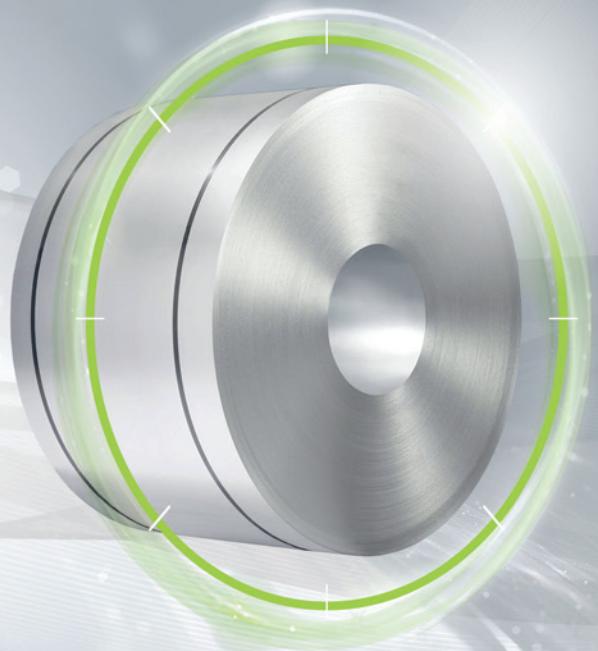


FULLY
PROCESSED

isovac 800-65 A

The perfect solution for direct application

Manufactured in the most modern production lines, this fully processed isovac® grade exhibits highly homogeneous properties across the width and length of the entire strip. The result is excellent and consistent processability in the manufacture of highly efficient electrical components. Upon request, isovac 800-65 A can be supplied with an electrical steel insulation system and can be used directly in as-delivered condition.

Convincing advantages:

- » Best processability through consistent mechanical properties and homogeneous, clean surfaces
- » Excellent stackability resulting from high dimensional accuracy in rolling direction and perpendicular to rolling direction (thickness tolerance)
- » Innovative electrical steel insulation systems upon request

voestalpine supplies isovac 800-65 A, 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 10106		IEC 60404-8-4	JIS C2552	GOST 21427.2	ASTM A677	AISI	IS648	GB/T2521.1
	Material No.	Abbreviation							
isovac 800-65 A	1.0827	M800-65A	M800-65A 5	65A800	2122	64F500	M-47	65C800	65W800

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®	Yield strength	0.2 %-Yield strength	Tensile strength	Elongation	Hardness
	R _{eH} [MPa]	R _{p0.2} [MPa]	R _m [MPa]	A ₈₀ [%]	HV5 [-]
isovac 800-65 A	335	280	400	37	125

Magnetic properties:

in as-delivered condition (Typical values)

Test direction: Mean value from longitudinal and transverse measurements at 50 Hz (60 Hz), single-sheet test

Grade named according to isovac®	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
	50 Hz [W/kg]	60 Hz [W/lb]	50 Hz [W/kg]	60 Hz [W/lb]	[T]	[T]	[T]	[-]
isovac 800-65 A	2.90	1.71	6.40	3.78	1.65	1.73	1.84	2200

