

ALUMINIUM ALLOY**CASTINGS: LM 4****DSC 1.1.2****Cast Aluminium Alloy : LM 4**

A general purpose medium strength casting alloy that is suitable for thick & moderately thin sections including pressure tight applications.

Definition:

Most commonly used for gravity or sand castings, available in the 'as cast' or partially heat treated condition.

Features:

The silicon content provides excellent casting performance at the slight detriment to machining. **Note:** Tensile properties at elevated temperatures are influenced by: exposure (time) & condition (heat treatment). 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				
MATERIAL CODE	M		TF	
TEMPER TYPE	LM4-M		LM4-TF	
CASTING STYLE	SAND	GRAVITY	SAND	GRAVITY
YIELD STRENGTH: MPa	90	95	250	250
TENSILE STRENGTH: MPa	150	190	260	325
YOUNGS MODULUS: GPa	71		71	
POISSONS RATIO:	0.33		0.33	
DENSITY: Kg/m ³	2750		2750	

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



ALUMINIUM ALLOY**CASTINGS: LM 4****DSC 1.1.2****Key Features:**

METHOD	RESULT
Machining	Fairly Good: High Speed Tools
Casting- Fluidity	Good:
Brazing & soldering	Very Good & Good
Welding – (Mig & Tig)	Very Good
Coating applications (anodising)	Fair: grey finish non cosmetic
Corrosion Resistance (uncoated)	Atmosphere: Good Marine: Good

Temper Types:

M 'As Cast' or as manufactured condition (Standardized)

TF Fully heat treated.

Room temperature tensile strength of LM4-M. is retained up to 200°C
And falls to about 50% at 300°C

A considerable increase in mechanical properties can be gained with heat treatment. For best results, the manganese content should be very near the maximum.

Note: The temper condition must be added to the drawing:-

DSC 1.1.2_TF

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CHEMICAL COMPOSITION					
Silicon (Si)	4.0 / 6.0 %	Zinc (Zn)	0.5 % max	Lead (Pb)	0.1 % max
Copper (Cu)	2.0 / 4.0 %	Nickel (Ni)	0.3 % max	Tin (Sn)	0.1 % max
Iron (Fe)	0.8 % max	Magn (Mg)	0.2 % max	Alumin (Al)	balance
Mang. (Mn)	0.2/0.6 %	Titan.(Ti)	0.2 % max		

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: BS EN 1559	LM 4
GERMAN: DIN	G-AlSi6Cu4
EUROPEAN: EN 1706	AC-45200
AMERICAN: AA	319
JAPANESE GRADE: JIS	AC 2A
CHINESE GRADE	GB/1173-95: ZL107

CONFORMS TO

BS EN 1559:2015	DESCRIPTION
LM 4	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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