

ALUMINIUM ALLOY**CASTINGS: LM 6****DSC 1.1.4****Cast Aluminium Alloy : LM 6**

A high purity medium strength alloy with average ductility suitable for complex castings with large surface areas & intricate sections.

Definition:

Can be used as a die-casting alloy but is suitable for both gravity & low pressure casting techniques. This high silicon content alloy provides excellent casting performance.

Note: For maximum mechanical properties use LM24

Features:

The silicon content provides excellent casting performance at the detriment to machining. High corrosion resistance is further enhanced by anodising. Good for welding.

ASM (DEK) Applications:

Thick & moderately thin wall- section castings.

These values are representative and should not be considered as definitive. For critical applications, refer to material data-sheet.

TYPICAL MECHANICAL PROPERTIES			
TEMPER TYPE	LM 6		
CASTING STYLE	SAND	GRAVITY	DIECAST
YIELD STRENGTH: MPa	65	75	120
TENSILE STRENGTH: MPa	175	210	280
YOUNGS MODULUS: GPa	71		
POISSONS RATIO:	0.33		
DENSITY: Kg/m ³	2650		

Issue	01	02	03	04	05	06	07	08	09
DCR	7135	44721							



ALUMINIUM ALLOY**CASTINGS: LM 6****DSC 1.1.4****Key Features:**

METHOD	RESULT
Machining	Difficult: Tungsten Carbide Tools
Casting- Fluidity	Excellent
Brazing & soldering	Very Good & Good
Welding – (Mig & Tig)	Very Good
Coating applications (anodising)	V. Good: grey to dark brown
Corrosion Resistance (uncoated)	Atmosphere:V Good Marine:VGood

Temper Types:

Heat treatment of LM6 is of little industrial interest.

The ductility of LM6 allows for easy rectification of the casting,

Eg: simple components may be cast straight & then bent to the required contour.

Suffers a rapid loss of mechanical properties at elevated service temperatures (250°C).

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CHEMICAL COMPOSITION					
Silicon (Si)	10 / 13 %	Copper (Cu)	0.1 % max	Lead (Pb)	0.1 % max
Iron (Fe)	0.6 % max	Nickel (Ni)	0.1 % max	Tin (Sn)	0.05 % max
Titan.(Ti)	0.2 % max	Mang. (Mn)	0.1 % max	Alumin (Al)	balance
Magn (Mg)	0.1 % max	Zinc (Zn)	0.1 % max		

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: BS EN 1559	LM6
GERMAN: DIN	G-AISi12
EUROPEAN: EN	AC-44100
AMERICAN: AA	A413
JAPANESE GRADE: JIS	AC 3A
CHINESE GRADE	GB/1173-95: ZL102

CONFORMS TO

BS EN 1559:2015	DESCRIPTION
LM 6	Specification for Aluminium Castings

Alternatives:

Alternative materials are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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