

# AZCARB



## AZCARB ESD300 & ESD350 Static Dissipative Polycarbonate Sheet

**AZCARB ESD** sheets are a polished surface, UV stabilized, high optic polycarbonate sheet with a proprietary static dissipative coating which prevents charge generation on the sheet surfaces. This coating controls particulate attraction and prevents electrostatic discharge (ESD) events completely independent of humidity. AZCARB ESD300 is designed for flat applications only including site windows and doors, clean room glazing panels, as well as machine guards, covers and enclosures. AZCARB ESD350 is designed as a bendable grade for fabricated parts.

AZCARB ESD sheets are light in weight and have superior impact resistance and flame-spread properties plus excellent clarity, chemical resistance, and abrasion resistance.

- ESD300 is a Flat Glazing Grade
- ESD350 is a Bendable Grade
- Prevents build-up of static charge and accumulation of harmful contamination
- Surface resistivity of  $10^6$  to  $10^8$  ohms
- Uniform surface treatment
- Lightweight and superior impact resistance
- Easily fabricated
- Abrasion and chemical resistant surface
- Excellent clarity
- Thicknesses available for .118" to .500"
- Stock sheet sizes: 48" x 96"
- Run to size, solar tints and oversize available on request with minimums



## AZCARB ESD Static Dissipative Polycarbonate Sheet

### TYPICAL STANDARD PROPERTIES<sup>1</sup>

PROPERTY	TEST METHOD	UNITS	AZCARB ESD300 & ESD350
<b>PHYSICAL</b>			
Specific Gravity	ASTM D792	-	1.20
<b>MECHANICAL</b>			
Tensile strength, ultimate	ASTM D638	psi	9,500
Tensile strength, elongation	ASTM D638	psi	100
Tensile modulus	ASTM D638	psi	340,000
Flexural strength	ASTM D790	psi	14,000
Flexural modulus	ASTM D790	psi	340,000
Compressive strength	ASTM D695	psi	12,500
Izod impact strength, notched @ 1/8"	ASTM D256	ft-lbs/inch	16
<b>THERMAL</b>			
Deflection Temperature (264 psi load)	ASTM D648	°F	270
Vicat Softening Point	ASTM D1525	°F	310
Maximum Continuous Service Temperature	-	°F	180
Coefficient of thermal expansion	ASTM D696	in/in/°F	3.5 x 10 <sup>-5</sup>
Coefficient of thermal conductivity	Cenco-Fitch	BTU-in/hr-sq ft-°F	1.35
<b>FLAMMABILITY</b>			
Horizontal burn rate	ASTM D635	inches/min	
UL94 Rating of the Uncoated Substrate	UL94	UL Classification	V-2 0-118 - 0.500 in.
<b>OPTICAL</b>			
3mm Transparent Clear Transmittance - total	ASTM D1003	%	75
Haze	ASTM D1003	%	Less than 5.0
<b>ELECTRICAL</b>			
Surface Resistivity	ASTM D257	ohms/sq	10 <sup>6</sup> - 10 <sup>8</sup>
Surface Resistance	EOS/ESD S11.11	ohms	10 <sup>5</sup> - 10 <sup>7</sup>
Electrostatic Decay	FTS 101C, Method 4046.1	sec	Less than 0.05

<sup>1</sup> Federal Test standard 101C. Method 4046.1 as described in E1A-S41. Appendix F, Measurement of Electrostatic Decay Properties of Dissipative Planar Materials.

### CHEMICAL RESISTANCE ASTM D543

Samples immersed in the specified chemicals for 24 hours at room temperature and visually examined.

CHEMICAL	SURFACE ATTACK	VISUAL EVALUATION
Deionized Water	None	Clear
30% Sodium Hydroxide	None	Cloudy
30% Sulfuric Acid	None	Clear
30% Nitric Acid	Slight Pitting	Cloudy
48% Hydrofluoric Acid	Pitted Coating	Clear
Methanol	Slight Pitting	Clear
Ethanol	None	Clear
Isopropyl Alcohol	None	Clear
Acetone	Severe Pitting	Opaque

AZCARB ESD Polycarbonate Sheet is a combustible thermoplastic. Observe fire precautions appropriate for comparable forms of wood and paper. For building uses, check code approvals. Impact resistance is a factor of thickness. Avoid exposure to heat or aromatic solvents. Clean with soap and water. Avoid abrasives. The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, AZPolymers expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement.

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