
Kanthal D

Fe-Chrome

TOKYO RESISTANCE WIRE CO., LTD.

1-8-29 Kamata Ohta-Ku, Tokyo 144-0052

Phone : +81-3-3736-5201

Faxmile : +81-3-3736-5429

mail : mail@tokyo-resistance-wire.com

[http : //main.tokyo-resistance-wire.com](http://main.tokyo-resistance-wire.com)

※Kanthal D is registered trademarks of Sandvik AB.

Alloys : Kanthal D (Fe-Chrome)

A resistive alloy suitable for use in heating element temperatures up to 1,300°C, used primarily for appliances.

This alloy is widely used for various appliances including furnaces because of its higher resistance, lower specific gravity, and higher heat resistance than austenitic nickel-chromium.

Electrical Resistivity [μΩm]

1.35

Thermal Expansion Coefficient ×10-6/	Specific Heat J/g·K (20°C)	Melting Point °C	Max Operating Temperature °C
15.0	7.25	1500	1300

Chemical Composition	Cr	Al	Fe
(%)	22	4.8	BAL

Resistance increase by temperature

°C	20	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300
Coefficient	1.000	1.000	1.010	1.010	1.020	1.030	1.040	1.060	1.060	1.070	1.070	1.070	1.080	1.080

Alloys	Type	Diameter (mm)
D	Wire	φ6.50~0.13

※Kanthal D is registered trademarks of Sandvik AB.

Kanthal D (Fe-Chrome)

Resistance·Length·Weight

Wire

Electrical Resistivity (20°CμΩm) 1.35

Diameter (mm)	Tolerance (mm)	Cross section (mm ²)	Resistance Tolerance (%)	DC Resistance (Ω/m)	Length (m/Kg)	Weight (g/m)
6.50	±0.04	33.17	±5	0.04070	4.159	240.5
5.50	±0.03	23.75	±5	0.05685	5.809	172.2
5.00	±0.03	19.63	±5	0.06879	7.028	142.3
4.00	±0.03	12.56	±5	0.1075	10.98	91.06
3.50	±0.03	9.616	±5	0.1404	14.34	69.72
3.20	±0.03	8.038	±5	0.1679	17.16	58.28
2.90	±0.02	6.602	±5	0.2045	20.89	47.86
2.60	±0.02	5.307	±5	0.2544	25.99	38.47
2.30	±0.02	4.153	±5	0.3251	33.22	30.11
2.00	±0.02	3.140	±5	0.4299	43.93	22.77
1.80	±0.02	2.543	±5	0.5308	54.23	18.44
1.60	±0.02	2.010	±5	0.6718	68.64	14.57
1.50	±0.02	1.766	±5	0.7643	78.09	12.81
1.40	±0.02	1.539	±5	0.8774	89.65	11.15
1.30	±0.02	1.327	±5	1.018	104.0	9.618
1.20	±0.02	1.130	±5	1.194	122.0	8.195
1.10	±0.02	0.9499	±5	1.421	145.2	6.886
1.00	±0.02	0.7850	±5	1.720	175.7	5.691
0.90	±0.014	0.6359	±5	2.123	216.9	4.610
0.85	±0.014	0.5672	±5	2.380	243.2	4.112
0.80	±0.014	0.5024	±5	2.687	274.5	3.642
0.75	±0.014	0.4416	±5	3.057	312.4	3.201
0.70	±0.014	0.3847	±5	3.510	358.6	2.789
0.65	±0.014	0.3317	±5	4.070	415.9	2.405
0.60	±0.014	0.2826	±5	4.777	488.1	2.049
0.55	±0.012	0.2375	±5	5.685	580.9	1.722
0.50	±0.012	0.1963	±5	6.879	702.8	1.423
0.45	±0.012	0.1590	±5	8.493	867.7	1.152
0.40	±0.012	0.1256	±5	10.75	1098	0.9106
0.35	±0.012	0.09616	±5	14.04	1434	0.6972
0.32	±0.010	0.08038	±5	16.79	1716	0.5828
0.30	±0.010	0.07065	±5	19.11	1952	0.5122
0.29	±0.010	0.06602	±5	20.45	2089	0.4786
0.26	±0.010	0.05307	±5	25.44	2599	0.3847
0.25	±0.010	0.04906	±5	27.52	2811	0.3557
0.23	±0.010	0.04153	±5	32.51	3322	0.3011
0.20	±0.010	0.03140	±5	42.99	4393	0.2277
0.18	±0.008	0.02543	±5	53.08	5423	0.1844
0.16	±0.008	0.02010	±5	67.18	6864	0.1457
0.13	±0.008	0.01327	±5	101.8	10397	0.09618

※Kanthal D is registered trademarks of Sandvik AB.

