



PLASKOLITE

OCTOBER 2020

**AMGARD™ SAFETY SHIELD
NEW PRODUCT TRAINING**

AGENDA

WHAT WE'LL COVER IN TODAY'S TRAINING

- » Product Overview
 - » What is it
 - » What problem are we solving
 - » What does it do - product benefits
 - » How does it work
 - » Scratch Resistant <NEW>
- » Sizes & thickness
- » Where and how to sell
 - » Applications
 - » Disclaimers - do and do nots
- » Replacing existing orders
- » FAQ's
- » Launch / Resources



AMGARD™ SAFETY SHIELD

ANTIMICROBIAL ACRYLIC AND POLYCARBONATE SHEET

WHAT IS IT?

- » Next generation of performance plastics – created with an antimicrobial agent to prevent microorganism growth like bacteria and mold to protect the sheet surface

WHY NEEDED?

- » Safety shields can help prevent the spread of airborne illnesses by creating a physical shield between people, but they also present a surface for microorganisms such as bacteria, mold and fungi to live
- » Without continual cleaning, bacteria and mold can grow on the sheet
- » AMGARD protects the sheet against these unwanted microbes
- » AMGARD provides an additional line of defense between cleanings



WHY AMGARD?

PRODUCT BENEFITS

- » Prevents microorganism growth for the life of the sheet
- » Prevents odor and discoloring causing bacteria
- » Designed to withstand the intense cleaning and sterilization methods that are often demanded
 - » AMGARD SR - scratch resistant coating
- » All the other benefits of OPTIX and TUFFAK
 - » Easy to fabricate - cut, bend and shape

	Glass	Regular Sheet	Hard Coated Sheet	AMGARD	AMGARD SR
Prevents Microbe Growth	No	No	No	Yes	Yes
Resists scratching	Yes	No	Yes	No	Yes
Chemical and Cleanser Resistant	Yes	No	Yes	No	Yes
Shatterproof	No	Yes	Yes	Yes	Yes
Lightweight	No	Yes	Yes	Yes	Yes
Cost	*	*	**	**	***

HOW DOES IT WORK?

