isovac®

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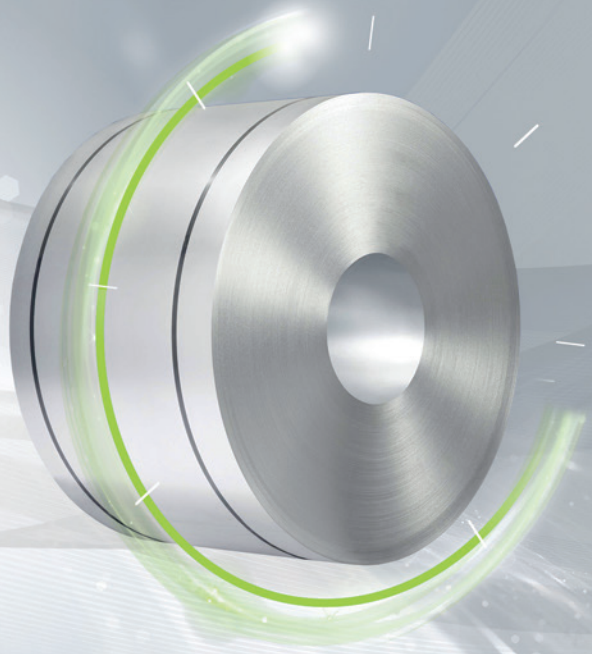


isovac 800-65 K

The perfect solution for individually customized subsequent annealing and highest polarization

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. As a result of its optimized alloy design, isovac 800-65 K is magnetically characterized by high polarization and high saturation polarization. Additionally the thermal conductivity is excellent.
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:

- High motor performance resulting from high polarization
- Best processability through consistent mechanical properties and homogeneous, clean surfaces with defined roughness
- Excellent stackability resulting from high dimensional accuracy (thickness tolerance)

voestalpine supplies isovac 800-65 K, 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.

Grade named according to conventional international standards:

Grade named according to isovac®	DIN EN 10341		DIN EN 10126 DIN EN 10165	IEC/CEI 60404-8-3	ASTM A 683 M	ASTM A 683	AISI	IS15391
	Material No.	Abbreviation						
isovac 800-65 K	1.0364	M 800-65 K	M 800-65 D	800-65 K5	-	-	-	65-SP-800 E5

Mechanical properties:

Tensile test according to DIN EN ISO 6892-1 and hardness according to DIN EN ISO 6507-1 (Typical values);
Test direction: Transverse

Grade named according to isovac®	0.2 %-Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation A_{80} [%]	Hardness HV5 [-]
isovac 800-65 K	410	450	22	170

Magnetic properties:

after final annealing according to EN 10341 (Typicyal values);
Test direction: Mean value from longitudinal and transverse measurements at 50 Hz (60 Hz), single-sheet test

	Specific total loss				Magnetic polarization			Relative permeability
	1.0 T P10		1.5 T P15		2500 A/m J25	5000 A/m J50	10000 A/m J100	1.5 T μ_r
Grade named according to isovac®	50 Hz [W/kg]	60 Hz [W/lb]	50 Hz [W/kg]	60 Hz [W/lb]	[T]	[T]	[T]	[-]
isovac 800-65 K	2.70	1.59	6.50	3.84	1.65	1.74	1.85	2600

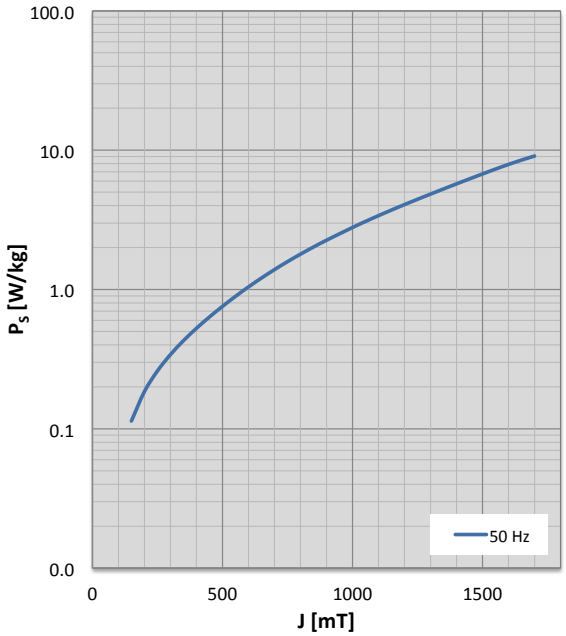
Physical properties:

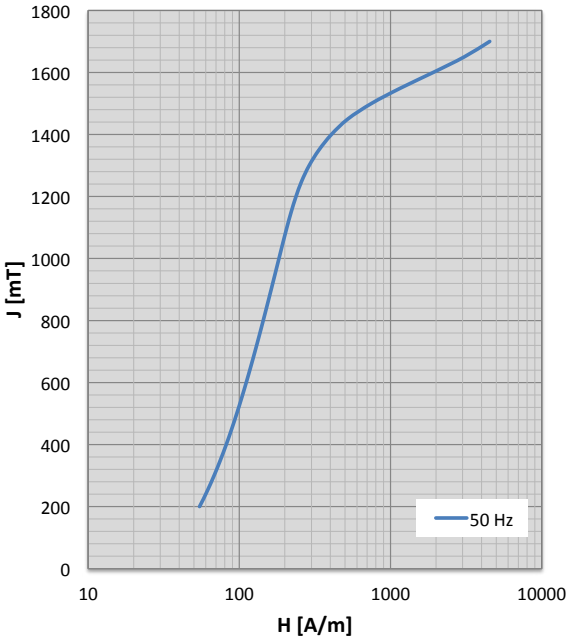
Typical values

Grade named according to isovac®	Density ρ [g/cm³]	Specific electrical resistance ρ_s [µΩcm]	Thermal conductivity λ [W/mK]
isovac 800-65 K	7.84	18.5	60

Characteristics P_s/J loss curve and characteristics J/H magnetization curve

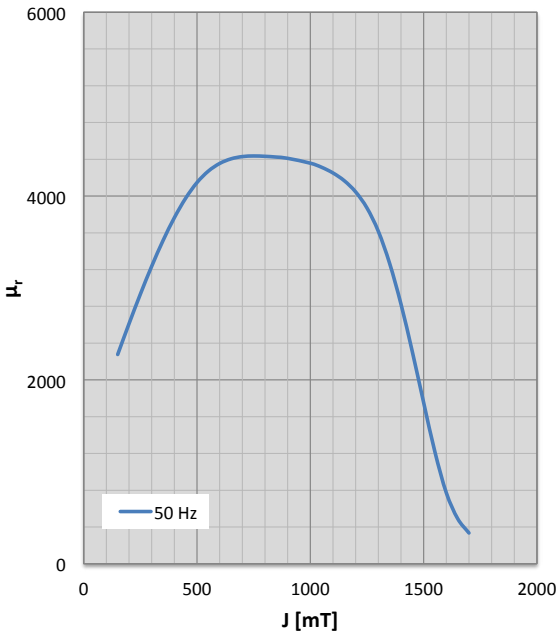
Test direction: Mean value from longitudinal and transverse measurements at indicated frequencies, single-sheet test





Characteristics μ_r/J permeability curve

Test direction: Mean value from longitudinal and transverse measurements at 50 Hz, single-sheet test



Frequency dependence of magnetic properties

Test direction: Mean value longitudinal and transverse at indicated frequencies and polarizations, single-sheet test

50 Hz			
J [mT]	H [A/m]	P_s [W/kg]	μ_r [-]
150	48	0.11	2277
200	55	0.19	2611
250	61	0.26	2932
300	68	0.34	3236
350	75	0.43	3515
400	82	0.53	3764
450	89	0.64	3977
500	96	0.76	4147
550	103	0.89	4271
600	111	1.04	4355
650	119	1.21	4405
700	127	1.39	4429
750	135	1.58	4436
800	144	1.79	4432
850	153	2.02	4424
900	162	2.26	4410
1000	183	2.79	4358
1050	194	3.08	4313
1100	206	3.39	4251
1150	220	3.72	4166
1200	237	4.07	4045
1250	259	4.44	3870
1300	290	4.84	3617
1350	336	5.27	3267
1400	407	5.73	2825
1450	522	6.23	2308
1500	748	6.75	1754
1550	1169	7.32	1215
1600	1914	7.91	772
1650	3069	8.49	491
1700	4529	9.08	334

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm]	Length [mm]
isovac 800-65 K	Wide strip / Slit strip	19 – 1600	-
	Cut-to-length sheets	300 – 1600	300 – 5000

Please find further information and downloadable files at
www.voestalpine.com/isovac

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voestalpine
ONE STEP AHEAD.