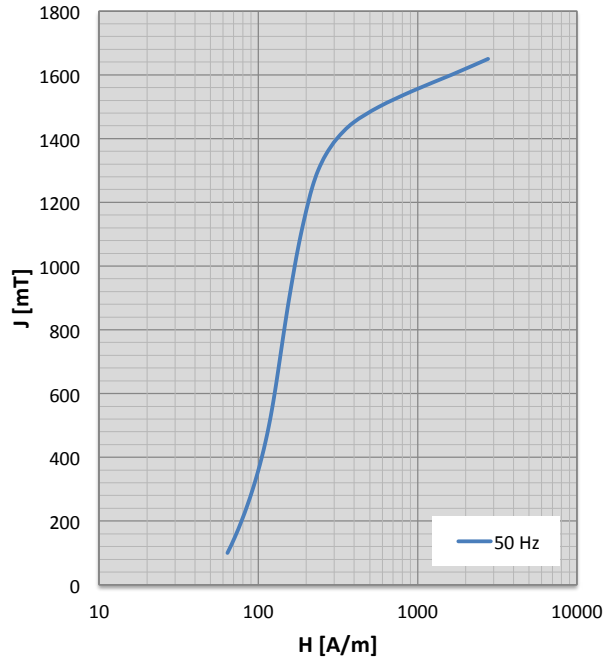
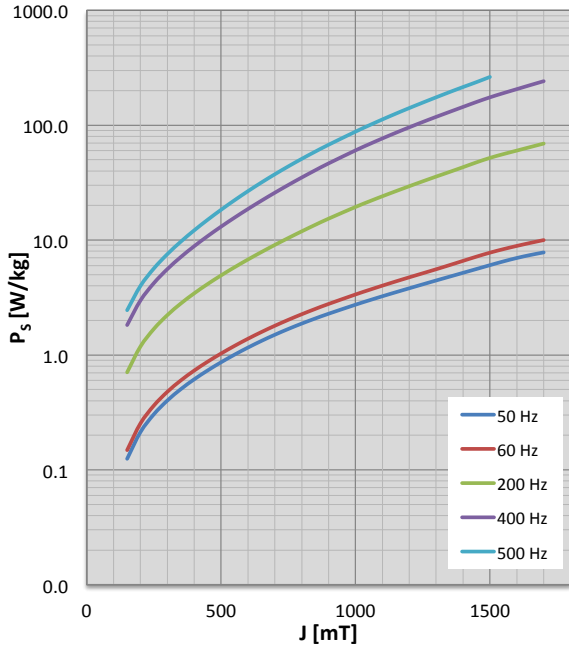
Physical properties:

Typical values

Grade named according to isovac®	Density	Specific electrical resistance	Thermal conductivity
	ρ [g/cm³]	ρ _s [μΩcm]	λ [W/mK]
isovac 800-65 A	7.80	28.2	42

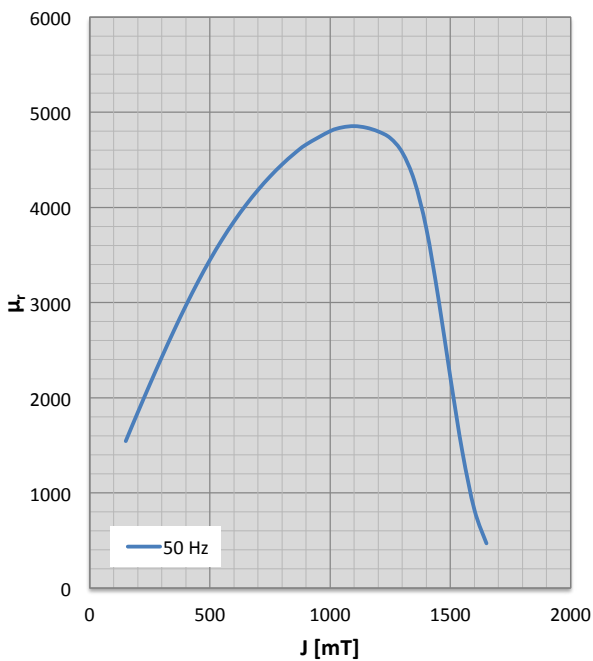
Characteristics P_s/J loss curve and characteristics J/H magnetization curve

