Prospector X5

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Thursday, December 01, 2005

Kynar Flex® 2750

Arkema - *Polyvinylidene Fluoride*

Unit System: English

View	
Datasheet	**Shown Below**
ASTM Data Sheet	
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General Information

General	
Material Status	• Commercial: Active
Availability	• Africa • Asia • Australia • Europe • Latin America • Middle East • North America • Pacific Rim • South America
Test Standards Available	• ASTM • ISO 10350
Features	• Copolymer • Impact Resistance, Good • Purity, High • Thermal Stability, Good • UV Resistance, Good
Forms	• Pellets
Processing Method	• Extrusion • Injection Molding
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-2) • Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2)

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density -Specific Gravity	1.79	sp gr 23/23°C	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/12.5 kg)	4.00	g/10 min	ASTM D1238
Mold Shrink, Linear-Flow	0.010 to 0.025	in/in	ASTM D955
Water Absorption @ 24 hrs (68 °F)	0.055	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73 °F)	70000	psi	ASTM D638
Tensile Strength @ Yield (73 °F)	30500	psi	ASTM D638
Tensile Strength @ Break (73 °F)	3650	psi	ASTM D638
Tensile Elongation @ Yld (73 °F)	15	%	ASTM D638
Tensile Elongation @ Brk (73 °F)	300	%	ASTM D638
Flexural Modulus (73 °F)	53500	psi	ASTM D790
Flexural Strength (73 °F)	2750	psi	ASTM D790
Compressive Strength (73 °F)	4000	psi	ASTM D695
Coef. of Friction			ASTM D1894
(vs. Steel - Dynamic)	0.54		
(vs. Steel - Static)	0.55		
Taber Abrasion Resistance (1000 Cycles) [2]	23.0	mg	ASTM D1044
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (73 °F)	No Break	ft-lb/in	ASTM D256

Unnotched Izod Impact (73 °F)	No Break	ft-lb/in	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (D Scale)	65		ASTM D2240
Thermal	**Nominal Value**	**Unit**	**Test Method**
DTUL @66psi - Unannealed	135	°F	ASTM D648
DTUL @264psi - Unannealed	110	°F	ASTM D648
Glass Transition Temp	-42.0	°F	DSC
Melting Point	270	°F	DSC
CLTE, Flow	0.00010	in/in/°F	ASTM D696
Specific Heat	0.320	Btu/lb/°F	ASTM C351
Thermal Conductivity	1.1	Btu-in/hr/ft²/°F	ASTM C177
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	2.0E+14	ohm-cm	ASTM D257
Dielectric Strength (73 °F)	1200	V/mil	ASTM D149
Dielectric Constant			ASTM D150
(73 °F, 100 Hz)	11.30		
(73 °F, 1000 Hz)	10.15		
(73 °F, 10000 Hz)	9.200		
(73 °F, 100000 Hz)	8.800		
(73 °F, 1E+6 Hz)	7.800		
(73 °F, 1E+8 Hz)	4.250		
Dissipation Factor			ASTM D150
(73 °F, 100 Hz)	0.070		
(73 °F, 1000 Hz)	0.045		
(73 °F, 10000 Hz)	0.075		
(73 °F, 100000 Hz)	0.11		
(73 °F, 1E+6 Hz)	0.18		
(73 °F, 1E+8 Hz)	0.22		
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL	V-0		UL 94
Limiting Oxygen Index	42	%	ASTM D2863
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.410		ASTM D542
Fill Analysis	**Nominal Value**	**Unit**	**Test Method**
Melt Viscosity (450 °F, 100 sec^-1)	2000	Pa-s	ASTM D3835

Additional Properties

The value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM D433.
The value listed as Specific Heat, ASTM C351 , was tested in accordance with DSC Method.
The value listed as Flexural Strength, ASTM D790, was tested @ 5% strain.
Thermal Decomposition TGA, 1% wt. loss/ in air: 707°F
Thermal Decomposition TGA, 1% wt. loss/ in nitrogen: 770°F
Thermal Decomposition TGA, Ash weight %/ in air: 0 - 5%
Limiting Oxygen Index, ASTM D2863, product available with higher LOI: 42/95 %O2

CAMPUS® Properties [3]

Rheological properties	**Nominal Value**	**Unit**	**Test Method**
Melt volume-flow rate (230°C/5.0 kg)	0.116	in³/10min	ISO 1133
Mechanical properties 23°C/50%r.h.	**Nominal Value**	**Unit**	**Test Method**
Tensile modulus	69600	psi	ISO 527-1, -2
Yield stress	2900	psi	ISO 527-1, -2
Yield strain	16	%	ISO 527-1, -2
Nominal strain at break	> 50.0	%	ISO 527-1, -2
Charpy notched impact strength (+23°C)	56.1	ft-lb/in²	ISO 179 /1eA
Charpy notched impact strength (-30°C)	2.86	ft-lb/in²	ISO 179 /1eA
Thermal properties	**Nominal Value**	**Unit**	**Test Method**
Melting temperature (10°C/min)	275	°F	ISO 11357-1, -3
Glass transistion temperature (10°C/min)	-29	°F	ISO 11357-1, -2
Vicat softening temperature (50°C/h 50N)	142	°F	ISO 306
Coeff.of linear therm. expansion (parallel)	0.000098	in/in/°F	ISO 11359-1, -2
Burning Behav. at 1.6mm nom. thickn. (0.06 in)	V-0		ISO 1210
Burning Behav. at thickness h (0.0315 in)	V-0		ISO 1210
Oxygen index	49	%	ISO 4589-1, -2

Electrical properties 23°C/50%r.h.	Nominal Value	Unit	Test Method
Relative permittivity (100 Hz)	11.5		IEC 60250
Relative permittivity (1 MHz)	7.00		IEC 60250
Dissipation factor (100 Hz)	0.024		IEC 60250
Volume resistivity	7.9E+13	ohm-in	IEC 60093
Other properties	**Nominal Value**	**Unit**	**Test Method**
Density	0.0643	lb/in³	ISO 1183
Test specimen production	**Nominal Value**	**Unit**	**Test Method**
Injection Molding, melt temperature	464	°F	ISO 294
Injection Molding, mold temperature	194	°F	ISO 10724
Injection Molding, injection velocity	0	in/sec	ISO 294
Injection Molding, pressure at hold	1890	psi	ISO 294

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	320 to 360	°F
Middle Temperature	330 to 380	°F
Front Temperature	330 to 400	°F
Nozzle Temperature	350 to 420	°F
Mold Temperature	100 to 180	°F
Extrusion	**Nominal Value**	**Unit**
Cylinder Zone 1 Temp.	310 to 360	°F
Cylinder Zone 3 Temp.	330 to 360	°F
Cylinder Zone 5 Temp.	330 to 360	°F
Adapter Temperature	330 to 400	°F
Die Temperature	350 to 420	°F

Notes

1 Typical properties: these are not to be construed as specifications.

2 1000 gm, CS-17 Wheel

3 Typical properties: these are not to be construed as specifications. Additional CAMPUS® data and disclaimer information may be found on CAMPUS® Data Sheet.