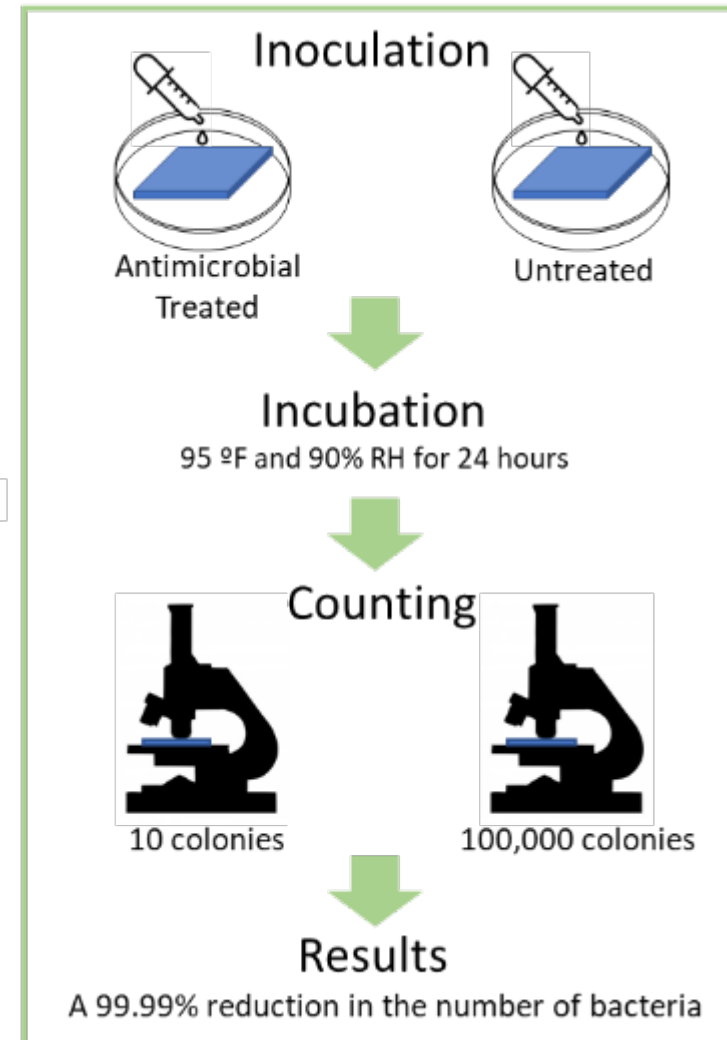
SILVER IONS

- » Silver ions are blended into the Acrylic or Polycarbonate resin during the extrusion process
 - » It is not a surface coating or treatment
 - » It is a coextruded two-sided cap layer
 - » This reservoir of silver ions provides long lasting surface protection
- » Silver is known for its antimicrobial activity
 - » Silver vessels or silver coins in vessels were used in ancient Greece and Rome for preserving water, vinegar and wine
 - » Used by NASA for drinking water purification in Apollo spacecraft and the ISS
- » Silver ions
 - » Attack bacteria's cell wall – preventing growth
 - » Interferes with DNA – preventing multiplication
 - » Interferes with enzymes – preventing cell from producing energy
- » Two certified laboratories independently tested AMGARD to **ISO 22196**
 - » “Measurement of Antimicrobial Activity on Plastics / Non-Porous Surfaces” – the industry standard for measuring Antimicrobial activity on Plastics
 - » **Confirmed a reduction in the growth of microorganisms on the sheet surface**

ANTIMICROBIAL TESTING

ISO 22196 “MEASUREMENT OF ANTIMICROBIAL ACTIVITY ON PLASTICS / NON - POROUS SURFACES”

- » ISO 22196 - to quantify Antimicrobial effectiveness (JIS Z 2801 - standard procedure).
- » Test is designed to measure the ability of treated plastics to kill and prevent the growth of microorganisms.
- » Specific Bacteria (Staph / E Coli) are deposited on the surface of Test Plaques of AMGARD Acrylic / PC & Standard Acrylic / PC for validation analysis.
- » The Plaques are covered to prevent evaporation & Incubated at 95° F / 90% relative humidity (favorable conditions to promote bacteria growth) for 24 hours.
- » After time elapse the Plaques are removed and measured to calculate microorganism growth or decline between the AMGARD Treated & Untreated samples.
- » AMGARD Acrylic / AMGARD PC - tested at two independent laboratories using ISO 22196 protocols for both Staph / E Coli **confirming reductions in microorganism growth on the sheet surface.**



AMGARD SR – SCRATCH RESISTANT

ADDED PROTECTION

- » SR – Scratch resistant coating
 - » Two-sided coating, like TUFFAK AR
- » Abrasion resistant
- » Chemical resistant
- » AMGARD SR is not weatherable
 - » Indoor use only





AMGARD SR SCRATCH-RESISTANT ANTIMICROBIAL ACRYLIC AND POLYCARBONATE SHEET

AMGARD SR, scratch-resistant acrylic and polycarbonate sheet products are formulated with silver ion antimicrobial technology that protects the sheet surface from microorganism growth and remains active for the entire life of the product. The proprietary antimicrobial coating system also provides enhanced scratch resistance and exceptional resistance to many common disinfecting chemicals. This high performing coating is available on both acrylic or polycarbonate sheet substrates, each bringing their inherent performance benefits such as high light transmission and crystal clear clarity or toughness and impact strength. Choose the substrate that best fits your application knowing that AMGARD SR sheet can stand up to repetitive cleanings and day to day wear in today's demanding safety barrier environments.

