

## DATA SHEET

# TRU-ESD™ Polycarbonate

MADE WITH TUFFAK PC

# TRU-ESD™

Polycarbonate and Acrylic Sheet

### PRODUCT DESCRIPTION

TRU-ESD products are manufactured utilizing a proprietary, patented sputter coated process. This process allows for the ESD coating to be atomically bonded to the surface of the substrate. This patented technology allows for a product delivering superior performance and visual appearance. These products are designed to prevent static charge generation on the sheet surface which diminishes/reduces, etc. particulate attraction and prevents electrostatic discharge events.

### KEY ATTRIBUTES

- Outstanding ESD performance:
  - Surface Resistance:  $10^5$ - $10^7$  Ohms
  - Surface Resistivity:  $10^6$ - $10^8$  Ohms/square
- Abrasion resistant
- Amazing clarity/transparency
- Superior chemical surface resistance
- Electrostatic decay in less than 0.05 second per MIL-STD-3010, Method 4046
- Humidity independent static charge control
- Cleans with IPA for easy maintenance
- Excellent uniformity

### PRODUCT PERFORMANCE

All measurements are for ¼" (6mm) product unless stated otherwise.

#### ELECTRICAL

	TEST METHOD	UNIT OF MEASURE	RESULT
Surface Resistance	ANSI/ESD STM11.11	Ohms	$10^5$ - $10^7$
Surface Resistivity	ASTM D257	Ohms/sq	$10^6$ - $10^8$
Electrostatic Decay	MIL-STD-3010, METHOD 4046	Sec	< 0.05

#### OPTICAL

	TEST METHOD	UNIT OF MEASURE	RESULT
3mm Transmission	ASTM D1003	%	88
6mm Transmission	ASTM D1003	%	85
Haze (Taber)	ASTM D1003	%	~3%

## CHEMICAL RESISTANCE TESTING VIA ASTM D543

CHEMICAL	VISUAL EVALUATION
Deionized water	No Change - Clear
Acetone	Whitening, Crazing, Cracking - Opaque
Isopropyl Alcohol	No Change - Clear
Ethanol	No Change - Clear
Methanol	Surface Texture - Clear
30% Sulfuric Acid	No Change - Clear
30% Sodium Hydroxide	No Change - Clear

## MECHANICAL AND PHYSICAL

	TEST METHOD	UNIT OF MEASURE	RESULT
Specific Gravity	ASTM D792	-	1.2
Tensile Strength - Ultimate	ASTM D638	psi	9,500
Tensile Strength - Elongation	ASTM D638	%	80-100
Tensile - Modulus	ASTM D638	psi	340,000
Flexural Strength	ASTM D790	psi	13,500
Flexural Modulus	ASTM D790	psi	345,000
Compressive Strength	ASTM D695	psi	12,500
Izod Impact Strength	ASTM D256	Ft-lb/inch of notch	16

## THERMAL

CHEMICAL	TEST METHOD	UNIT OF MEASURE	RESULT
Deflection of Temp @ 264 psi	ASTM D648	Degrees F	270
Vicat Softening Point	ASTM 1525	Degrees F	298
Max Continuous Service Point	--	Degrees F	212
Coefficient of Thermal Expansion	ASTM 696	in/Degrees F	$3.75 \times 10^5$
Coefficient of Thermal Conductivity	Cenco-Fltch	BTU X in/hr X SF x degrees F	1.35

## FLAMMABILITY

	TEST METHOD	UNIT OF MEASURE	RESULT
Horizontal Burn (flame spread)	ASTM D635	In/min	<1
UL 94 Rating/Substrate	UL 94	UL Class	HB