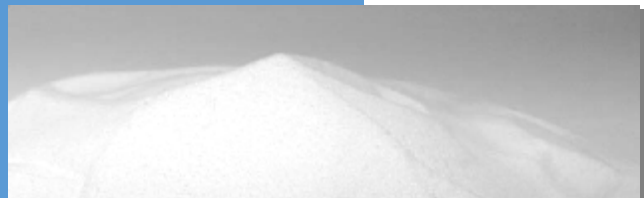




ELECTROACTIVE POLYMER

# INK & POLYMER RANGES

**Piezotech polymers and inks have been developed to match your process and applications specifications. Polymers and inks are produced following a quality process in order to provide you high purity products.**





Electroactive Polymers for Organic Electronics

### Piezotech™ Polymers Range

	<u>Piezoelectric</u>					<u>Electrostrictive and high-k</u>	
Product name	Piezotech FC					Piezotech RT	
Polymer base	P(VDF-TrFE) copolymer					P(VDF-TrFE-CTFE/CFE) terpolymer	
Grade	FC 20	FC 25	FC 30	FC 45	FC 50	RT TS	RT FS
Composition							
	% TrFE					%CTFE	%CFE
	20	25	30	45	50	9	8

### Typical properties

	Indicative thermal values						
Typical melting T value (°C)	150	150	151	158	160	122	127
Curie T (°C)	136	117	100	60	61	-	-
Typical Annealing T (°C)	135	135	135	145	145	112	117
	Indicative molar mass						
Typical Mw value (10 <sup>3</sup> g/mol)	450					500	
	Indicative dielectric values						
ε <sub>r</sub> range	9 - 12		10 - 14			40	55
Typical remnant polarization Pr value (mC/m <sup>2</sup> )	80	70	65	45	30	-	-
Coercitive field (V/μm)	45	50	50	55	40	-	-
	Indicative mechanical values						
Young Modulus range (Gpa)	0,8 – 1,2					0,2 - 0,4	
	Indicative Piezoelectric / Pyroelectric values						
d <sub>33</sub> (pC/N)*	-24 to -30			-18 to -22		-	-
Typical P <sub>3</sub> (μC/m <sup>2</sup> /K) *	-30			-50		-	-

\* Constants are given as indicative value, it depends strongly on processing conditions (annealing & poling) and on temperature



*Electroactive Polymers for Organic Electronics*

## Piezotech Ink™ Range

### Piezoelectric ink

<b>Ink Name</b>	<b>Piezotech FC 25 ink</b>			
<b>Base Polymer</b>	Piezotech FC 25 (P(VDF-TrFE) copolymer - VDF-TrFE ratio in mole % : 75/25)			
<b><u>Available for</u></b>	<b>ink I</b>	<b>ink L</b>	<b>ink H</b>	<b>ink P</b>
Melting Temp. range(°C)	148 - 152			
Annealing Temp. (°C)	135			
Curie Temp. range(°C)	112 - 123			

### Electrostrictive and high-k ink

<b>Ink Name</b>	<b>Piezotech RT T ink</b>			
<b>Base Polymer</b>	Piezotech RT T (P(VDF-TrFE-CTFE) terpolymer standard composition)			
<b><u>Available for</u></b>	<b>ink I</b>	<b>ink L</b>	<b>ink H</b>	<b>ink P</b>
Melting Temp. range(°C)	115 - 130			
Annealing Temp. (°C)	105 - 120			

### Typical properties

<u>Grade name</u>	<u>Technology</u>	<u>Viscosity (mPa.s)</u>	<u>Thickness range (µm)</u>	<u>Typical dry content value (%)</u>	<u>Boiling Point (°C)</u>
<b>ink I</b>	Ink-jet	16+/-10%	0,05 - 0,1	0,6	116-120
<b>ink L</b>	spin-coating Slot-die	250+/-10%	0,1 - 2	7	128-132
<b>ink H</b>	spin-coating Solvent-casting	2300+/-10%	Spin-coat: 5 – 20 Solvent-cast: 2 - 80	20	78-82
<b>ink P</b>	screen-printing	23000+/-10%	1 - 20	18	213-217