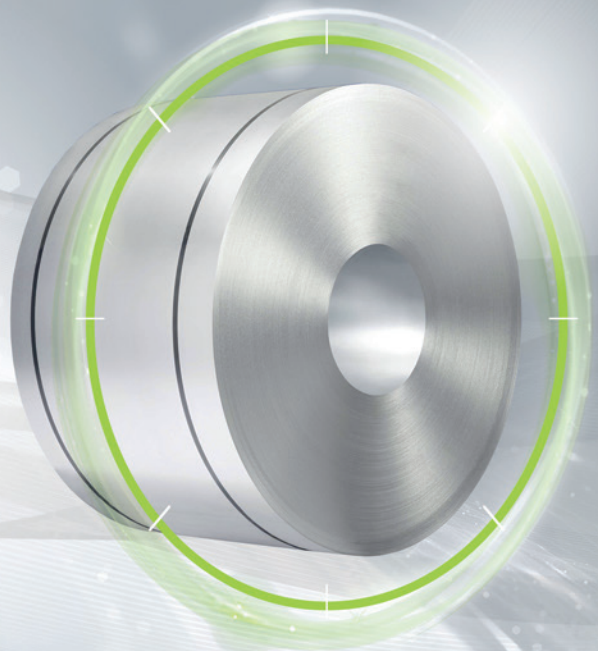


FULLY
PROCESSED

isovac 700-65 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 700-65 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 700-65 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 700-65 A	1.0826	M700-65A	M700-65A 5	65A700	2212	-	-	65C700	65W700

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 700-65 A	340	310	440	36	145

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	
	50 Hz [W/kg]	60 Hz [W/lb]	50 Hz [W/kg]	60 Hz [W/lb]	[T]	[T]	[T]	1.5 T μ _r [-]
isovac 700-65 A	2.30	1.36	5.30	3.13	1.65	1.73	1.84	2900

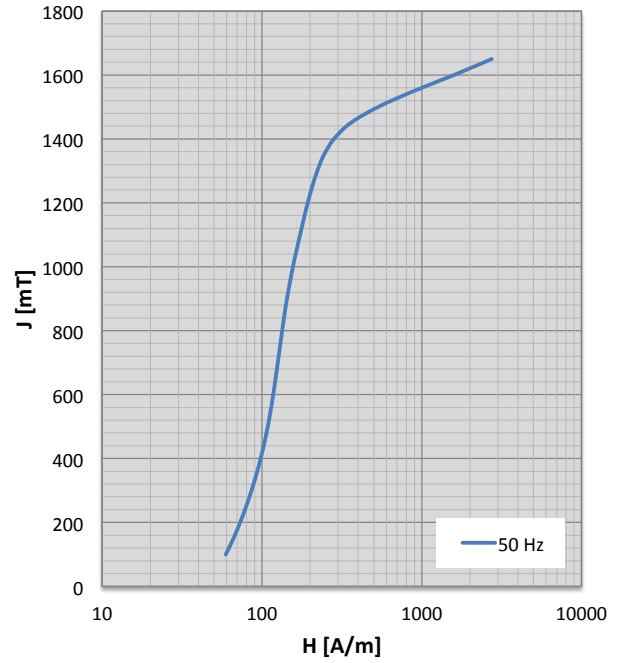
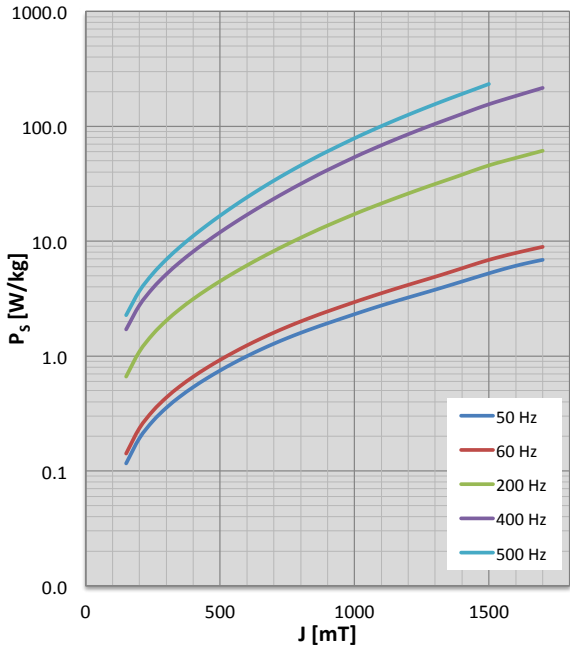
Physical properties:

Typical values

Grade named according to isovac®	Density	Specific electrical resistance	Thermal conductivity
	ρ [g/cm³]	ρ _s [μΩcm]	λ [W/mK]
isovac 700-65 A	7.78	31.1	36

