

Technical Data Sheet

AMPCO[®] 18.22

Centrifugals

Nominal composition:

| | |
|----------------|-----------|
| Aluminium (Al) | 10.5% |
| Iron (Fe) | 3.5% |
| Others | max. 0.5% |
| Copper (Cu) | balance |



| Mechanical and physical properties | Units | Nominal Values |
|--------------------------------------------|--------------------------------|----------------|
| Tensile strength R_m | MPa | 793 |
| Yield strength $R_{p0.5}$ | MPa | 407 |
| Elongation A_5 | % | 10 |
| Brinell hardness | HB 30 | 228 |
| Rockwell hardness | HRB | 98 |
| Reduction of area ψ | % | 8 |
| Compressive strength R_{mc} | MPa | 1069 |
| Compressive strength, 0.1% perm. set | MPa | 441 |
| Proportional limit in compression R_{pc} | MPa | 338 |
| Shear strength R_{cm} | MPa | 427 |
| Modulus of elasticity E | GPa | 110 |
| Charpy a_K | J | 11 |
| Izod a_K | J | 16.3 |
| Fatigue (100'000'000 cycles) σ_N | MPa | 248 |
| Density ρ | g / cm ³ | 7.45 |
| Coefficient of expansion α | 10 ⁻⁶ / °K | 16.2 |
| Thermal conductivity λ | W / m · °K | 59 |
| Electrical conductivity γ | m / Ω · mm ² | 7.5 |
| Electrical conductivity | % I.A.C.S. | 13 |
| Specific heat c_p | J / g · °K | 0.42 |

Assurances given with respect to properties or uses are subject to written approval from AMPCO METAL.

By varying the heat treatment and by close control of all operations, the characteristic duplex structure of AMPCO[®] 18 is refined to produce a material AMPCO[®] 18.22 having substantially higher ultimate strength, yield strength and hardness.

APPLICATIONS:

AMPCO[®] 18.22 has been developed to meet the exact requirements of the aircraft industry for an alloy having increased physical properties, hardness and sufficient elongation to withstand important impacts and loads. It is recommended for use as bushings, bearings liners, inserts, piston parts, nuts and slides, etc.