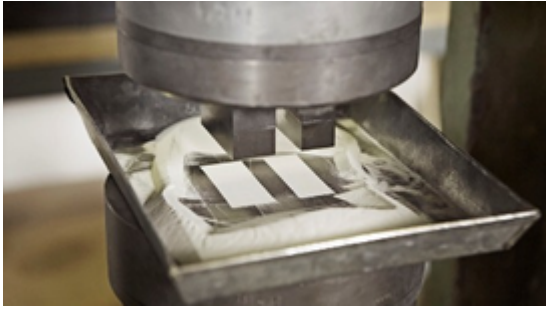


NCE55



Noliac piezoelectric material NCE55 has a very high sensitivity featuring extremely high permittivity, large coupling factor and piezoelectric constants.

SPECIFICATIONS

Properties	Symbol & unit	NCE55
DIELECTRIC PROPERTIES (tolerances +/- 10%)		
Relative Dielectric Constant	$\epsilon_{33}^T / \epsilon_0$	5000
Dielectric Loss Factor	$\text{tg}\delta [10^{-4}]$	220
Dielectric Loss Factor at 400V/mm	$\text{tg}\delta [10^{-4}]$	
ELECTROMECHANICAL PROPERTIES (tolerances +/- 5%)		
Electromech. Coupling Factors**	k_p	0.62
	k_{31}	0.39
	k_{33}	0.72
	k_t	0.50
Piezoelectric Charge Constants	$-d_{31} [10^{-12} \text{ C/N}]$	260
	$d_{33} [10^{-12} \text{ C/N}]$	670
Piezoelectric Voltage Constants	$-g_{31} [10^{-3} \text{ Vm/N}]$	9
	$g_{33} [10^{-3} \text{ Vm/N}]$	19
Frequency Constants	$N_p^E [\text{m/s}]$	1970
	$N_t^D [\text{m/s}]$	1990
	$N_1^E [\text{m/s}]$	
	$N_3^D [\text{m/s}]$	
PHYSICAL PROPERTIES (tolerances +/- 5%)		
Mechanical Quality Factor	Q_m	70
Density	$\rho [10^3 \text{ kg/m}^3]$	8
Elastic Compliances	$s_{11}^E [10^{-12} \text{ m}^2/\text{N}]$	17
	$s_{33}^E [10^{-12} \text{ m}^2/\text{N}]$	21
Curie Temperature	$T_c [^\circ\text{C}]$	159

** Measured in accordance with standard EN 50324

The values listed are for reference purposes only and cannot be applied unconditionally to all shapes and

dimensions. Values vary depending on the actual shape, surface finish, shaping process and post-processing of the product.