

ALUMINIUM ALLOY - WROUGHT**6063: HEAT TREATABLE****DSM 2.1.12****Wrought: Heat Treatable:**

A popular **extrusion** alloy, initially cast as ingots then worked into the desired form.

- **Extrusion:** To produce Tubes, Rods, Angle, Tee, Channel & Box

Definition:

6063: is a popular heat-treatable extrusion alloy with additional magnesium & silicon. Initially cast as ingots, then worked into form. To optimize mechanical properties it is supplied fully heat treated.

The preferred DEK -ASM temper condition is **T6**.

Features:

This **architectural** alloy is commonly used for intricate extrusions and applications requiring modest strength. It has a good surface finish, high corrosive resistance & is suitable for welding & coating.

ASM (DEK) Applications:

Support structures for cells, frames & enclosures.

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

TYPICAL MECHANICAL PROPERTIES @25°C (T6)	
DENSITY:	2700 Kg/m³
YOUNGS MODULUS:	68.9 GPa
POISSONS RATIO:	0.33
YIELD STRENGTH	165 MPa
Max. TENSILE STRENGTH	205 MPa

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



ALUMINIUM ALLOY - WROUGHT**6063: HEAT TREATABLE****DSM 2.1.12****Key Features:**

METHOD	RESULT
Machining	Average
Cold Forming	Average
Brazing & soldering	Excellent & Good
Welding – (Mig & Tig)	Excellent
Welding – Resistance (spot)	Excellent
Coating applications (anodising)	Very Good
Corrosion Resistance (uncoated)	Atmosphere: V.Good Marine: Good

Temper Types:

T6511 Solution heat treated & stress relieved by stretching then artificially aged followed by minor straightening.

T651 Solution heat treated & stress relieved by stretching then artificially aged.

T6 Solution heat treated then artificially aged.

T5 Cooled from an elevated temperature shaping process & artificially aged. Applies to products that are not cold worked after solution heat-treatment.

T3 Solution heat treated, cold worked & naturally aged.

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

DSM 2.1.12_T6

Supplied Forms:

- Extrusions:

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CHEMICAL COMPOSITION					
Magn. (Mg)	0.45 / 0.9 %	Copper (Cu)	0.0 / 0.10 %	Alumin (Al)	balance
Silicon (Si)	0.20 / 0.6 %	Mang. (Mn)	0.0 / 0.10 %		
Iron (Fe)	0.0 / 0.35 %	Titan. (Ti)	0.0 / 0.10 %		
Chrome(Cr)	0.0 / 0.10 %	Zinc (Zn)	0.0 / 0.10 %		

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: EN AW	6063
GERMAN: DIN	AlMgSi0,5
GERMAN: WNR	3.3206
EUROPEAN	EN AW6063
AMERICAN: ASTM	6063
JAPANESE GRADE	A6063
CHINESE GRADE	----

REPLACES

BS1474 1987	DESCRIPTION
H9	Wrought Alloy: Heat Treatable

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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