



# CRDM Tolerance Standards

CRDM produces parts to the tolerance standards set out below. In the case of RP parts, these exceed BS7010 for injection moulded parts.

All Rapid Prototype parts produced by CRDM are checked along three axes (x, y, and z) at the extent of the parts. Due to the need to supply RP parts quickly, it is not normal to undertake any additional dimensional checks, unless specifically requested by the customer. If required these may be charged for.

As with all manufacturing processes, there is an inherent difficulty in the production of prototype parts in so far as tolerance build-up can often have adverse effects on fit and function of assemblies. In order to minimise these problems we strongly encourage you to provide us with as much information about tolerances, fit and function as possible at the start of any project.

**Unless specifically agreed before production, these tolerances superseded all production drawing tolerances.**

## Prototyping

Process	Tolerance (0 – 100mm)	Tolerance (100mm and above)	Example (200mm)	Typical minimum wall thickness*
SLA	±0.15 mm	±0.15 %	199.70-200.30	0.3 mm
Envision	±0.15 mm	±0.20 %	199.60-200.40	0.1 mm
SLS	±0.20 mm	±0.20 %	199.60-200.40	0.5 mm
PU	±0.20 mm	±0.20 %	199.60-200.40	1.0 mm
DMLS Direct Parts	±(0.07%+0.05) mm		199.81-200.19	0.5mm
CNC Machining	By arrangement			

\*Guide only, depends on part geometry, please call us to discuss requirements.

## Metal Casting

All castings tolerances are to BS6615. Typical aluminum tolerance details are given below.

Investment Casting (Tolerance CT6)		Precision Sand Casting (Tolerance CT8)	
Dimension	Tolerance	Dimension	Tolerance
Up to 100	±0.39 mm	Up to 100	±0.80 mm
Over 100 to 250	±0.50 mm	Up to 250	±1.00 mm
Over 250 to 400	±0.55 mm	Up to 400	±1.10 mm
		Up to 630	±1.30 mm

## Rapid Tooling/Injection Moulding

All injection mouldings are made to tolerances as defined in BS7010 Tolerance Level A, unless otherwise agreed in advance.

### PLEASE NOTE

**It may be possible to achieve closer tolerances using special part handling and additional processes, but additional charges may be incurred.**

**For more details, please contact our Sales staff.**