.50	0.50	0.50	0.25	-
Magnesium, max	0.10	0.10	0.10	-	-
Zinc, max	0.25	0.25	0.25	0.30	0
Nonvolatile matter, min	99.0	99.5	-	99.9	99.9
Easily extracted fatty and oily matter, max	1.0	1.5	-	0.2	0.2

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Classes	Density (g/cm3)	Size ranges mesh (um)	Weight %
1	0.30 max	+325 mesh (>45)	1.0 max
		-325 mesh (<45)	99.0 min
2	No determination	+325 mesh (>45)	6.0 max
		-325 mesh (<45)	94.0 min
2A	No determination	+100 mesh (>150)	0.2 max
		-100 +200 mesh (150-75)	20.0 max
		-200 mesh (<75)	80.0 min
3	0.50 max	+100 mesh (>150)	0.2 max
		-100+200 mesh (150-75)	15.0 max
		-200 + 325 mesh (75-45)	15.0 max
		-325 mesh (<45)	80.0 min
4	0.90 min	+50 mesh (>300)	0.0
		-50 + 100 mesh (300-150)	3.0 max
		-100+200 mesh (150-75)	3.0 – 20.0
		-200 mesh (<75)	80.0 – 97.0
4A	0.90 min	+20 mesh (>850)	2.0 max
		-20 + 100 mesh (850-150)	30.0 max
		-100 + 200 mesh (150-75)	65.0 max
		-200 mesh (<75)	30.0 – 60.0
5	0.90 min	+12 mesh (>1700)	0.0
		-12 +30 mesh (1700-600)	13.0 – 26.0
		-30 mesh (<600)	74.0 – 87.0
5A	0.90 min	+30 mesh (>600)	13.0 – 26.0
		-30 + 50 mesh (600-300)	35.0 – 45.0
		-50 + 140 mesh (300-106)	30.0 – 46.0
		-140 mesh (<106)	3.0 max
6	0.95 – 1.20	+100 mesh (>150)	2.0 max
		-100 + 200 mesh (150-75)	20.0 max
		-200 + 325 mesh (75 – 45)	10.0 – 35.0
		-325 mesh (<45)	65.0 – 90.0
7	0.95 min	+40 mesh (>425)	0.5 max
		-325 mesh (<45)	25.0 – 50.0
8	0.95 min	+12 mesh (>1700)	0.5 max
		-325 mesh (<45)	35.0 max
9	1.0 min	-200 mesh (<75) -325 mesh (<45)	99.5 min 60.0 min
10	No determination		

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