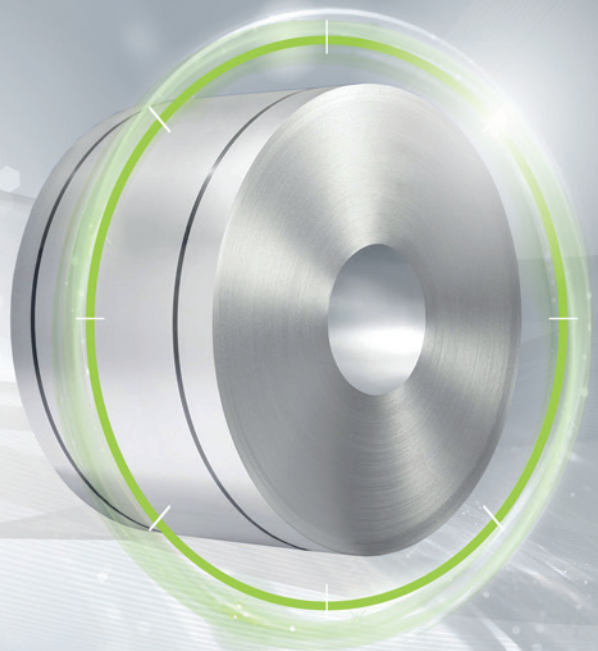


FULLY
PROCESSED

isovac 300-35 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 300-35 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 300-35 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 300-35 A	1.0803	M300-35A	M300-35A 5	35A300	2411	36F165	M-22	35C300	35W300

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 300-35 A	375	365	505	27	165

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 300-35 A	1.00	0.56	2.50	1.40	1.56	1.65	1.77	1000

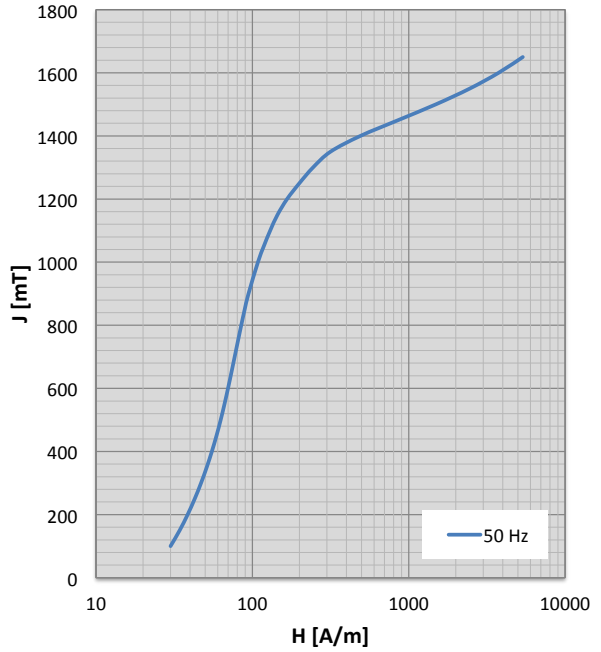
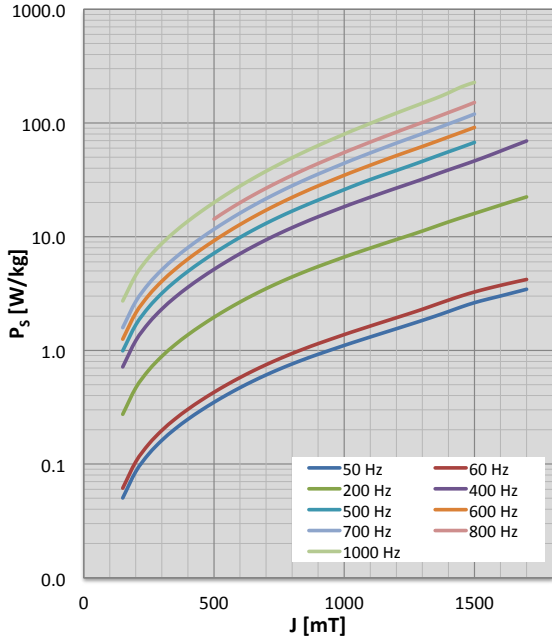
Physical properties:

Typical values

Grade named according to isovac®	Density ρ [g/cm³]	Specific electrical resistance ρ _s [μΩcm]	Thermal conductivity λ [W/mK]
isovac 300-35 A	7.68	52.0	25

