

Stat-Rite® S-403

Olefin Block Copolymer

Lubrizol Advanced Materials, Inc.

Message:

Stat-Rite® S-403 is a transparent, static dissipative olefin co-polymer alloy. Stat-Rite® S-403 utilizes the patented Stat-Rite® inherently static dissipative polymer (IDP) to provide clean, permanent ESD protection. Stat-Rite® IDP alloys provide consistent static dissipation even when extruded, injection molded or thermoformed into components.

FEATURES

- Transparent
- Permanent static dissipative performance
- Ultra-clean: low off-gassing, low ionic contamination
- No particulate fillers
- Durable: Can be used for years and years

APPLICATIONS

- Photomask packaging
- Wafer carriers/pads
- Optical films
- Machine/equipment site glass
- Sample shipping boxes

General Information			
Features	Antistatic		
	Clean/High Purity		
	Durable		
	ESD Protection		
	Low (to None) Ion Content		
	Low to No Outgassing		
	Rapid Static Decay		
Uses	Film		
	Optical Applications		
	Packaging		
Appearance	Clear/Transparent		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.06	g/cm ³	ASTM D792
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1860	MPa	ASTM D638
Tensile Strength (Break)	40.1	MPa	ASTM D638
Tensile Elongation (Break)	40	%	ASTM D638

Flexural Modulus	1830	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	110	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	68.9	°C	
1.8 MPa, Unannealed	58.9	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.0E+10	ohms·cm	ASTM D257
Static Decay - +1000 V to 100 V, 50% R.H.	< 2.0	sec	CPM
Surface Resistance - 12% R.H.	1.0E+9	ohms	ESD S11.11
Surface Resistivity - 50% R.H.	1.0E+10	ohms/sq	ASTM D257
Filler Content	IDP		
Ionic Content			Internal Method
Anion: Cl ⁻¹	15.0	ng/g	
Anion: F ⁻²	3.00	ng/g	
Anion: NO ₃ ⁻³	15.0	ng/g	
Anion: PO ₄ ⁻⁴	60.0	ng/g	
Anion: SO ₄ ⁻⁵	10.0	ng/g	
Cation: Ca ⁺	85.0	ng/g	
Cation: K ⁺	3.00	ng/g	
Cation: Li ⁺	40.0	ng/g	
Cation: Mg ⁺	1.00	ng/g	
Cation: Na ⁺	25.0	ng/g	
Cation: NH ₄ ⁺	5.00	ng/g	
Outgassing ⁶			Internal Method
MMA	< 0.0300	µg/g	
Styrene	< 0.0200	µg/g	
Toluene	< 0.0200	µg/g	
Total Organics	1.50	µg/g	
NOTE			
1.	Test Method #3010-4		
2.	Test Method #3010-4		
3.	Test Method #3010-4		
4.	Test Method #3010-4		
5.	Test Method #3010-4		
6.	Test Method #3010-3		

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