Kanthal D (Fe-Chrome)

Temperature Current Characteristics · Diameter · Temperature · Current

Wire Electrical Resistivity (20°CμΩm) 1.35 [Unit: Ampere]

Diameter (mm)	200 (°C)	300 (°C)	400 (°C)	500 (°C)	600 (°C)	700 (°C)	800 (°C)	900 (°C)	1000 (°C)	1100 (°C)
6.50	50.4	70.4	89.6	108	132	158	194	226	260	292
5.50	39.2	55.2	77.6	84.0	104	124	152	176	204	232
5.00	34.4	47.2	60.0	72.0	89.6	108	131	152	176	200
4.00	24.8	33.6	43.2	52.0	64.0	75.2	90.4	106	127	144
3.50	20.0	27.2	35.2	42.4	52.8	62.4	76.8	90.4	104	120
3.20	17.6	24.0	31.2	36.8	45.6	54.4	66.4	78.4	91.2	104
2.90	15.0	20.8	27.2	32.0	39.2	47.2	57.6	67.2	78.4	88.8
2.60	12.4	17.6	22.4	27.2	33.6	40.0	49.6	57.6	66.4	74.4
2.30	10.6	14.5	19.2	23.2	28.0	33.6	41.6	48.0	55.2	63.2
2.00	8.80	12.0	16.0	19.2	23.2	28.0	32.8	39.2	44.8	51.2
1.80	7.76	10.6	13.8	16.8	20.0	24.0	26.4	33.6	38.4	44.0
1.60	6.56	9.04	12.0	14.0	16.8	20.8	24.8	28.0	32.8	36.8
1.50	6.08	8.32	10.9	12.8	15.6	18.4	22.4	25.6	29.6	33.6
1.40	5.60	7.60	10.0	11.7	14.4	16.8	20.8	23.2	27.2	31.2
1.30	5.12	6.96	9.04	10.6	13.0	15.2	18.4	20.8	24.0	28.0
1.20	4.72	6.24	8.40	9.44	11.2	12.9	16.0	18.4	21.6	24.8
1.10	4.16	5.60	7.20	8.64	10.4	12.3	14.6	16.8	19.2	21.6
1.00	3.76	4.88	6.40	7.52	9.20	10.8	12.4	14.0	16.0	18.4
0.90	3.28	4.40	5.68	6.56	8.00	9.44	11.2	12.8	14.6	16.8
0.85	3.12	4.08	5.28	6.16	7.44	8.64	10.2	11.8	13.6	15.4
0.80	2.80	3.76	4.88	5.60	6.80	8.00	9.44	10.8	12.4	14.0
0.75	2.64	3.44	4.48	5.20	6.24	7.20	8.56	9.92	11.2	12.8
0.70	2.40	3.12	4.08	4.72	5.68	6.64	7.76	8.80	10.3	11.8
0.65	2.24	2.88	3.76	4.32	5.20	6.00	6.96	8.00	9.28	10.6
0.60	2.00	2.56	3.36	3.84	4.64	5.44	6.24	7.20	8.24	9.60
0.55	1.84	2.32	3.04	3.44	4.16	4.80	5.60	6.40	7.36	8.40
0.50	1.60	2.08	2.72	3.04	3.68	4.24	5.04	5.68	6.56	7.36
0.45	1.44	1.84	2.32	2.64	3.20	3.68	4.16	4.72	5.36	6.08
0.40	1.20	1.52	2.00	2.32	2.72	3.12	3.60	4.16	4.72	5.36
0.35	1.01	1.28	1.68	2.00	2.32	2.64	2.96	3.44	3.84	4.40
0.32	0.904	1.16	1.49	1.76	2.08	2.32	2.72	3.12	3.52	3.92
0.29	0.800	1.04	1.32	1.52	1.84	2.08	2.40	2.72	3.04	3.44
0.26	0.704	0.904	1.16	1.36	1.60	1.84	2.08	2.32	2.64	2.96
0.23	0.608	0.800	1.00	1.16	1.36	1.52	1.76	2.00	2.24	2.56
0.20	0.512	0.672	0.840	0.968	1.14	1.30	1.48	1.68	1.92	2.08
0.18	0.448	0.592	0.736	0.848	1.00	1.14	1.30	1.48	1.60	1.84
0.16	0.392	0.512	0.632	0.728	0.848	0.984	1.12	1.28	1.43	1.58
0.13	0.304	0.400	0.488	0.568	0.656	0.760	0.872	0.976	1.10	1.20

(*) Reference value

※Kanthal D is registered trademarks of Sandvik AB.