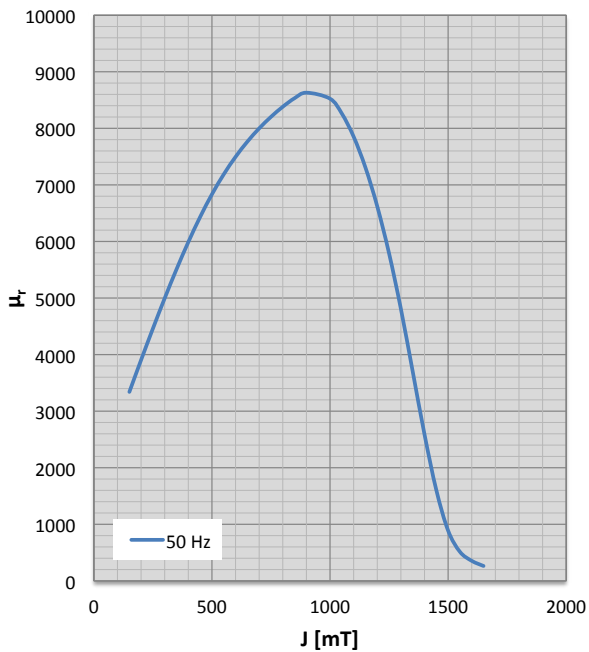
Characteristics P_s/J loss curve and characteristics J/H magnetization curve

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	30	0.02	2766								
150	34	0.05	3340	150	35	0.06	3259	150	37	0.27	3105
200	39	0.09	3907	200	40	0.10	3818	200	42	0.47	3560
250	43	0.12	4462	250	44	0.15	4368	250	47	0.67	4006
300	47	0.16	4999	300	48	0.20	4904	300	52	0.89	4439
350	51	0.20	5510	350	53	0.25	5421	350	57	1.12	4854
400	55	0.25	5991	400	57	0.30	5917	400	62	1.37	5248
450	59	0.30	6435	450	60	0.36	6384	450	66	1.65	5616
500	63	0.35	6835	500	64	0.43	6820	500	71	1.95	5953
550	66	0.41	7188	550	67	0.50	7221	550	75	2.29	6257
600	70	0.47	7497	600	71	0.58	7583	600	79	2.66	6527
650	73	0.54	7766	650	74	0.66	7906	650	82	3.06	6763
700	77	0.61	8000	700	77	0.75	8187	700	86	3.49	6968
750	81	0.68	8204	750	81	0.84	8427	750	90	3.94	7141
800	85	0.76	8382	800	85	0.94	8622	800	94	4.42	7284
850	89	0.84	8534	850	89	1.04	8768	850	99	4.93	7397
900	94	0.92	8631	900	94	1.15	8847	900	104	5.46	7477
1000	109	1.11	8524	1000	107	1.38	8710	1000	117	6.62	7528
1050	118	1.20	8261	1050	116	1.50	8454	1050	124	7.25	7490
1100	130	1.31	7853	1100	127	1.64	8058	1100	133	7.93	7398
1150	145	1.43	7306	1150	141	1.78	7519	1150	144	8.66	7213
1200	167	1.55	6620	1200	162	1.94	6827	1200	162	9.43	6795
1250	200	1.68	5789	1250	194	2.11	5972	1250	194	10.26	6026
1300	244	1.83	4809	1300	238	2.30	4946	1300	236	11.20	4980
1350	316	2.00	3704	1350	310	2.52	3771	1350	305	12.29	3786
1400	491	2.19	2590	1400	492	2.76	2595	1400	491	13.47	2601
1450	856	2.41	1607	1450	872	3.02	1588	1450	888	14.70	1583
1500	1490	2.63	889	1500	1522	3.26	870	1500	1552	16.00	859
1550	2456	2.82	514	1550	2496	3.50	501	1550	2520	17.41	493
1600	3756	3.01	354	1600	3803	3.73	349	1600	3814	18.95	348
1650	5365	3.22	263	1650	5422	3.96	263	1650	5430	20.61	265
1700	7188	3.45	202	1700	7262	4.20	202	1700	7275	22.36	204

