



TECHNICAL DATA-SHEET

ALLOY DESCRIPTION: EN AB 47100 LCU - Al Si 12 Cu 1 Fe

ALLOY GROUP: Al Si (Cu)

STANDARD: UNI EN 1676 e 1706

CHEMICAL COMPOSITION %

| Alloy | Elements | Si | Fe | Cu | Mn | Mg | Cr | Ni | Zn | Pb | Sn | Ti | Others each | Others tot. |
|-----------------|----------|------|-----|-----|------|------|------|------|------|-----|------|------|-------------|-------------|
| EN AB 47100 Lcu | Min | 10,5 | 0,6 | | | | | | | | | | | |
| | Max | 13,5 | 1,1 | 0,7 | 0,55 | 0,35 | 0,10 | 0,30 | 0,55 | 0,1 | 0,10 | 0,15 | 0,05 | 0,25 |
| EN AC 47100 Lcu | Min | 10,5 | | | | | | | | | | | | |
| | Max | 13,5 | 1,3 | 0,7 | 0,55 | 0,35 | 0,10 | 0,30 | 0,55 | 0,1 | 0,10 | 0,20 | 0,05 | 0,25 |

MECHANICAL PROPERTIES - EN 1706:2020

| CASTING PROCESS | TEMPER DESIGNATIONS | TENSILE STRENGTH | YIELD STRENGTH | ELONGATION | BRINELL HARDNESS |
|-----------------|---------------------|------------------|----------------|------------|------------------|
| | | (Mpa) | (Mpa) | (%) | (HBW) |
| DIE CASTING | F | 240 | 140 | 1 | 70 |

PHYSICAL PROPERTIES - EN 1706:2020

| | | | |
|-----------------------|-------------------------|--|--------------------------|
| DENSITY | 2,65 Kg/dm ³ | SOLIDIFICATION AND MELTING RANGES | 570-590 °C |
| FATIGUE RESISTANCE | 60-90 MPA | OPTIMUM RANGE OF DIE CASTING | 630-680 °C |
| ELECTRIC CONDUCTIVITY | 15-20 MS/m | THERMAL EXPANSION (from 20°C to 100°C) | 20,5·10 ⁻⁶ /K |
| THERMAL CONDUCTIVITY | 120-150 W/(m K) | | |

TECHNOLOGICAL PROPERTIES - EN 1706:2020

| | | | |
|----------------------|-----------|----------------------------------|-----------|
| CASTABILITY | EXCELLENT | RESISTANCE TO HOT TEARING | EXCELLENT |
| WELDABILITY | POOR | STRENGTH AT ELEVATED TEMPERATURE | GOOD |
| POLISHING | MEDIUM | PRESSURE TIGHTNESS | MEDIUM |
| MACHINABILITY | MEDIUM | DECORATIVE ANODIZING | POOR |
| CORROSION RESISTANCE | MEDIUM | PROTECTIVE ANODIZING | POOR |

APPLICATIONS

Good mechanical characteristics. Suitable for die casting.

Used in the production of lighting components and with thin walls, which need good runnability and corrosion resistance.

Alloy not compliant with the Food standard EN 601.

HEAT TREATMENTS

| | | SOLUBILISATION TEMPERATURE | SOLUBILISATION DURATION | WATER HARDENING TEMPERATURE | AGEING TEMPERATURE | AGEING DURATION |
|-----|--|----------------------------|-------------------------|-----------------------------|--------------------|-----------------|
| F | RAW STATE | - | - | - | - | - |
| O | ANNEALING | 520-530 °C | 6-8 hours | 20 °C | - | - |
| T1 | SELF-HARDENING | - | - | - | - | - |
| T4 | SOLUBILISATION AND NATURAL AGEING | 480-530 °C | 2-16 hours | 20-80 °C | 15-30 °C | 120 hours |
| T5 | CONTROLLED COOLING AND ARTIFICIAL AGEING | - | - | AIR | 210-230 °C | 5-12 hours |
| T6 | SOLUBILISATION AND ARTIFICIAL AGEING | 480-555 °C | 2-20 hours | 20-80 °C | 130-185 °C | 2-15 hours |
| T64 | SOLUBILISATION AND PARTIAL AGEING | 520-545 °C | 4-10 hours | 20-50 °C | 135-160 °C | 2-7 hours |
| T7 | HYPERAGEING | 480-530 °C | 1-8 hours | 20 °C | 190-240 °C | 1-8 hours |

The temperatures and the duration of the treatments vary according to the type of alloy, melting (shell, sand or die casting) and the result you want to obtain.

Ideal parameters shall be determined by a test.

EQUIVALENTS OR SIMILARS FOREIGN REGULATIONS

| | ITALY | GERMANY | FRANCE | G.B.R. | USA | ISO | JAPAN | TURKEY |
|-------------|--------|--------------|-----------|-----------|-----------------|--------------|--------------|-----------|
| | UNI | Din1725/5-86 | NFA57-105 | BS1490-88 | ASTM 179-82 | 3522-84 | JIS H2211-92 | ETIAL |
| Equivalents | 5079 | DIN 231 | AS 12UY 4 | LM 2 | | AISI12 Cu Fe | | |
| Similar | 7369/2 | 231 A | AS 12 U | LM 20 | A 413.1 - 413.0 | | D1V-D1S | ETIAL 180 |

What is indicated in this data sheet is limited to inform only and does not imply any guarantee regarding the properties reported.

Everything that involves decisions based on the information stated here is direct responsibility of the end user, as well as any risks, not excluded from the verification.