

# Aluminum Alloy Alsi10Mg- SLM

## Description

Aluminum (Alsi 10Mg) is a soft yet versatile material primarily used in alloys. Due to its relatively low cost and ease of processing and shaping, it is widely employed across many industries and remains one of the most extensively used metals. It is recyclable and highly durable, with approximately 75% of aluminum produced still in use today. While relatively high in strength, its key characteristics are lightweight and corrosion resistance, with 6061 and 7075 being the most widely used aluminum alloys



## Features

Features: Preferred for industrial use, high strength, heat-resistant, corrosion-resistant, conductive,

Key parameters:

Maximum size	Default layer height	Optional layer height	Tolerance	Heat resistance
250*250*320 mm	0.1 mm	0.3 mm	0.2%*L	50-60

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Suitable for: functional prototypes and final products, form and fit inspection, functional prototyping and testing

Not suitable for: models with fine details requiring smooth surfaces, large models, internal cavities in designs (unless escape holes are used), low-cost prototyping

## Parameters

Typical achievable part accuracy [1] [2]	± 100 µm
Smallest wall thickness [1] [3]	approx. 0.3 - 0.4 mm
	approx. 0.012 - 0.016 inch
Surface roughness, as built, cleaned [1] [4]	R <sub>a</sub> 6 - 10 µm, R <sub>z</sub> 30 - 40 µm
	R <sub>a</sub> 0.24-0.39 x 10 <sup>-3</sup> inch R <sub>z</sub> 1.18 - 1.57 x 10 <sup>-3</sup> inch
- after micro shot-peening	R <sub>a</sub> 7 - 10 µm, R <sub>z</sub> 50 - 60 µm
	R <sub>a</sub> 0.28 - 0.39 x 10 <sup>-3</sup> inch
	R <sub>z</sub> 1.97 - 2.36 x 10 <sup>-3</sup> inch
Volume rate [5]	7.4 mm <sup>3</sup> /s (26.6 cm <sup>3</sup> /h)
	1.6 in <sup>3</sup> /h
Material composition	Al (balance)
	Si (9.0 - 11.0 wt-%)
	Fe (≤ 0.55 wt-%)
	Cu (≤ 0.05 wt-%)
	Mn (≤ 0.45 wt-%)
	Mg (0.2 - 0.45 wt-%)
Ni (≤ 0.05 wt-%)	
Zn (≤ 0.10 wt-%)	

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	Pb ( $\leq 0.05$ wt-%)
	Sn ( $\leq 0.05$ wt-%)
	Ti ( $\leq 0.15$ wt-%)
Relative density	approx. 99.85 %
Density	2.67 g/cm <sup>3</sup>
	0.096 lb/in <sup>3</sup>

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