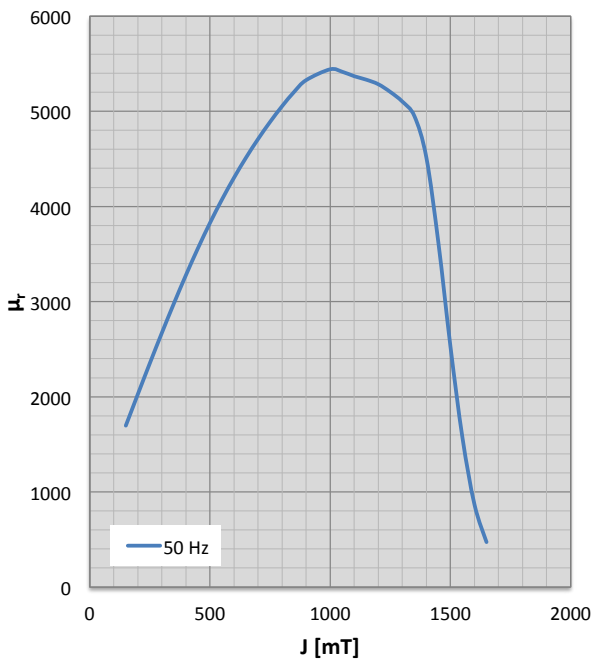
Characteristics P_s/J loss curve and characteristics J/H magnetization curve

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	59	0.04	1362								
150	66	0.12	1696	150	66	0.14	1716	150	71	0.66	1569
200	73	0.19	2027	200	73	0.24	2026	200	80	1.10	1814
250	80	0.27	2353	250	80	0.33	2333	250	90	1.55	2053
300	86	0.35	2672	300	87	0.44	2633	300	99	2.03	2280
350	92	0.44	2981	350	93	0.54	2924	350	109	2.56	2492
400	98	0.54	3278	400	100	0.66	3204	400	118	3.14	2685
450	104	0.64	3561	450	105	0.79	3470	450	127	3.77	2855
500	109	0.75	3827	500	111	0.93	3721	500	136	4.48	2999
550	113	0.87	4073	550	116	1.08	3955	550	145	5.28	3113
600	118	1.00	4302	600	120	1.24	4170	600	154	6.16	3199
650	122	1.14	4513	650	125	1.41	4367	650	164	7.13	3258
700	126	1.28	4708	700	129	1.60	4544	700	174	8.21	3292
750	130	1.43	4888	750	134	1.79	4701	750	185	9.40	3303
800	134	1.59	5054	800	138	2.00	4838	800	198	10.71	3292
850	138	1.76	5204	850	144	2.22	4954	850	211	12.14	3262
900	143	1.93	5328	900	149	2.45	5047	900	226	13.69	3217
1000	156	2.31	5441	1000	162	2.95	5161	1000	258	17.21	3109
1050	164	2.53	5415	1050	170	3.23	5179	1050	276	19.17	3055
1100	173	2.75	5369	1100	178	3.52	5178	1100	293	21.28	3003
1150	183	2.99	5332	1150	188	3.83	5157	1150	312	23.54	2951
1200	193	3.23	5284	1200	199	4.16	5096	1200	331	25.99	2896
1250	206	3.50	5203	1250	212	4.51	4982	1250	351	28.64	2838
1300	222	3.78	5102	1300	229	4.90	4868	1300	372	31.47	2788
1350	244	4.10	4950	1350	250	5.33	4755	1350	394	34.49	2749
1400	282	4.45	4513	1400	288	5.81	4378	1400	417	37.88	2672
1450	359	4.84	3616	1450	364	6.33	3524	1450	459	41.73	2489
1500	534	5.25	2529	1500	545	6.87	2463	1500	595	45.67	2101
1550	894	5.68	1569	1550	918	7.39	1528	1550	929	49.35	1476
1600	1594	6.10	867	1600	1631	7.90	845	1600	1615	53.02	854
1650	2741	6.50	473	1650	2788	8.40	461	1650	2760	56.99	476
1700	4220	6.88	303	1700	4276	8.92	296	1700	4248	61.22	307

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	68	0.67	1184	100	72	0.91	1116
150	80	1.70	1383	150	84	2.27	1297
200	91	2.77	1577	200	96	3.69	1473
250	103	3.91	1762	250	109	5.22	1640
300	115	5.16	1933	300	122	6.93	1792
350	128	6.55	2084	350	136	8.87	1924
400	142	8.12	2213	400	152	11.11	2032
450	156	9.92	2313	450	169	13.69	2111
500	171	11.96	2381	500	187	16.67	2156
550	187	14.30	2412	550	207	20.12	2165
600	204	16.95	2413	600	229	24.07	2142
650	222	19.97	2388	650	253	28.56	2096
700	243	23.39	2343	700	279	33.63	2035
750	265	27.23	2285	750	307	39.32	1966
800	289	31.53	2220	800	337	45.68	1897
850	316	36.33	2153	850	369	52.73	1835
900	345	41.64	2087	900	403	60.54	1777
1000	407	53.86	1961	1000	477	78.63	1671
1050	439	60.80	1904	1050	517	89.02	1618
1100	474	68.33	1850	1100	559	100.32	1567
1150	510	76.47	1797	1150	603	112.57	1519
1200	547	85.28	1747	1200	649	125.87	1472
1250	584	94.80	1702	1250	698	140.33	1427
1300	626	105.01	1652	1300	748	155.99	1383
1350	676	115.96	1594	1350	800	172.93	1342
1400	714	128.06	1560	1400	857	191.22	1300
1450	738	141.52	1558	1450	921	211.12	1253
1500	816	155.52	1463	1500	990	233.46	1206
1550	1055	169.33	1180				
1600	1659	183.63	833				
1650	2783	199.20	568				
1700	4299	215.78	383				

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm]	Length [mm]
isovac 700-65 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 700-65 A	✔	✔	☰	✔	✔

✔ Available ☰ On request

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