


FABRICATED PRODUCTS

WOLFRAM-KUPFER- TRÄNKLEGIERUNGEN

Wolfram-Kupfer-Tränkglegierungen werden auf der Basis von porösem vorgesintertem Wolfram und anschließender Infiltration mit Kupfer hergestellt. Sie sind mit verschiedenen Kupferanteilen lieferbar. Dabei sind Wärmeleitfähigkeiten über 200 W/m*K erreichbar.

ANWENDUNGEN:

Schaltkontakte für Hoch- und Mittelspannung, Bauelemente zur passiven Wärmeableitung (Wärmesenken), Elektroden für Funkenerosion und Widerstandsschweißen.

TYPISCHE EIGENSCHAFTEN:

Werkstoff	WCu	70/30	75/25	80/20	85/15	90/10
Wolframgehalt	%	70 ±3	75 ±3	80 ±3	85 ±3	90 ±3
Kupfergehalt	%	30 ±3	25±3	20 ±3	15 ±3	10 ±3
Dichte	g/cm ³	14,30 ± 0,40	14,95 ± 0,40	14,95 ± 0,40	16,44 ± 0,50	17,30 ± 0,50
Härte	HB2,5/62,5	160-220	160-220	180-240	190-260	220-290
Mittlerer thermischer Längenausdehnungs-koeffizient (20 - 100 °C)	10 ⁻⁶ /K	8,8	8,5	8,3	7,2	6,1
(20 - 300 °C)	10 ⁻⁶ /K	9,2	9,0	8,7	7,6	6,4
(20 - 450 °C)	10 ⁻⁶ /K	9,5	9,2	9,0	8,0	6,7
E-Modul (Richtwert)	GPa	220	240	280	290	340
Mindestzugfestigkeit Typischer Wert	MPa	350 500	400 520	440 540	460 560	480 580
Elektrische Leitfähigkeit	%IACS MS/m	≥ 30 ≥ 18	≥ 27 ≥ 16	≥ 25 ≥ 14,5	≥ 25 ≥ 14,5	≥ 25 ≥ 14,5
Spezifischer elektri-scher Widerstand	Ω*mm ² /m	≤ 0,040	≤ 0,047	≤ 0,050	≤ 0,050	≤ 0,052
Wärmeleitfähigkeit	W/mK	150-240	145-230	140-220	135-210	130-200

LIEFERFORMEN:

Die Produkte können als Halbzeug zur weiteren Bearbeitung durch den Kunden oder gemäß Kundenzeichnung als Fertigprodukt geliefert werden.



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