**Property Data** 



# Arnitel<sup>®</sup> CM551

### **TPC-ES**

Heat Resistant Copolyester

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	VALUE		
Melt volume-flow rate	8	cm³/10min	ISO 1133
Temperature	230	°C	ISO 1133
Load	2.16	kg	ISO 1133
MECHANICAL PROPERTIES	VALUE		
Shore D Hardness (3s)	51	_	ISO 868
Shore D Hardness (15s)	51	_	ISO 868
Tensile modulus	160	MPa	ISO 527-1/-2
Stress at break	34	MPa	ISO 527-1/-2
Nominal strain at break	450	%	ISO 527-1/-2
Stress at 5% strain	8.4	MPa	ISO 527-1/-2
Stress at 10% strain	12	MPa	ISO 527-1/-2
Stress at 50% strain	16	MPa	ISO 527-1/-2
Stress at 100% strain	16	MPa	ISO 527-1/-2
Charpy notched impact strength (+23°C)	Ν	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	6	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	Ν	kJ/m²	ISO 180/1A
Izod notched impact strength (-20°C)	Ν	kJ/m²	ISO 180/1A
Izod notched impact strength (-30°C)	6.4	kJ/m²	ISO 180/1A
Compression Set under constant strain at 23 °C	18	%	ISO 815
Compression Set under constant strain at 70 °C	42	%	ISO 815

