

Material Information



Aluminum MIC-6

Introduction

Aluminum MIC-6 is a precision cast aluminum tooling plate known for its excellent flatness, low residual stress, and dimensional stability. Its cast structure allows extensive material removal during CNC machining with minimal distortion, making it well suited for precision tooling, fixtures, base plates, and other dimensionally sensitive components.

Advantages

Excellent dimensional stability, superior flatness, low residual stress, and good machinability. Aluminum MIC-6 can be machined at high material-removal rates while maintaining stable dimensions, making it particularly suitable for large or complex parts where distortion after machining needs to be minimized.

Disadvantages

Aluminum MIC-6 has relatively low mechanical strength compared with alloys such as 6061-T6 and 7075, making it less suitable for heavily loaded structural components. Its cast structure may also contain occasional porosity, so it is generally not preferred for applications requiring pressure-tight or highly fatigue-resistant parts.

Tolerance

3DSPRO can manufacture and inspect to tight tolerances, including sub +/- 0.001" tolerances, per your drawing specifications and GD&T callouts.

Recommendation

The excellent flatness, low residual stress, and dimensional stability of Aluminum MIC-6 make it suitable for CNC machined tooling, fixtures, inspection equipment, machine bases, and precision components. It is particularly recommended for applications involving extensive material removal where maintaining dimensional accuracy and minimizing machining distortion are important.

Material Specifications (For reference only.)	
Tensile strength	105MPa
Elongation at Break	3%

Hardness	65 HB
Density	2.7 g/cm ³

Attention

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Applications

3DSPRO finds people using Aluminum MIC-6 to make functional parts and precision tooling in the following industries and applications.

Precision tooling:

Jigs, fixtures, assembly tooling, inspection fixtures, and machine bases.

Aerospace and industrial equipment:

Manufacturing fixtures, tooling plates, structural supports for equipment, and precision machine components.

Electronics and semiconductor equipment:

Equipment bases, mounting plates, inspection fixtures, and other components requiring high dimensional stability.

General engineering:

CNC routing tables, prototype tooling, reference plates, optical mounts, and other precision components where flatness and minimal machining distortion are important.