

## Aluminium



### Generic Data :

Technical Name	Aluminium
Process	Machining
Accuracy	(+/-)150 $\mu$ m
Maximum Build Size	400x400x300 mm

Aluminium is a non-magnetic, soft and ductile metal. Being the third most abundant material, it covers about 8% of earth's crust after oxygen and silicon. It is one of the most chemically reactive metal t rarely found in its native form. Instead, it is found combined in over 270 different minerals

### Characteristics

- + High machinability
- + Lightweight
- + Strong, resilient
- + Availability in different shapes
- Low strength of pure form
- Machining issues like build up edges
- Health issues associated with handling aluminium like pulmonary fibrosis, Alzheimer's disease

### Applications

- ✓ Transportation, packaging
- ✓ Containers, construction
- ✓ Household items
- ✓ Coins, street lighting poles
- ✓ Electrical transmission lines

Material Properties	Value	Unit	Standard Test Method
Density	2.7	g/cm <sup>3</sup>	ASTM DATA
Natural Color	Silvery-white	-	-
<b>Mechanical Properties</b>			
Tensile Strength	260	MPa	ASTM DATA
Ultimate Tensile Strength	310	MPa	ASTM DATA
Elongation at Break	10	%	ISO DATA
Charpy notched impact strength	-	-	-
Izod Impact notched (23°C)	-	-	-
Hardness, Rockwell R	50	-	-
<b>Thermal Properties</b>			
Thermal Conductivity	170	W/m-K	-
Melting Temperature	660.3	°C	-