



isovac high-perm 290-50 K HE

The specialist with highest permeability and shorter final annealing

Production in modern continuous annealing lines ensures that this semi-processed isovac® grade exhibits homogeneous mechanical and magnetic properties. High dimensional accuracy and defined degrees of roughness guarantee best punchability and further processing. In addition to low losses and high magnetizability, isovac HP 290-50 K HE (high-perm high-efficiency) is highly decarbonized in as-delivered condition, which means that the final annealing time at the customer can be significantly shortened. Subsequent annealing at the customer for the purpose of adjusting optimum magnetic properties completely eliminates any mechanical damage introduced to the material during the punching process.

Convincing advantages:

- » Potential cost savings through smaller component sizes for machinery and thus lower material usage while maintaining the same performance.
- » Alternative increase in performance and efficiency as a result of high permeability and polarization (improved by up to 0.03 T at J25, J50, J100)
- » Shorter final annealing made possible by the low carbon content and thus reduced overall costs resulting from lower energy input
- » Best processability through consistent mechanical properties and high dimensional accuracy



Premium quality
with reduced carbon footprint

isovac®
greentec steel

voestalpine supplies isovac HP 290-50 K HE, an electrical steel of the highest quality. We offer you a customer-focused overall package of products, service and logistics in addition to all the advantages of our integrated metallurgical facility and Steel Service Centers.

Mechanical properties:

Tensile test pursuant to DIN EN ISO 6892-1

Test direction: Transverse

Grade named according to isovac®	0.2 %-Yield strength $R_{p0.2}$ [MPa] min.	Tensile strength R_m [MPa]	Elongation A_{g0} [%] min.
isovac HP 290-50 K HE	On request	On request	On request

Magnetic properties:

After final annealing according to DIN EN 10341

Magnetic measurement pursuant to DIN EN 60404-2 (Epstein test)

Test direction: Mixed longitudinal and transverse

Grade named according to isovac®	Specific total loss at 50 Hz			Magnetic polarization at 50 Hz					
	1.0 T P10 [W/kg]	1.5 T P15 [W/kg]		2500 A/m J25 [T]	5000 A/m J50 [T]	10000 A/m J100 [T]			
isovac HP 290-50 K HE	typ.	max.	typ.	min.	typ.	min.	typ.	min.	typ.
	On request	On request		On request	On request	On request			

Physical properties:

Density in accordance with DIN EN 10341

Thermal conductivity measurement pursuant to EN ISO 22007-2 (Hot-disk-method)

Grade named according to isovac®	Density ρ [g/cm ³]	Specific electrical resistance ρ_s [μΩcm] typ.	Thermal conductivity λ [W/mK] typ.
isovac HP 290-50 K HE	7.65	38.5	27



Datasheets and simulation data are available at
www.voestalpine.com/isovac/en/product-overview/data-sheets

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm] min.	Length [mm]
isovac HP 290-50 K HE	Wide strip / Slit strip	19	-
	Cut-to-length sheets	300	300 - 5000



Premium quality with reduced carbon footprint

isovac®
greentec steel

Semi-processed electrical steel – greentec steel Edition

Max. carbon footprint 2.12 kg CO₂e per kg of steel ¹⁾¹⁾ per EN 15804+A2 (EPD methodology) cradle to gate

All products, dimensions and steel grades listed in each voestalpine supply range are available as greentec steel Edition.

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Please find further information and
downloadable files at the following link:
www.voestalpine.com/isovac

**voestalpine Stahl GmbH**

voestalpine-Straße 3

4020 Linz, Austria

productmanagement@voestalpine.com

www.voestalpine.com/isovac**voestalpine**

ONE STEP AHEAD.