SCHMELZMETALL

Material data sheet
HOVADUR® K240

Material designation SCHMELZMETALL: **HOVADUR® K240**

Description of material

HOVADUR® K240 is a thermally precipitation hardenable copper-nickel-silicium alloy with addition of chromium.

The alloy is optimized for high hardness and strength. At the same time, it shows sufficient thermal conductivity combined with good resistance to corrosion and abrasion.

HOVADUR® K240 is applied in many cases which require a Be-free alloy.

Material properties

Chemical composition % of weight [nominal values]

Ni	Si	Cr	Cu
3,5	1	0,4	Remainder

Agreed properties at 20°C [Condition: hardened]

Condition	Hardness Brinell HB	Electrical conductivity MS/m
K240	240 – 260	min. 19 [min.34 % IACS]

*) In case of different opinions, hardness is calculated as the average of 3 randomly located measurings.

Associated properties at 20°C [Condition: hardened]

Condition	Tensile strength **) [N/mm² (MPa)]	0,2% Yield strength **) [N/mm² (MPa)]	Elongation (A5) **) [%]
K240	740 – 800	660 – 740	6 – 9

**) Strength values will only be proved when ordered by the customer

Material information (nominal values)

Elastic modulus	N/mm²(MPa)	140 000	
Softening temperature	°C	480	
Specific weight	g/cm³	8,8	
Thermal conductivity	W/mK	165 – 205	**(Average 20 °C – 300 °C)**
Thermal expansion coefficient	x 10-6 / °K	16,2	**(Average 20 °C – 300 °C)**
Melting interval	°C	1060 – 1085	

Processing instructions

Hot forming

Advice: After a hot forming executed by the customer, the properties of HOVADUR® K240 will normally no longer be achieved.

Heat treatment:

A heat treatment is not recommended. The agreed properties will be modified.

Machining:

HOVADUR® K240 is well suited for machining.
We recommend standard hard metal tools and cooling with emulsion.

HOVADUR® K240 is suited for eroding. But due to its relatively high electrical conductivity, conditions are more difficult.

No special measures are necessary for grinding and polishing.
The surface may be coated according to all usual procedures.

Joining:

HOVADUR® K240 is very well suited for joining by welding.
Build-up welding by MIG / MAG as well as TIG welding is very suitable, too.

HOVADUR® K240 is suitable for coating

Application examples

The alloy is often applied in plastic injection as a Be-free alternative:

Nozzles and hot runner systems in injection moulds, parts for tempering systems