

CONTROLLED-EXPANSION ALLOYS

Advamet® or Advacat® F-15 Datasheet

Advamet® is a wax/polymer binder system;

Advacat® is a POM based (catalytic) binder system.

Both systems are compliant to MPIF Standard 35: MIM-F-15

Typical Chemical Composition (post Sinter)

Al (%)	C (%)	Co (%)	Cu (%)	Cr (%)	Mg (%)	Mn (%)
0.10 max	0.04 max	17	0.20 max	0.20 max	0.10 max	0.50 max
Mo (%)	Ni (%)	Si (%)	Ti (%)	Zr (%)		Fe (%)
0.20 max	29	0.20 max	0.10 max	0.10 max		balance

Other elements not to exceed 1.0% combined.

All percentages are in weight percent.

Typical Mechanical and Coefficient of Thermal Expansion Properties

Nominal Typical Values	Density	UTS	YS	Elongation	Ave. CTE to 212°F	Ave. CTE to 302°F	Ave. CTE to 392°F	Ave. CTE to 482°F	Ave. CTE to 572°F
	(g/cm ³)	(ksi)	(ksi)	(in./in.)	(X 10 ⁻⁶ /°F)	(X 10 ⁻⁶ /°F)	(X 10 ⁻⁶ /°F)	(X 10 ⁻⁶ /°F)	(X 10 ⁻⁶ /°F)
As-sintered	7.8	67	43	25	3.7	3.4	3.2	3.1	3.0

*CTE was determined using a push-rod dilatometer using a 3.6°F/minute heating rate in nitrogen.
Average CTE was determined from 68° F up to the given temperature.

Actual results depend on processing – sintering and heat treatment cycles – used.



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