AMGARD SR is available in scratch-resistant acrylic and polycarbonate sheet options to meet a range of applications

- Inhibits microbe surface degradation
- Independent laboratory tested to ISO 22196 "Measurement of Antimicrobial Activity on Plastics / Non-Porous Surfaces"
- Abrasion resistant
- Chemical resistant
- Half the weight of glass
- Acrylic has excellent clarity
- Polycarbonate is virtually unbreakable
- Easy to fabricate & clean
- Indoor applications only



Withstands repetitive cleanings and high traffic environments

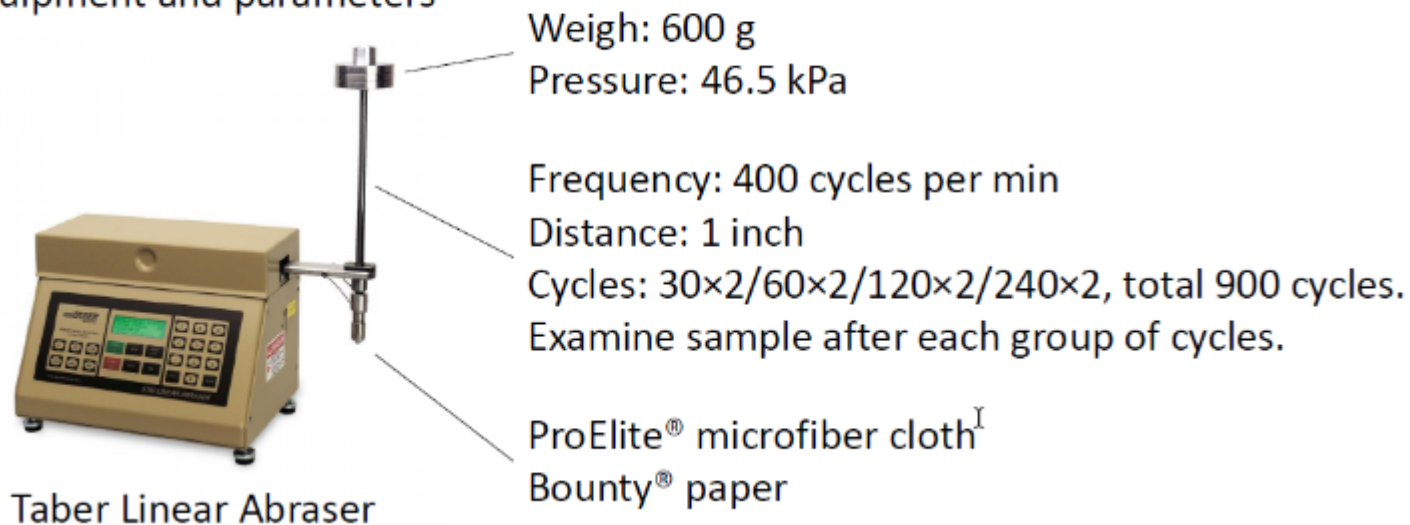
Product Comparison

	Glass	Regular Sheet	AMGARD SR Sheet
Prevents Microbe Growth	No	No	Yes
Scratch Resistant	Yes	No	Yes
Chemical Resistant	Yes	No	Yes
Shatter Resistant	No	Yes	Yes
Lightweight	No	Yes	Yes

CLEANING RESISTANCE

WIPING / RUBBING TEST

- » Taber Linear Abraser
- » Back and forth wiping motion with down force applied
 - Test the coating scratch resistance using a soft cloth or Bounty® paper soaked with different cleaners, which may soften the coating layer.
 - Simulate the actual cleaning process.
 - Equipment and parameters



CLEANING RESISTANCE

WIPING / RUBBING TEST

» Table in data sheet and sell sheet

AMGARD SR CLEANING / RUBBING RESISTANCE		
Cleaner	Coating Appearance	
	Microfiber Cloth	Paper Towel
Clorox® Splashless® Bleach	No change	No change
Clorox® Plus Tilex® Mold & Mildew Remover	No change	No change
CLR® Bath & Kitchen Foaming Action Cleaner	No change	No change
Fantastik® Disinfectant Multi-Purpose Cleaner	No change	No change
Lysol® Power Bathroom Cleaner	No change	No change
Mean Green® Super Strength Cleaner & Degreaser	No change	No change
Scrubbing Bubbles® Mega Shower Foamer	No change	No change
Scrubbing Bubbles® Foaming bleach	No change	No change
Simple Green® All-Purpose Cleaner	No change	No change
Windex®	No change	No change

