

Casting material

UNIFONT® - 90

G-AlZn10Si8Mg

UNIFONT® – 90 is a self-hardening virgin alloy that is particularly used when good strength values are required without the need for heat treatment. Particular attention should be paid to the high 0.2% yield strength. The low iron content has a particularly beneficial effect on the mechanical properties, which can also be traced to good fatigue strength.

Alloy UNIFONT® – 90 is noted for its very good casting properties. It can be processed in sand casting as well as in coquille casting and low-pressure coquille casting.

UNIFONT® – 90 can be processed excellently in a way that removes chips, and can also be mechanically polished to a high level. A certain tendency towards tension crack corrosion must be considered on a case by case basis.

Composition in % by mass:

Si	Fe	Cu	Mn	Mg	Zn	Ti
8.5 – 9.3	0.15	0.01	0.05	0.3 – 0.5	9.0 – 10.0	0.1

Mechanical properties:

The values not in parentheses were determined on separately cast test rods.

The values in parentheses can be achieved in cast parts of up to 20 mm using an appropriate melting and casting technique.

Process condition	0.2% Yield strength $R_{p0.2}$ [N/mm ²]	Tensile strength R_M [N/mm ²]	Ductile yield A [%]	Brinell hardness HB
Sand T1	200 – 230 (170)	220 – 250 (180)	1 – 2 (1)	90 – 100 (90)
Coquille T1	220 – 250 (220)	280 – 320 (230)	3 – 6 (2)	105 – 120 (95)

Alloy UNIFONT®-90 is delivered exclusively in the form of ingots produced through horizontal continuous casting (HCC). In this way, we offer the following advantages:

- Less scrap through maximum metal purity and uniformity
- Clean ingots without oxide inclusions
- No hard non-metallic inclusions
- Low gas content in the ingots 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