Frequency dependence of magnetic properties

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

400 Hz				500 Hz				600 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	32	0.40	2559
150	39	0.72	2878	150	41	0.99	2744	150	40	1.25	2849
200	46	1.22	3227	200	48	1.68	3067	200	47	2.13	3135
250	52	1.75	3567	250	55	2.40	3383	250	55	3.06	3412
300	59	2.31	3897	300	62	3.18	3686	300	62	4.05	3677
350	65	2.92	4211	350	69	4.02	3974	350	69	5.14	3926
400	71	3.59	4506	400	75	4.95	4243	400	77	6.35	4153
450	77	4.33	4778	450	82	5.99	4488	450	83	7.69	4356
500	82	5.15	5023	500	88	7.14	4705	500	90	9.20	4530
550	88	6.07	5239	550	94	8.43	4893	550	97	10.90	4672
600	92	7.08	5424	600	99	9.86	5050	600	103	12.78	4783
650	97	8.18	5581	650	105	11.41	5179	650	110	14.84	4865
700	102	9.37	5708	700	110	13.08	5280	700	117	17.09	4921
750	107	10.64	5807	750	116	14.88	5354	750	124	19.53	4953
800	113	12.00	5878	800	122	16.78	5404	800	131	22.15	4963
850	119	13.44	5922	850	129	18.80	5429	850	139	24.95	4954
900	125	14.97	5939	900	136	20.97	5430	900	148	27.96	4926
1000	140	18.35	5903	1000	152	25.93	5359	1000	167	34.67	4822
1050	148	20.22	5846	1050	162	28.78	5287	1050	178	38.42	4750
1100	158	22.24	5737	1100	172	31.78	5191	1100	189	42.47	4684
1150	170	24.41	5563	1150	183	34.87	5067	1150	199	46.85	4626
1200	187	26.73	5369	1200	199	38.17	4913	1200	213	51.55	4513
1250	210	29.23	5153	1250	224	41.84	4698	1250	234	56.59	4284
1300	244	32.01	4682	1300	256	45.98	4293	1300	270	62.08	3954
1350	309	35.17	3767	1350	312	50.65	3590	1350	322	68.28	3430
1400	482	38.62	2646	1400	482	55.74	2665	1400	484	75.24	2596
1450	855	42.27	1630	1450	865	61.21	1668	1450	884	82.84	1607
1500	1496	46.35	890	1500	1524	67.44	871	1500	1499	91.35	883
1550	2457	51.10	510	1550	2508	74.83	481				
1600	3754	56.57	355	1600	3824	83.40	348				
1650	5371	62.74	266	1650	5453	93.00	272				
1700	7212	69.39	204	1700	7303	103.33	209				

Frequency dependence of magnetic properties

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

700 Hz				800 Hz				1000 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	37	0.90	2238
150	42	1.58	2729					150	46	2.72	2460
200	50	2.69	2990					200	55	4.59	2678
250	58	3.86	3244					250	65	6.56	2887
300	66	5.11	3485					300	74	8.70	3085
350	74	6.48	3712					350	83	11.05	3267
400	81	8.00	3919					400	93	13.67	3430
450	89	9.70	4103	450	95	11.80	3861	450	102	16.62	3568
500	96	11.60	4260	500	102	14.25	4001	500	111	19.93	3679
550	103	13.74	4388	550	110	16.94	4114	550	120	23.67	3759
600	110	16.11	4486	600	117	19.89	4199	600	129	27.85	3810
650	117	18.72	4557	650	125	23.13	4256	650	139	32.50	3834
700	125	21.58	4602	700	134	26.65	4289	700	149	37.62	3836
750	133	24.68	4622	750	143	30.48	4298	750	160	43.25	3816
800	141	28.03	4620	800	152	34.63	4287	800	172	49.38	3779
850	150	31.63	4598	850	163	39.12	4256	850	184	56.06	3727
900	160	35.51	4557	900	174	43.97	4210	900	198	63.31	3663
1000	182	44.25	4437	1000	197	54.96	4087	1000	229	79.73	3514
1050	194	49.17	4364	1050	210	61.17	4015	1050	245	89.00	3436
1100	206	54.49	4286	1100	225	67.90	3932	1100	262	99.09	3356
1150	220	60.23	4205	1150	241	75.20	3834	1150	281	110.07	3273
1200	234	66.45	4111	1200	256	83.12	3753	1200	301	121.99	3187
1250	250	73.18	3980	1250	269	91.73	3684	1250	322	134.92	3099
1300	282	80.47	3719	1300	300	101.08	3476	1300	344	149.05	3017
1350	328	88.68	3320	1350	346	111.57	3135	1350	376	164.47	2823
1400	474	97.98	2693	1400	486	123.40	2617	1400	512	183.73	2318
1450	861	108.09	1701	1450	864	136.34	1694	1450	863	207.82	1575
1500	1486	119.70	895	1500	1505	151.33	896	1500	1424	227.41	945

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm]	Length [mm]
isovac 300-35 A	Wide strip / Slit strip	19 – 1420	-
	Cut-to-length sheets	300 – 1420	300 – 5000

Deliverable coating systems

Grade named according to isovac®	Uncoated	C-3	Backlack	C-5	C-6
isovac 300-35 A	✔	✔	☰	✔	✔

✔ Available ☰ On request

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