Taber linear abramer, 900 cycle, 600 gram load; Microfiber or Paper Towel saturated with cleaner

CHEMICAL RESISTANCE

WATCH GLASS TEST

- » Solvent applied to the surface of the coated sheet
- » Covered with watch glass to prevent evaporation
- » Allowed contact for 16 hours



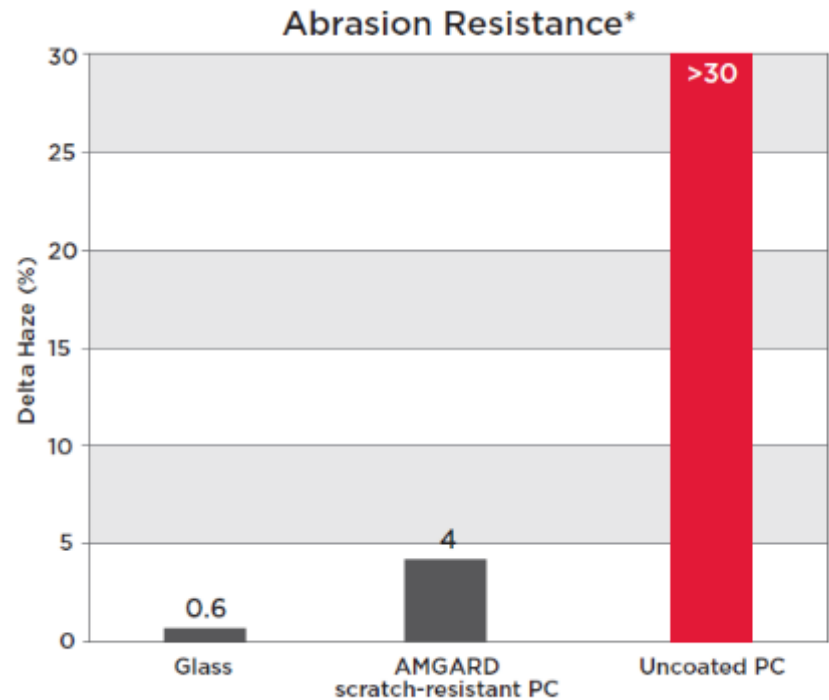
AMGARD SR SOLVENT RESISTANCE	
Acetone	No change
Ethyl acetate	No change
Toluene	No change
Amyl acetate	No change
Hydrogen peroxide (3%)	No change
Ethanol (100%)	No change
Isopropyl alcohol (99%)	No change

16 hour "watch glass" covered surface exposure, CSA B45.5 / IAPMO Z124, clause 5.15

Solvent and cleanser resistance applies to coated sheet surface only. Care must be taken to not expose uncoated sheet edges to harsh chemicals and cleaners. Do not use scrapers, squeegees, razors or other sharp instruments that may scratch through the coating.

ABRASION RESISTANCE

TABER ABRASION, HAZE INCREASE



*Taber Abrasion per ASTM D 1044, 100 cycles using CS-10F wheels at 500 g load

PRODUCT DATA INFORMATION

IN STOCK AVAILABILITY

- » Sizes: 48” x 96”
- » AMGARD Thickness: .220”
- » AMGARD SR Thickness range .118” to .236”
 - » Initial stock from trial/production run
 - » 1 pallet of AMGARD SR acrylic, 0.220”
 - » 1 pallet of AMGARD SR polycarbonate, 0.177”
- » Pallet quantities: 50 acrylic / 45 PC (PC half pallet available)
- » AMGARD Stock item

Grade	Gauge	Width	Length	Top/Bottom Masking		Finish	Color
AMGARD Acrylic	0.220	48.000	96.000	2mil PE	2mil PE	Standard	Clear
AMGARD PC	0.220	48.000	96.000	TUF	TUF	Standard	Clear

AUDIENCES

WHO SHOULD YOU CALL ON?

