



Technical Data Sheet

AMPCO® 22

AMPCO® 22 is a highly desirable aluminum bronze alloy known for its exceptional properties. It provides a high level of hardness, outstanding compressive strength, impressive wear resistance, and excellent sliding properties. Its unique composition makes it ideal for demanding applications where tight tolerances must be maintained, particularly in stainless steel forming and drawing operations.

Key Features:

- ▶ Food certified by ISEGA
- ▶ High compressive strength
- ▶ Wear-resistant
- ▶ High hardness
- ▶ Suitable for high compressive loads
- ▶ Easy to polish for a mirror finish
- ▶ No nickel contamination & no galling against stainless steel
- ▶ Good frictional properties & sliding characteristics



Nominal Composition:

Copper (Cu)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Others
Balance	14.1%	4.7%	2.0%	max. 0.5%

Applications:

- ▶ Stainless steel forming & drawing tools
- ▶ Tube mandrels
- ▶ Tube forming rolls
- ▶ Tube end forming & calibration tools
- ▶ Work rolls & forming rolls
- ▶ Bending tools
- ▶ Applications in manufacturing, automotive & aerospace industry



AMPCO® 22 finds versatile applications in a variety of industries, with an emphasis on stainless steel forming and drawing. Its exceptional hardness, excellent compressive strength and wear resistance make it an invaluable choice for processes where precision and durability are paramount. Whether it's forming intricate stainless-steel components or maintaining tight tolerances over long production runs, it is the alloy of choice.



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Mechanical Properties (Nominal values)	Sand Casted	Continuous Casted	Centrifugally Casted	Extruded	Forged
Tensile Strength R_m (ksi)	85	85	85	105	90
Yield Strength $R_{p0.5}$ (ksi)	71	71	71	62	77
Elongation 2" (%)	0.5	0.5	0.5	0.5	0.5
Brinell Hardness (10/3000)	331	331	331	332	338
Rockwell Hardness (HRC)	35	35	35	35	36
Compressive Strength R_{mc} (ksi)	200	210	210	196	209
Compressive Yield Strength $R_{pc0.1}$ (ksi)	90	95	95	74	81
Shear Strength R_{cm} (ksi)	60	70	70	-	66
Modulus of Elasticity E (ksi)	15000	15000	15000	15000	15000
Charpy a_k (ft·lbs)	2	-	2	2	-
Izod a_k (ft·lbs)	2	-	2	2	-

Physical Properties:

Density ρ (lbs/in ³)	Coefficient of Expansion α (in/in/°F)	Thermal Conductivity λ (W/m·K)	Electrical Conductivity (% I.A.C.S.)	Specific Heat c_p (BTU/lb·°F)
0.255	$9 \cdot 10^{-6}$	42	10	0.1

Machining Parameters:

Operation	Cutting Speed v_c (m/min)	Feed f (mm/rev)	Depth a (mm)	Tool Specification
Milling – Roughing	90 - 120	0.1 - 0.2	up to 2.5	K10 - K20
Milling – Finishing	75 - 110	0.05 - 0.1	0.1 - 0.5	K10 - K20
Turning – Roughing	120 - 180	0.1 - 0.2	up to 1.5	K10 - K20
Turning – Finishing	150 - 200	0.05 - 0.1	0.1 - 0.2	K10 - K20

Scan the QR Code to view our machining recommendations:



Contact us

