



Permendur

1. Brief introduction:

It's high saturation magnetic induction strength iron-cobalt-vanadium soft magnetic alloy, the alloy has the highest saturation magnetic induction intensity (2.4T), high Curie point (98 °C) and maximum saturation magnetostriction coefficient (60~100×10⁻⁶).

Due to its large magnetostriction coefficient, it is very suitable for magnetostrictive transducers, with high output energy and high working efficiency. The alloy has a low electrical resistivity (0.27 μΩ·m) and should not be used at high frequencies.

It is suitable to be used as light weight and small volume electrical components for aviation and aerospace, such as microelectronic rotors, electromagnet pole heads, relays, transducers, etc.

2. Main specifications:

Chinese	UK	Russia	USA	Germany
1J22	Permendur	50KΦ	Supermendur/HiperCo50	Vacoflux 50

3. Chemical composition under GB/T15002-1994 standard:

Grade	chemical composition,%									
	C	P	S	Cu	Mn	Si	Ni	Co	V	Fe
	MAX									
1J22	0.04	0.02	0.02	0.2	0.3	0.3	0.5	49~51	0.8-1.8	Remainder

Remarks: If require adjustments for some chemical compositions, pls consult with us.



4. Physical and mechanical properties GB/T15002-1994 standard:

Grade	Resistivity ($\mu\Omega\cdot m$)	Density (g/cm ³)	Curie Point °C	High Saturated magneto-striction coefficient $\lambda\theta/10^{-6}$	Tensile strength Rm N/mm ²	
					cold-drawn&hard	soft
1J22	0.4	8.2	980	60-100	1325	490

5. Main product types:

wire, rod, bar, strip.

6. Permendur source URL:

<https://www.hitealloy.com/product/1j22.html>