#### Print Date: 2024-09-28

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#### Print Date: 2024-09-28

BTear strength (parallel)160kN/mISO 34-1; Method BStrain at break (normal)660%ISO 527-1/-2THERMAL PROPERTIESVALUEMelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Belative permittivity (100Hz)212E-4IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1 MHz)460E-4IEC 62631-2-1Volume resistivity-1E13Ohm*mIEC 62631-3-1	PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Stress at 5% strain (normal)       8.5       MPa       ISO $527-1/-2$ Stress at 10% strain (normal)       12       MPa       ISO $527-1/-2$ Stress at 50% strain (normal)       16       MPa       ISO $527-1/-2$ Stress at 100% strain (normal)       15       MPa       ISO $527-1/-2$ Stress at 100% strain (normal)       15       MPa       ISO $527-1/-2$ Tear strength (normal)       145       KN/m       ISO $32-1/-2$ Tear strength (parallel)       160       kN/m       ISO $34-1$ ; Method B         Strain at break (normal)       660       %       ISO $527-1/-2$ <i>THERMAL PROPERTIES VALUE</i> B         Melting temperature (10°C/min)       205       °C       ISO $11357-1/-3$ Vicat softening temperature (50°C/h 50N)       61       °C       ISO $306$ Coeff. of linear therm. expansion (normal)       1.9       E-4/°C       ISO $11359-1/-2$ <i>ELECTRICAL PROPERTIES VALUE</i> E       E         Relative permittivity (100Hz)       4.34       -       IEC 62631-2-1         Dissipation factor (100 Hz)       212       E-4       IEC 62631-2-1         Dissipation factor (10Hz)       460       E-4       IEC 6		VALUE		
Stress at 10% strain (normal)12MPaISO 527-1/-2Stress at 50% strain (normal)16MPaISO 527-1/-2Stress at 100% strain (normal)15MPaISO 527-1/-2Tear strength (normal)145KN/mISO 34-1; Method BTear strength (parallel)160kN/mISO 34-1; Method BStrain at break (normal)660%ISO 527-1/-2THERMAL PROPERTIESWelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E-4/*CISO 11359-1/-2ELECTRICAL PROPERTIESVALUEVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Volume resistivity>1E13Ohm'mIEC 62631-3-1	Stress at break (normal)	34	MPa	ISO 527-1/-2
Stress at 50% strain (normal)16MPaISO 527-1/-2Stress at 100% strain (normal)15MPaISO 527-1/-2Tear strength (normal)145kN/mISO 34-1; Method BTear strength (parallel)160kN/mISO 34-1; Method BStrain at break (normal)660%ISO 527-1/-2THERMAL PROPERTIESWelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESValueRelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (100Hz)212E-4IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1MHz)460E-4IEC 62631-2-1Volume resistivity~1E13Ohm'mIEC 62631-3-1	Stress at 5% strain (normal)	8.5	MPa	ISO 527-1/-2
Stress at 100% strain (normal)15MPaISO 527-1/-2Tear strength (normal)145kN/mISO 34-1; Method BTear strength (parallel)160kN/mISO 34-1; Method BStrain at break (normal)660%ISO 527-1/-2THERMAL PROPERTIESWallueValueMelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 11357-1/-2ELECTRICAL PROPERTIESValueE-4/°CISO 11359-1/-2Electrical propertiesValue19E-4/°CISO 11359-1/-2Belative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1 MHz)460E-4IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	Stress at 10% strain (normal)	12	MPa	ISO 527-1/-2
Tear strength (normal)145kN/mISO 34–1; Method BTear strength (parallel)160kN/mISO 34–1; Method BStrain at break (normal)660%ISO 527–1/–2THERMAL PROPERTIESMelting temperature (10°C/min)205°CISO 11357–1/–3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E–4/°CISO 11359–1/–2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34–IEC 62631–2–1Relative permittivity (1 MHz)3.58–IEC 62631–2–1Dissipation factor (100 Hz)212E–4IEC 62631–2–1Dissipation factor (1 MHz)460E–4IEC 62631–2–1Volume resistivity>1E13Ohm*mIEC 62631–3–1	Stress at 50% strain (normal)	16	MPa	ISO 527-1/-2
Tear strength (parallel)160kN/mISO 34–1; Method BStrain at break (normal)660%ISO 527–1/–2THERMAL PROPERTIESVALUEMelting temperature (10°C/min)205°CISO 11357–1/–3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E–4/°CISO 11359–1/–2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34–IEC 62631–2–1Relative permittivity (100Hz)3.58–IEC 62631–2–1Dissipation factor (100 Hz)212E–4IEC 62631–2–1Dissipation factor (1 MHz)460E–4IEC 62631–2–1Volume resistivity~1E13Ohm*mIEC 62631–3–1	Stress at 100% strain (normal)	15	MPa	ISO 527-1/-2
Strain at break (normal) $660$ $\%$ ISO 527-1/-2THERMAL PROPERTIESVALUEMelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (100Hz)212E-4IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1 MHz)460E-4IEC 62631-2-1Volume resistivity>1E13Ohm'mIEC 62631-3-1	Tear strength (normal)	145	kN/m	ISO 34—1; Method B
THERMAL PROPERTIESVALUEMelting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9 $E-4/°C$ ISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1 MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212 $E-4$ IEC 62631-2-1Dissipation factor (1 MHz)460 $E-4$ IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	Tear strength (parallel)	160	kN/m	ISO 34—1; Method B
Melting temperature (10°C/min)205°CISO 11357-1/-3Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9E-4/°CISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1 MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1 MHz)460E-4IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	Strain at break (normal)	660	%	ISO 527-1/-2
Vicat softening temperature (50°C/h 50N)61°CISO 306Coeff. of linear therm. expansion (normal)1.9 $E-4/°C$ ISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1 MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212 $E-4$ IEC 62631-2-1Dissipation factor (1 MHz)460 $E-4$ IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	THERMAL PROPERTIES	VALUE		
Coeff. of linear therm. expansion (normal)1.9 $E-4/^{\circ}C$ ISO 11359-1/-2ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1 MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212 $E-4$ IEC 62631-2-1Dissipation factor (1 MHz)460 $E-4$ IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	Melting temperature (10°C/min)	205	°C	ISO 11357-1/-3
ELECTRICAL PROPERTIESVALUERelative permittivity (100Hz)4.34-IEC 62631-2-1Relative permittivity (1 MHz)3.58-IEC 62631-2-1Dissipation factor (100 Hz)212E-4IEC 62631-2-1Dissipation factor (1 MHz)460E-4IEC 62631-2-1Volume resistivity>1E13Ohm*mIEC 62631-3-1	Vicat softening temperature (50°C/h 50N)	61	°C	ISO 306
Relative permittivity (100Hz)       4.34       -       IEC 62631-2-1         Relative permittivity (1 MHz)       3.58       -       IEC 62631-2-1         Dissipation factor (100 Hz)       212       E-4       IEC 62631-2-1         Dissipation factor (1 MHz)       460       E-4       IEC 62631-2-1         Volume resistivity       >1E13       Ohm*m       IEC 62631-3-1	Coeff. of linear therm. expansion (normal)	1.9	E-4/°C	ISO 11359-1/-2
Relative permittivity (1 MHz)       3.58       -       IEC 62631-2-1         Dissipation factor (100 Hz)       212       E-4       IEC 62631-2-1         Dissipation factor (1 MHz)       460       E-4       IEC 62631-2-1         Volume resistivity       >1E13       Ohm*m       IEC 62631-3-1	ELECTRICAL PROPERTIES	VALUE		
Dissipation factor (100 Hz)         212         E-4         IEC 62631-2-1           Dissipation factor (1 MHz)         460         E-4         IEC 62631-2-1           Volume resistivity         >1E13         Ohm*m         IEC 62631-3-1	Relative permittivity (100Hz)	4.34		IEC 62631-2-1
Dissipation factor (1 MHz)         460         E-4         IEC 62631-2-1           Volume resistivity         >1E13         Ohm*m         IEC 62631-3-1	Relative permittivity (1 MHz)	3.58	_	IEC 62631-2-1
Volume resistivity     >1E13     Ohm*m     IEC 62631-3-1	Dissipation factor (100 Hz)	212	E-4	IEC 62631-2-1
	Dissipation factor (1 MHz)	460	E-4	IEC 62631-2-1
Electric strength 25 kV/mm IEC 60243-1	Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
	Electric strength	25	kV/mm	IEC 60243-1
Comparative tracking index600VIEC 60112	Comparative tracking index	600	V	IEC 60112
OTHER PROPERTIES VALUE	OTHER PROPERTIES	VALUE		
Density         1240         kg/m³         ISO 1183	Density	1240	kg∕m³	ISO 1183
Humidity absorption0.11%Sim. to ISO 62	Humidity absorption	0.11	%	Sim. to ISO 62

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