

High-quality aluminium bronze **a18**

1. Structure

Premium quality aluminium bronze **a18** forms coherent compact grain structure – achieved in unique forging technique – different from standard rough grain structure of typical bronze alloys.

2. Chemical Composition

Aluminium (Al) – 10,50%
 Iron (Fe) – 3,50%
 Other (max) – 0,50%
 Copper (Cu) – balance

3. Chemical and physical properties

| Parameter | Unit | Value |
|---|-----------------|------------------|
| Tensile strength R_m | MPa | 620 |
| Relative elongation A_5 | % | 16 |
| Compressive strength R_{mc} | MPa | 938 |
| Elastic limit – compression R_{pc} | MPa | 207 |
| Shear strength – R_{mt} | MPa | 400 |
| Brinell hardness | HB | 179 |
| Elastic Young modulus E | MPa | $1,1 \cdot 10^5$ |
| Density ρ | g / cm^3 | 7,45 |
| Specific heat capacity c_p | $J / g \cdot K$ | 0,42 |
| Coefficient of Thermal Expansion α | $10^{-6} / K$ | 16,2 |
| Maximum recommended load | MPa | 100 |
| Maximum recommended speed | m/s | 1,5 |

4. Lubrication

Requires efficient lubrication system.