

For current transformers and common mode chokes which high μ_i is needed to lower the amplitude error(<1%) and phase error(<0.5%), the nanocrystalline cores are made with no-field-annealing processes.

(1).Comparison of nanocrystalline cores with other soft magnetic cores.

Properties	Nanocrystalline core	Silicon steel	Permalloy
Saturate induction(T)	1.25	2.03	0.7
Initial permeability(Gs/Oe)	100000-160000	1000	50000-80000
Curie temperature(°C)	570	740	400
Core loss(20kHz,0.5T)(w/kg)	<25		
Core loss(1kHz,1.0T)(w/kg)		20	
Core loss(10kHz,0.5T)(w/kg)	<10		45



(2).Typical characteristic curves

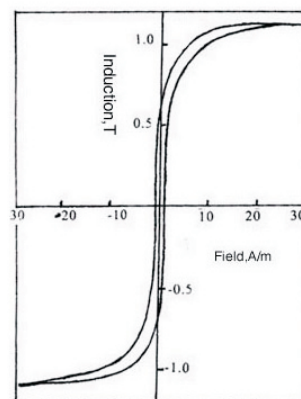


Fig1, Hysteresis loop

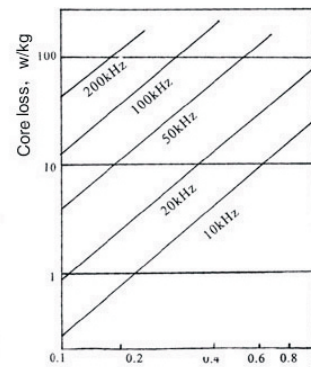


Fig2.Core loss after no-field-annealing