CRM16E

CuCr1Zr

lebronze alloys

Applications properties:

- High electrical and thermal conductivity
- Suitable mechanical properties
- Good annealing resistance

Physical properties:

Specific gravity	8,9
Coefficient of expansion 20 to 300°C x 10^{-6}	17
Young's modulus N/mm²	120 000
Thermal conductivity W/(mK)	320
Resistivity micro ohm.cm	2,15
Electrical conductivity (%IACS)	80
Magnetic permeability	1,01

Alloy properties:

- Wrought Copper Chromium Zirconium structural hardening alloy
- Transformation by extrusion, forging or die stamping followed by quenching and hardening, plus cold-drawing for small diameters
- Suitable for cold forming (bending, stamping, extrusion)
- Weldable with electronic bombardment
- Suitable for hard brazing, but loss of mechanical properties
- Machinability: 20 % free-cutting brass

Applications:

Resistance welding:
Welding wheels

Electric industry:
Rotor rings, connectors ...

Iron and steel industry:
Casting wheels, moulds...

Nominal composition:

Weight %

Cr	0,4-1
Zr	0,03-0,25
Cu	Balance

International standards:

ASTM: C18100-C18150
MIL 19311
RWMA class 2
SAE CA 184
BS 2874 CC 102
EN 12163, EN 12165, EN 12420, EN 12167 CW106C, CW105C
DIN 17666 WN 2.1293
DIN 17672 DIN 44759
NFA 82100
ISO 5182 A2/3 ISO 1336

Available forms, mechanical properties:

Size/condition	forms/process					Mechanical properties								Available forms											
	Rods		Tubes		Forgings or stamped parts	Tensile strength		Yield strength 0,2% offset or 0,5% E.U.L. (1)		Elongation 5,65 √S	Hardness			Impact strength KCU (1) or IZOD (2)	Semi-finished products									parts	
	Extruded or forged	Drawn	extruded	Drawn		Mpa ≥ ; * = Mpa ≤	ksi ≥; * = Mpa ≤	Mpa ≥	ksi ≥	% ≥	HB	HRB	HV5		Rounds	Squares	Flats	Hexagones	Section	Tubes	Plates	Discs	Rings	Forged blanks	stamped	machined
Discs and rings TR condition						380	55	280	41	15	130											▼	▼			▼