

# Specifying Transparent ESD Safe Plastic Sheeting

Sharing Tru-ESD™ and SciCron P-300™ Polycarbonate Results

# TRU-ESD™

Polycarbonate and Acrylic Sheet

## Performance Specifications

The ESD Association is dedicated to advancing the theory and practice of electrostatic discharge (ESD) avoidance. One recent advancement in the ESDA community involves the specification of ESD clear plastics into semiconductor, defense, electronics and research facilities. Specifically, ESD safe\* transparent acrylic and clear polycarbonate sheeting with two commercial examples listed below. Coating performance claims based on testing conducted by an independent third-party laboratory.

	DISSIPATIVE PROPERTIES	MECHANICAL AND IMPACT RESISTANT	FLAMMABILITY TESTING	LOW HAZE AFTER ABRASION	HIGH TRANSMISSION / CLARITY
Guiding Performance Standards	ANSI/ESD STM 11.11	ASTM D638, D790, D695, D256	ASTM D635 (Horizontal Burn)	ASTM D1003 (Taber Test)	ASTM D1003 (Transmission)
Tru-ESD	10 <sup>5</sup> -10 <sup>7</sup> Ohms	Impact Resistance	<1	<b>3%</b>	<b>88%</b>
SciCron P-300	10 <sup>5</sup> -10 <sup>7</sup> Ohms	Impact Resistance	<1	<b>13%</b>	<b>75%</b>

## Tru-ESD™ Clear Plastic Sheeting Developed by Industry Experts

Tru-ESD acrylic and polycarbonate clear sheeting was developed by several prominent industry ESD experts who have worked in space, defense and electronic manufacturing industries. Decades of expertise led to the commercialization of an ESD plastic sheeting that meets or exceeds the performance specifications of demanding ESD controlled environments.



## Customers Prefer High-Performance ESD Products

One example of Tru Vue's excellent service is expressed by Kendall Howard, a manufacturer of high-quality solutions for the greater ESDA community. Most recently, Kendall Howard commercialized an ESD Cabinet that uses Tru-ESD polycarbonate.

*"Partnering with Tru Vue was a game-changer for us. Their Tru-ESD safe coating not only met a challenging standard but played a key role in helping us deliver a solution that exceeded our customers' expectations. Their technical expertise and willingness to go the extra mile made all the difference—we couldn't have done it without them."*

Max Diederich, Project Director for Kendall Howard

\*"ESD Safe" is a term used by the ESD Association to describe materials and systems that meet standards / best practices that minimize the impact of electrostatic discharge.

## Dissipative Property

Engineered to be static dissipative and inherently low charging (antistatic), Tru-ESD coating with TUFFAK® polycarbonate sheet creates a controlled and safe environment, minimizing the risk of ESD damage, especially in clean room environments. Targeted surface resistance levels of  $10^5$ - $10^7$  Ohms through the ANSI/ESD STM11.11 guidelines.

## Mechanical and Impact Performance

TUFFAK polycarbonate is virtually unbreakable, boasting 250 times the impact strength of float glass and 30 times that of acrylic sheeting. This high impact resistance makes it suitable for applications exposed to physical stress and potential vandalism, such as security glazing, machine guards, and industrial applications.

	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

Data provided by Plaskolite

## Flammability Testing

Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

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

## Low Haze after Abrasion

The static dissipative Tru-ESD coating layer is atomically bonded to the TUFFAK® polycarbonate sheets ensuring exceptional durability. Low haze results of 3% were viewed after Taber abrasion testing as referenced by ASTM D1003.

## High Transmission and Clarity

TRU-ESD products are manufactured utilizing a proprietary, patented sputter coated process that allows for a product delivering superior performance and visual appearance.

	TEST METHOD	UNIT OF MEASURE	RESULT
3mm Transmission	ASTM D1003	%	88
6mm Transmission	ASTM D1003	%	85