

Material Specification · NCE40

Property	Symbol	Units	Hard Material
			NCE40
Dielectric Constant (1 kHz)	K^T_3		1250
Dielectric Loss Factor (1 kHz)	$\tan\delta_e$		0.0025
Dielectric Loss Factor (at 0.4V/mm)	$\tan\delta_e$		0014
Density	ρ	kg/m ³	7750
Curie Point	T_c	°C	318
Mechanical Quality Factor	Q_m		700
Coupling Coefficients	k_p		0.58
	k_{33}		0.70
	k_{31}		0.35
	k_t		0.50
Piezoelectric Charge	d_{31}	Coul/N x 10 ⁻¹² (or)	-140
Displacement Coefficient	d_{33}	m/V x 10 ⁻¹²	320
Piezoelectric Voltage Coefficient	g_{31}		-12
Voltage Coefficient	g_{33}	V·m/N x 10 ⁻³	27.5
Frequency Constants	N_p		2160
	N_t		1980
	N_{ta}	Hz·m	
	N_{33}		
	N_{31}		
Poisson's Ratio	ν		
Elastic Constants Short Circuit	S^E_{11}		13
	S^E_{33}		17
	S^E_{12}	x 10 ⁻¹² m ² /N	-3.4
	S^E_{13}		-5.4
	S^E_{55}		34.5
	S^E_{66}		31.5