

Aluminum alloys

Category:

high strength, very high modulus
elevated temperature



Aluminum-alloy Al-TiB-55

Aluminum composite Al-TiB-55 is a ceramic preform based Aluminum composite material. The infiltration of the ceramic, TiB, preform is made via squeeze casting process. The TiB particle size is 8 μ m. Particle content can be changed from 30-65%. The composite shows high strength, very high stiffness, excellent damping behavior and wear resistance. The Matrix alloy is A2024. Other matrix alloys could be also used.

General properties

- High strength
- Very high elastic modulus
- High fatigue strength

Chemical Composition: A2024+55%TiB

Mechanical properties

	Density	UTS	Elong.	E-Modulus	CTE	Fracture toughness
	g/cm ³	MPa	%	GPa	ppm	MPa x m ^{1/2}
Al-TiB-55	3.63	623	1.2	208	12	11.3

Applications

- Brake calipers
- Brake Discs
- Structural parts
- Hydraulic Actuators
- Automotive engine parts

Delivery form

- Billets, Castings