Wednesday, March 02, 2005

ULTEM® 2200

GE Plastics - *Polyether Imide*

Unit System: English

View

Datasheet	Shown Below
ASTM Data Sheet	
ISO Data Sheet	--
CAMPUS® Data Sheet	--

Actions

Product Sourcing	
E-mail a Datasheet	
Product Alternatives	

General Information

Product Description

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing. NSF 51 listing, WRAS certification in recognized colors.

General	
Material Status	• Commercial: Active
Availability	• North America
Test Standards Available	• ASTM
Filler/Reinforcement	• Glass fiber reinforcement, 20 % Filler by Weight
Agency Ratings	• NSF 51
Forms	• Pellets
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • Pressure-Volume-Temperature (PVT - Zoller Method) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417) • Tensile Creep (ASTM D2990) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530) • Viscosity vs. Shear Rate (ASTM D3835)

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density -Specific Gravity	1.42	sp gr 23/23°C	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	6.00	g/10 min	ASTM D1238
Mold Shrink, Linear-Flow (0.126 in)	0.0030 to 0.0050	in/in	ASTM D955
Water Absorption @ 24 hrs	0.19	%	ASTM D570
Water Absorption @ Equil (73 °F)	1.1	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2]	1.00E+6	psi	ASTM D638
Tensile Strength @ Break [3]	19000	psi	ASTM D638
Tensile Elongation @ Brk [3]	4.0	%	ASTM D638
Flexural Modulus (3.94 in Span) [4]	1.00E+6	psi	ASTM D790
Flexural Strength @ Break (3.94 in Span) [4]	33000	psi	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73 °F)	1.20	ft-lb/in	ASTM D256
Unnotched Izod Impact (73 °F)	9.00	ft-lb/in	ASTM D256
Reverse Notch Izod Impact (0.126 in)	8.7	ft-lb/in	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	114		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
DTUL @66psi - Unannealed (0.252 in)	410	°F	ASTM D648
DTUL @264psi - Unannealed (0.252 in)	410	°F	ASTM D648
Vicat Softening Point (Rate B, Loading 2 (50 N))	428	°F	ASTM D1525
CLTE, Flow (TMA) (-4 to 302°F (-20 to 150°C))	0.000014	in/in/°F	ASTM E831
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	7.0E+16	ohm-cm	ASTM D257
Dielectric Strength (0.0630 in, in Oil)	670	V/mil	ASTM D149
Dielectric Constant (1000 Hz)	3.500		ASTM D150
Dissipation Factor			ASTM D150
(1000 Hz)	0.0015		
(2E+9 Hz)	0.0049		
Arc Resistance (PLC) (Tungsten Electrode)	PLC 6		ASTM D495
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL			UL 94
(0.0160 in)	V-0		
(0.0750 in)	5VA		
Limiting Oxygen Index	50	%	ASTM D2863
UL 746	**Nominal Value**	**Unit**	**Test Method**
Rel Temp Indx Mech w/oImp	338	°F	UL 746
Rel Temp Indx Mech w/Imp	338	°F	UL 746
Rel Temp Indx Elect	338	°F	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 2		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 1		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 4		UL 746

Additional Properties

The value listed as Unnotched Izod Impact, ASTM D256, was tested in accordance with ASTM D4812.
CSA File No. (See File for Complete Listing): LS88480
NBS Smoke Density, ASTM E662, Flaming, Ds 4 min: 1.3

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	300	°F
Drying Time	4.0 to 6.0	hr
Drying Time, Maximum	24	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	630 to 750	°F
Middle Temperature	640 to 750	°F
Front Temperature	650 to 750	°F
Nozzle Temperature	650 to 750	°F
Processing (Melt) Temp	660 to 750	°F
Mold Temperature	275 to 325	°F
Back Pressure	50.0 to 100.0	psi
Screw Speed	40 to 70	rpm
Vent Depth	0.0010 to 0.0030	in

Notes

1 Typical properties: these are not to be construed as specifications.
2 0.2 in/min
3 Type I, 0.2 in/min

0.1 in/min	