KANTHAL®

Part of Sandvik Group

NRX 601

CONSTRUCTION MATERIALS

DATASHEET

NRX 601 is an austenitic nickel-chromium alloy (NiCr alloy) for furnace temperatures up to 1250°C (2280°F).

Typical applications for NRX 601 are conveyor belts in carburizing, nitriding or carbon nitriding atmospheres, baskets and trays for heat treatment process.

CHEMICAL COMPOSITION

	Cr %	Ni %	Al %	Fe %	minor additions of RE
Nominal composition	23	59	1.4	Bal	present

MECHANICAL PROPERTIES

Wire size	Yield strength	Tensile strength	Elongation
Ø	$R_{p0.2}$	R_m	A
mm (in)	MPa (ksi)	MPa (ksi)	%
1.0 (0.04)	330 (48)	700 (102)	30

PHYSICAL PROPERTIES

Density g/cm³ (lb/in³)	8.06 (0.291)
Electrical resistivity at 20°C Ω mm²/m (Ω circ. mil/ft)	1.21 (728)

COEFFICIENT OF THERMAL EXPANSION

Temperature °C (°F)	Thermal Expansion x 10^{-6}/K (10^{-6} /°F)
20 - 1000 (68-1832)	17.8 (9.9)

THERMAL CONDUCTIVITY

Temperature °C (°F)	100 (212)
W m^{-1} K^{-1} (Btu $h^{-1}ft^{-1}°F^{-1}$)	11.2 (6.5)

SPECIFIC HEAT CAPACITY

Temperature °C (°F)	20 (68)

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Temperature °C (°F)	20 (68)
kJ kg^{-1} K^{-1} (Btu lb^{-1} °F^{-1})	0.45 (0.11)

Melting point °C (°F)	1350 (2462)
Max continuous operating temperature in air °C (°F)	1250 (2282)