

Casting material

ALUFONT[®] - 47

G-AlCu4TiMg / EN AB-21000

Properties and application

ALUFONT[®]-47 is an extremely strong and hardenable aluminium–copper–casting alloy for use in sand and coquille casting. The achievable mechanical properties can be varied through different heat treatment conditions. During full hardening (T6) the alloy tends towards tension crack corrosion.

Like all alloys of type AlCu4Ti, ALUFONT[®]-47 is difficult to cast and is therefore suitable for simple cast parts subject to extreme strength requirements. ALUFONT[®]-47 is highly weldable, while polishing and machinability are excellent. Due to the high copper content, corrosion resistance of the alloy is low. No corrosion problems occur in normal areas of use in engineering, although the application of a dense and resistant protective coating is recommended when using the material in conditions that promote corrosion.

Composition in the block in % by mass:

Si	Fe	Cu	Mn	Mg	Zn	Ti	Other
0.15	0.15	4.2 – 5.0	0.10	0.2 – 0.35	0.07	0.15-0.25	0.02 each

Guiding values for the achievable mechanical properties

Process condition	0.2% Yield strength R _{p0.2} [N/mm ²]	Tensile strength R _m [N/mm ²]	Ductile yield A 5 [%]	Brinell hardness HB 5/250
Sand / T4	220 – 280 (180)	300 – 400 (240)	5 – 15 (3)	90-115 (85)
Sand / T6	240 – 350 (220)	350 – 420 (280)	3 – 10 (1)	95-125 (90)
Coquille / T4	220 – 300 (200)	320 – 420 (280)	8 – 18 (5)	95-115 (90)
Coquille / T6	260 – 380 (220)	350 – 440 (300)	3 – 12 (2)	100-130 (95)

Alloy ALUFONT[®]-47 is delivered exclusively in the form of pigs produced through horizontal continuous casting (HCC). In this way, we offer the following advantages:

- Less scrap through maximum metal purity and uniformity
- Clean pigs without oxide inclusions
- No hard non-metallic inclusions
- Low gas content in the pigs thanks to inline degassing during production
- Lower costs through
 - Reduced metal loss during melting
 - Good and safe stackability
 - Low space requirements thanks to compact pig bunches