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				60 Hz				200 Hz			
J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]
100	64	0.04	1244					100	67	0.24	1200
150	71	0.12	1546	150	71	0.15	1555	150	77	0.71	1428
200	78	0.21	1845	200	79	0.25	1833	200	87	1.19	1653
250	85	0.30	2140	250	87	0.36	2108	250	97	1.69	1870
300	92	0.40	2427	300	94	0.48	2377	300	107	2.22	2078
350	99	0.50	2703	350	101	0.60	2638	350	117	2.80	2271
400	105	0.61	2967	400	108	0.73	2891	400	127	3.44	2447
450	111	0.73	3216	450	114	0.87	3132	450	137	4.15	2602
500	117	0.86	3448	500	120	1.03	3360	500	147	4.93	2732
550	122	1.01	3659	550	125	1.20	3574	550	157	5.80	2836
600	127	1.16	3851	600	130	1.38	3772	600	167	6.78	2912
650	131	1.33	4026	650	134	1.58	3954	650	177	7.87	2964
700	136	1.50	4183	700	138	1.80	4120	700	189	9.08	2991
750	140	1.68	4325	750	143	2.02	4269	750	202	10.43	2995
800	145	1.88	4451	800	148	2.26	4400	800	216	11.92	2977
850	151	2.08	4564	850	153	2.51	4512	850	232	13.57	2939
900	156	2.29	4661	900	159	2.78	4605	900	250	15.37	2888
1000	169	2.74	4801	1000	172	3.36	4730	1000	288	19.42	2774
1050	177	2.99	4841	1050	179	3.68	4760	1050	307	21.67	2724
1100	185	3.24	4854	1100	187	4.01	4772	1100	328	24.07	2677
1150	195	3.52	4838	1150	197	4.37	4762	1150	349	26.65	2629
1200	206	3.81	4798	1200	208	4.74	4712	1200	371	29.45	2579
1250	219	4.12	4728	1250	222	5.14	4612	1250	393	32.47	2527
1300	237	4.45	4577	1300	238	5.57	4506	1300	418	35.72	2475
1350	266	4.81	4281	1350	258	6.06	4396	1350	448	39.22	2424
1400	312	5.19	3778	1400	296	6.59	4042	1400	471	43.12	2366
1450	394	5.60	3046	1450	375	7.18	3259	1450	497	47.50	2263
1500	573	6.05	2212	1500	557	7.77	2291	1500	617	51.94	1972
1550	935	6.52	1429	1550	926	8.34	1442	1550	952	56.05	1405
1600	1631	6.99	822	1600	1639	8.89	822	1600	1654	60.13	812
1650	2767	7.41	470	1650	2811	9.45	466	1650	2830	64.54	451
1700	4229	7.81	309	1700	4327	10.00	303	1700	4357	69.22	292

Frequency dependence of magnetic properties

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

400 Hz				500 Hz			
J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]
100	75	0.70	1069				
150	87	1.82	1257	150	94	2.45	1144
200	99	2.98	1440	200	106	3.99	1314
250	111	4.22	1614	250	119	5.67	1475
300	124	5.59	1774	300	133	7.55	1621
350	137	7.12	1916	350	148	9.69	1748
400	152	8.85	2035	400	164	12.16	1851
450	167	10.83	2126	450	183	15.03	1925
500	184	13.10	2185	500	203	18.37	1966
550	201	15.69	2209	550	226	22.24	1971
600	221	18.65	2203	600	251	26.67	1946
650	242	22.03	2173	650	279	31.72	1898
700	265	25.86	2125	700	308	37.42	1836
750	291	30.19	2065	750	340	43.82	1768
800	319	35.06	2000	800	374	50.96	1701
850	350	40.51	1935	850	411	58.87	1643
900	383	46.55	1872	900	449	67.63	1590
1000	453	60.40	1756	1000	532	87.92	1495
1050	490	68.23	1704	1050	577	99.57	1448
1100	529	76.72	1654	1100	625	112.29	1401
1150	570	85.93	1606	1150	675	126.10	1356
1200	612	95.90	1560	1200	727	141.07	1314
1250	655	106.66	1518	1250	780	157.28	1275
1300	703	118.22	1472	1300	838	174.95	1235
1350	755	130.67	1421	1350	902	194.25	1191
1400	803	144.32	1388	1400	970	214.95	1149
1450	843	159.32	1379	1450	1038	237.20	1111
1500	916	174.85	1303	1500	1116	263.11	1070
1550	1112	190.21	1081				
1600	1674	206.12	804				
1650	2799	223.38	573				
1700	4354	241.72	390				

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm]	Length [mm]
isovac 800-65 A	Wide strip / Slit strip	19 – 1590	-
	Cut-to-length sheets	300 – 1590	300 – 5000

Deliverable coating systems

Grade named according to isovac®	Uncoated	C-3	Backlack	C-5	C-6
isovac 800-65 A	✔	✔	☰	✔	✔

✔ Available ☰ On request

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