

Aluminium

Aluminium 5083 F Bar & Extrusion

Datasheet Updated
18 July 2022

SPECIFICATIONS

Commercial	5083 F
EN	5083 F

The highest strength non heat treatable marine grade aluminium alloy, for excellent seawater corrosion resistance.

CHEMICAL COMPOSITION

BS EN 573-3
Alloy 5083

Element	% Present
Manganese (Mn)	0.40 - 1.00
Magnesium (Mg)	4.00 - 4.90
Silicon (Si)	0.00 - 0.40
Zinc (Zn)	0.00 - 0.10
Chromium (Cr)	0.05 - 0.25
Titanium (Ti)	0.05 - 0.25
Other (Each)	0.00 - 0.05
Others (Total)	0.00 - 0.15
Aluminium (Al)	Balance
Iron (Fe)	Balance
Copper (Cu)	Balance

ALLOY DESIGNATIONS

Alloy 5083 corresponds to the following standard designations and specifications *but may not be a direct equivalent* :

- GM41
- A95083
- AIMG4.5Mn
- Al Mg4.5 Mn0.7

TEMPER TYPES

The most common tempers for 5083 aluminium are:

- O
- H111
- H32
- F

SUPPLIED FORMS

- Bar
- Angle
- Extrusions
- Rod

APPLICATIONS

- Shipbuilding
- Rail cars
- Vehicle bodies
- Tip truck bodies
- Mine skips and cages
- Pressure vessels

CHARACTERISTICS

- Exceptional strength after welding
- Exceptional performance in extreme environments
- Not recommended for use in temperatures above 65°C
- Marine grade aluminium alloy

MECHANICAL PROPERTIES

Typical Extrusions

Property	Value
Proof Stress	145 MPa
Tensile Strength	300 MPa
Elongation A50 mm	23 %
Shear Strength	175 MPa
Hardness Vickers	75 HV

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon. Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed S online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources. Material supplied by the Company may vary significantly from this data but will conform to all relevant and applicable standards. As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied. Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.