

Table 1

The differences of behavior between PVDF piezo and piezo ceramicc

Property	direction**	Unit	PVDF (piezofilm*)	behavior	Pb(Zr,Ti)O3
Tensile Modulus	MD	GPa	3.0-3.2	>flexibility>	51.4
	TD	GPa	2.8-3.0		//
Tensile Strength	MD	MPa	500-600	>stiffness>	54.6
	TD	MPa	45-55	≡stiffness≡	//
Elongation	MD	% (at Break)	20-30	>toughness	0.08
	TD	% (at Yield)	5-7	& flexibility>	//

* : uni-stretched polarized PVDF film

* * : MD: parallel to stretched direction、TD: perpendicular to stretched direction