

Vu-Stat™

Y-20 polymer static dissipative acrylic multipolymer compound

Product

Vu-Stat™ Y-20 compound is a transparent, electrostatic dissipative acrylic-based multipolymer mainly for molding medical applications.

Typical properties of Vu-Stat™ Y-20 compound are:

- inherent and permanent static-dissipative properties, not surface treatment
- excellent bonding and welding capabilities
- good light transmission
- prevents drugs from adhering to application device
- high melt flow rate

Application

Used for drug delivery devices, inhalation devices, electronic packaging and any application where antistatic protection is required.

Vu-Stat™ Y-20 - Electro Static Dissipative Properties

	ASTM Method	Values
Static Decay 20% RH (sec)	FTM 101C (method 406.1)	0.01
Static Decay 60% RH (sec)	FTM 101C (method 406.1)	0.01
Surface Resistivity 20% RH after 40 h conditioning (ohm/sq)	D257	1.4×10^{10}
Surface Resistivity 60% RH after 40 h conditioning (ohm/sq)	D257	2.9×10^9
Volume Resistivity 20% RH after 40 h conditioning (ohm-cm)	D257	3.8×10^{10}
Volume Resistivity 60% RH after 40 h conditioning (ohm-cm)	D257	6.6×10^9

Examples

Inhalers, needle hubs for brachytherapy, radioactive seed implants and electronic components requiring dust resistant surfaces.

Processing

Vu-Stat™ Y-20 compound can be processed with 3-zone general purpose screws for engineering thermoplastics.

Packaging

Available in 1500 lb. gaylord boxes; other packaging available on request. Regulatory and compliance requirements:

Meets requirements of the United States Pharmacopeia Class VI in 001 tint only; ISO 10993-1 in 001 tint only and FDA for food contact for all use conditions up to and including hot filled or pasteurized above 150°F e.g. Condition 21 CFR 176.170) for all food types except those containing more than 8% alcohol.



Properties

	Parameter	Unit	ASTM-Standard	Vu-Stat™ Y-20
Mechanical Properties				
Tensile Strength	-	psi [MPa]	D 638	5700 [39.3]
Tensile Modulus	-	x106 psi [GPa]	D 638	0.31 [2.1]
Tensile Elongation @ Yield	-	%	D 638	3
Tensile Elongation @ Break	-	%	D 638	18.0
Flexural Strength	-	psi [MPa]	D 790	8300 [57.2]
Flexural Modulus	-	x106 psi [GPa]	D 790	0.24 [1.7]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	1.3 [68.2]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	0.5 [26.2]
Rockwell Hardness	-	L Scale	D 785	54
Thermal Properties				
Vicat Softening Point	264 psi	°F [°C]	D 1525	217[103]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	194 [90]
Coeff. of Linear Therm. Expansion	32 – 312°F	in/ in/°F	D 696	0.000053
Coeff. of Linear Therm. Expansion	0 – 100°C	mm/mm/°C	D 696	0.000095
Rheological Properties				
Melt Flow Rate	230°C & 5.0 kg	g/10min	D 1238	9.0
Optical Properties (d = 3.2 mm)				
Light Transmission	-	%	D 1003	85
Haze	-	%	D 1003	7.0
Yellowness Index	-	-	Cyro TM	-0.3
Other Properties				
Specific Gravity	-	-	D 792	1.13
Water Absorption	-	% Max	D 570	0.3
Mold Shrinkage	-	in/in, mm/mm	D 955	0.004 – 0.007
Bulk Density	-	g/cc	D 1895	0.65

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