

## Data Sheet

GENERAL DESCRIPTION  
– SUBJECT TO CHANGES OR DEVIATIONS

# Deoxidized High Phosphorous Copper – Luvata Special Products Alloy K3

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### Alloy description

Luvata Special Products K3 copper grade is a phosphorous deoxidized copper grade containing 0,04-0,06% phosphorous. The main application is anodes for copper plating.

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### Typical applications:

- Copper anodes for plating

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### Products / shapes:

Copper anodes in slugs, balls, nuggets, round rods, solid profiles, rectangular bars and solid profiles.

**Chemical composition and corresponding standards:**

Luvata Pori Oy alloy	Composition / alloying elements	EN – CEN/TS 13388:2008	ASTM / USA
K3	P-content 0,04 – 0,06 % (400 – 600 ppm)	Cu-DXP / CR025A	CDA C12220 /

**Physical properties:**

Density kg/dm <sup>3</sup>	Coefficient of linear expansion 1/K	Specific heat J/(kg x K)	Melting temperature °C
8,9	0,0000168	385	1083

**Mechanical properties – typical values:**

	Soft temper	Half-hard temper	Hard temper
Hardness HV	35 – 65 HV	70 – 95 HV	85 – 115 HV
Tensile strength	200 – 220 N/mm <sup>2</sup>	250 – 350 N/mm <sup>2</sup>	260 – 400 N/mm <sup>2</sup>
0,2% yield strength	35 – 65 N/mm <sup>2</sup>	180 – 280 N/mm <sup>2</sup>	220 – 380 N/mm <sup>2</sup>
Elongation	min. 40 %	min. 12 %	min. 5 %

**Electrical and thermal properties – typical values:**

Electrical conductivity	vol	% IACS *	approx 70,0
	mass	%IACS	approx 69,6
	MS/m		approx 40,6
Electrical resistivity	vol	Ω mm <sup>2</sup> /m	approx 0,025
	mass	Ω g/m <sup>2</sup>	approx 0,22
Thermal conductivity (20 °C)	W / Km		295

\* % IACS = International Annealed Copper Standard. The % IACS values are calculated as percentages of the standard value for annealed high conductivity copper as laid down by the International Electrotechnical Commission.

