

DS21

RESISTANCE HEATING WIRE AND RESISTANCE WIRE

DATASHEET

CHEMICAL COMPOSITION

	Fe %	Cr %	Mn %	Ni %	C %	Other %
Nominal composition	Bal.	21.49	4.86	1.43	0.036	1.72

MECHANICAL PROPERTIES

Wire size	Yield strength	Tensile strength	Elongation
Ø	R _{p0.2}	R _m	A
mm (in)	MPa (ksi)	MPa (ksi)	%
3.50 (0.14)		1895 (275)	1.8

PHYSICAL PROPERTIES

Density g/cm ³ (lb/in ³)	7.8 (0.282)
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COEFFICIENT OF THERMAL EXPANSION

Temperature °C	160	170	180	190	200	210
Temperature °F	320	338	356	374	392	410
1x10 ⁻⁶ /K	9.61	9.52	9.45	9.42	9.42	9.43
1x10 ⁻⁶ /°F	5.34	5.29	5.25	5.23	5.23	5.24

ELECTRICAL CONDUCTIVITY

Temperature °C (°F)	20 (68)
%IACS	2.1

SPECIFIC HEAT CAPACITY

Temperature °C	20	100	200	300
Temperature °F	68	212	392	572
J/Kg °C	500	530	560	590
Btu lb ⁻¹ °F ⁻¹	0.12	0.13	0.13	0.14

Melting point °C (°F)	1385 (2525)
Max continuous operating temperature in air °C (°F)	280 (536)
Magnetic properties	The material is magnetic

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for materials under the trademark Kanthal®.