

# VITROPERM® 270



## NOMINAL ALLOY COMPOSITION

Alloy	Fe	Ni	Cu	Nb	Si	B	
VP 270	Balance (79.7)	5.8	1.0	5.4	6.4	1.7	(wt-%)
	71.8	5.0	0.8	2.9	11.5	8.0	(at.-%)

## MAGNETIC PROPERTIES<sup>1</sup>

Property	
Saturation polarization (as cast / amorphous @ 20 °C)	1.24 T
Polarization (nanocrystalline @ 20 °C, 500 A/m)	1.32 T
Saturation magnetostriction (as cast / amorphous)	25 ppm
Saturation magnetostriction (nanocrystalline)	6 - 7 ppm
Permeability (transverse field annealing ½ h @ 540 °C)	5,100
Permeability (transverse field annealing ½ h @ 560 °C)	4,700
DC coercivity (F annealed / flat hysteresis loop)	< 3 A/m
Curie temperature	~ 600 °C

## PHYSICAL PROPERTIES<sup>1</sup>

Property	
Mass density (as cast/amorphous)	7.30 g/cm <sup>3</sup>
Mass density (nanocrystalline)	7.50 g/cm <sup>3</sup>
Electrical resistivity	1.15 µΩm
Coefficient of thermal expansion (20 - 100 °C)	8 · 10 <sup>-6</sup> /K
Crystallization temperature	~ 480 °C

## AVAILABLE DIMENSIONS

Property	Value	Unit
Thickness (computed average thickness from weight)	18 ± 3	µm
Widths – slit to width (others on request)	3.0 ... 46.0 ± 0.15	mm
Widths – width as cast (others on request)	30.0 ... 50.0 ± 0.5	mm

<sup>1</sup> Typical values, not part of a specification

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