- » National retail chains
 - » Starbucks, Krogers, Albertsons, etc
 - » Procurement & Store Design
- » OEM Check Out manufacturers
 - » Pan-Oston, RW Rogers
- » All existing safety shield applications
 - » Transit, banking, restaurant, casino, airplane cabins
- » Food processing plants?
 - » FDA compliance required, in process



WHAT TO SAY WHEN SELLING

DO NOT	DO
Make medical or health benefit claims	<i>Say it will prevent the growth of microorganisms on the sheet surface</i>
List specific types of bacteria	<i>Say bacteria, molds and fungus</i>
Replace or eliminate the need for regular cleanings	<i>Say the antimicrobial surface treatment will withstand harsh cleaning</i>
Talk about prevention of disease spread	<i>Say first generation safety shields present a surface for microorganisms such as bacteria, mold and fungi to live</i>
Say AMGARD protects customers	<i>AMGARD protects the sheet the against unwanted microbes</i>

TRANSITIONING EXISTING ORDERS

NO LINE JUMPING

- » Lead time improvement opportunities
- » Pound for pound exchange for existing orders
 - » OPTIX for OPTIX, TUFFAK for TUFFAK
- » You will pay the AMGARD price
- » You will not lose your place on the line

AMGARD™ FAQ

What is Antimicrobial Sheet?

- AMGARD – Acrylic or Polycarbonate sheet that has been co-extruded with a proprietary Silver Ion Additive with proven history preventing microorganism growth.

How does it work?

- Silver Ion particles are present on the surface of the sheet and they disrupt the cell from growing/ multiplying.

How long does it take to begin to breakdown Bacteria?

- The Silver Ion Technology reduces ~ 80% of the bacteria in 20 minutes*
- >99% effective after 2 hours*
- Permanent protection for the life of the product after 24 hours**

I can't see it. How do I know it works?

- To validate performance the Plaskolite Technical team, through product development, has independently tested AMGARD to ISO 22196 – the industry standard for measuring Antimicrobial activity on Plastics.
- *The additive manufacturer has tested the Silver Ion Technology from a time perspective and shared the performance results as communicated. **AMGARD has been tested to the ISO 22196 Industry Standard which measures Effectiveness after 24 hours.

That's great but how do you back it up?

- Two independently certified laboratories have tested both AMGARD Acrylic & AMGARD PC to the specific ISO test standard and received validation results confirming the reduction in the growth of microorganisms on the sheet surface. (Refer to Laboratory Test Discussion)

How much does it cost?

- Compared to Phase 1 Safety Shield installations of Standard ACYR / PC sheet its about \$10 more per blank for either AMGARD Acrylic or AMGARD PC.

What is the life expectancy for Antimicrobial performance?

- The secondary benefit to the Silver Ion technology is that it lasts for the entire life of the product inhibiting microbe growth between regular cleanings.

OTHER

FAQs

- » Warranty - standard
- » Recycling – can be recycled,
- » No special EPA disposal required
- » Run to Size available
- » Non-stock options available
- » Made in the USA
- » AMGARD product next generation
 - » Hard coated sheet
 - » VIVAK PETG
 - » FDA approval

PRODUCT LAUNCH PLAN

RESOURCES & COMMUNICATIONS

SALES ENABLEMENT
Sales Presentation
Sell Sheets
AMGARD Acrylic Properties
AMGARD Polycarbonate Properties
SDS for AMGARD Polycarbonate
SDS for AMGARD Acrylic
GPI for AMGARD Acrylic
GPI for AMGARD Polycarbonate
Dedicated Web Landing Page

