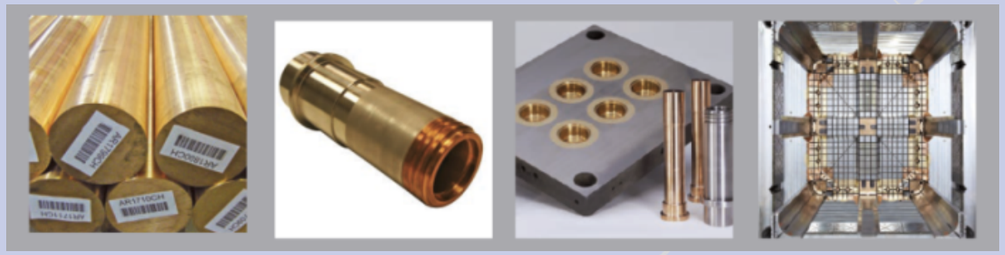
HOVADUR® K



SCHMELZMETALL

Special Alloys for Plastic Injection Moulds

Tradename			HOVADUR® K 150	HOVADUR® K 220	HOVADUR® K 230	HOVADUR® K 250	HOVADUR® K 265	HOVADUR® K 350
Chemical composition (nominal values in % of weight)								
Cr			0.8	0.4	—	—	—	—
Zr			0.08	—	—	—	—	—
Co			—	—	< 0.3	1.0	1.0	Co + Ni 0.3
Ni			—	2.4	1.8	1.0	1.0	
Be			—	—	0.4	0.5	0.5	1.9
Al			—	—	—	—	—	—
Si			< 0.1	0.7	< 0.2	< 0.2	< 0.2	< 0.1
Fe			< 0.08	—	< 0.2	< 0.2	< 0.2	< 0.1
Others			< 0.2	—	—	—	—	< 0.5
Cu			Remainder	Remainder	Remainder	Remainder	Remainder	Remainder
Mechanical properties (nominal values at 20 °C)								
Hardness Brinell	1)	HB	*) 115–175	190–240	220–270	220–270	260–310	350–410
Tensile strength	2)	N/mm² (MPa)	*) 350–550	650–800	680–800	680–850	750–900	1150–1350
0.2% yield strength	2)	N/mm² (MPa)	*) 250–450	500–650	540–750	550–750	650–800	1000–1250
Elongation (A5)	2)	%	*) 15–20	10–15	8–15	8–15	8–14	3–8
Elastic modulus		N/mm² (MPa)	125,000	140,000	135,000	135,000	135,000	135,000
Physical properties (nominal values at 20 °C)								
Specific weight		g/cm³	8.90	8.84	8.85	8.85	8.85	8.30
Thermal conductivity		W/mK	310–340	190–240	270–320	240–275	230–250	160
Electrical conductivity	1)	MS/m	44–51	min. 22	min. 38	min. 25	min. 28	min. 16
Thermal expansion coefficient		x 10^{-6}/K	17.0	16.2	17.2	17.2	17.2	17.0

*) These properties depend on the condition (hot or cold formed) and the dimension
1) Agreed properties (In case of different opinions, hardness is calculated as the average of 3 randomly located measurings)
2) Associated properties (Strength values will only be proved if ordered by the customer)

Details of the properties or application of materials are for descriptive purposes only.
Confirmation of suitability with regard to specific properties or application require written agreement.

Forms of delivery						
Round drawn	•		•		•	•
Round forged	•	•	•	•	•	•
Flat, square, hexagonal drawn	•				•	
Flat, square forged	•	•	•	•	•	•
Plates rolled	•					
Plates forged	•	•	•	•	•	•
Pieces cut from round bar/plate, rough	•	•	•	•	•	•
Pieces cut from round bar/plate, premachined	•	•	•	•	•	•
Max. weight of a forged piece	1200 kg	1200 kg	1200 kg	1200 kg	1200 kg	1200 kg
Description of material/Application examples	**HOVADUR® K 150** shows especially high electrical and thermal conductivity. High thermal strength is typical for this alloy. **Application** Cooling plates, heat conducting parts and parts for moulds. Moulds and cooling inserts for metal casting as well as covers for centrifugal casting moulds.	**HOVADUR® K 220** shows high electrical and thermal conductivity combined with high hardness and strength. **Application** Cooling inserts, mould inserts and mould cores especially for overcoming thermal problems.	**HOVADUR® K 230** shows very high electrical and thermal conductivity combined with high hardness and strength. **Application** Mould cores, mould inserts especially for overcoming extreme thermal problems.	**HOVADUR® K 250** shows high electrical and thermal conductivity combined with higher hardness and strength. **Application** Mould cores, mould inserts and hot channel nozzles especially for overcoming thermal problems.	**HOVADUR® K 265** shows high electrical and thermal conductivity combined with very high hardness and strength. **Application** Mould cores, mould inserts and hot channel nozzles especially for overcoming extreme thermal problems.	**HOVADUR® K 350** shows good electrical and thermal conductivity combined with extremely high hardness and strength. **Application** Mould cores, mould inserts and hot channel nozzles for overcoming thermal problems. Due to its extremely high hardness, very high clamping forces can be transmitted.

All our alloys HOVADUR® K are tested and certified as being safe concerning contact with food.