SPARTECH®

POLYCAST®

Cell Cast Acrylic

General Catalog

Spartech Polycast®—Ready to perform in your products—in air, on the ground, in the human body

Polycast: The one material with so many diverse applications. Spartech is shaping the future of plastics through material strength and application expertise. This is especially evident in our Polycast specialty cell-cast acrylic sheet – a plastic solution that is sustainable, diverse, reliable and helps bring innovative ideas to life. We're the world's largest supplier of this highly versatile product for industries specializing in aerospace, transportation, security, optics and acrylic furniture.

The quality of Polycast is evident in the variety of applications it is used for and the fact that we work with our customers to meet their most demanding material requirements. This kind of service is matched by our supply chain reliability made possible in part by our strategically placed manufacturing locations around the country. It's how we deliver peace of mind as we focus on solutions to deliver material orders on time and within budget.

What we achieve today is improved upon tomorrow as we constantly develop new Polycast products and services to help you achieve manufacturing success. If you don't find the exact material you need in this catalog, simply contact Spartech today and our material engineers and sales team can help solve your acrylic sheeting challenges.

SPECIAL SERVICES

Unique Properties
Polycast can modify its acrylic sheet to change certain physical, chemical or optical properties to help meet your requirements, including the introduction of sensitive dyes and other additives.

Custom Colors
Polycast has an extensive color database. Custom colors can be quoted upon your request.

Cut To Size
Polycast will cut sheet to your size requirements—saving you time and money.

Special Tolerance Control
Polycast can achieve special tolerances for more critical applications.

Technical Services
Field technical support from Polycast's sales engineering staff to augment Polycast's extensive product line.

SPECIAL PRODUCTS

Bullet Resisting Sheet—MP 1.25, SAR HP 1.25 and SP 1.25
Polycast produces sheet listed by Underwriters Laboratories as bullet resisting for Level I Medium Power (MP 1.25) which is also available with an SAR (abrasion resistant coating), Level 2 High Power (SAR HP 1.25) and Level 3 Super Power (SP 1.25) small arms, both of which come standard with an abrasion resistant coating. Polycast bullet resisting sheet has higher optical clarity than glass or polycarbonate, and can be easily machined and polished. It is available in bronze, as well as clear.

Super Abrasion Resistant Acrylic Sheet (S-A-R)
Polycast S-A-R is produced by applying a very hard, highly cross-linked polysilicate coating to a substrate. This coating provides Polycast SAR sheet with a surface that has 45 times the abrasion resistance of uncoated acrylic. It also has five times the impact resistance of glass and weighs half as much.

Ultraviolet Transmitting Sheet—UVT
Provides increased transmission of ultraviolet wavelengths between 280 and 360 nanometers.

Solacryl®—SUVT (Stabillized Ultraviolet Transmitting Sheet)
Provides increased resistance to degradation of UV exposure, while transmitting increased UV suitable for suntan beds.

Ultraviolet Filtering Sheet—UF-96, UF-3 and UF-4
Provides increased protection from ultraviolet wavelengths. UF-96 and UF-3 block all UV light below 395 nanometers. UF-4 blocks all UV light below 385 nanometers.

Infrared Transmitting Sheet—POLY 2711
A special formula that blocks all visible light, but allows infrared wavelengths to pass through. Specially suited for sophisticated security systems based on infrared technology.

Scintillator and Wavelength Shifter Sheet
Utilizes a special formula that produces visible light when bombarded with sub-atomic particles.

Pressurized Vehicle for Human Occupancy—PVHO
Polycast is the major supplier of acrylic sheet to the PVHO market. This highly critical application utilizes our expertise in producing optically superior sheet in thick sections.

Extra Thick Sheet
Sheet thicker than 4.500" is available as composite casting. The sheet is optically superior when viewed though the surface; however, polished edges may show the original casting surfaces as lines. This material meets the PVHO requirements.

Close Tolerance Sheet
Polycast® CT maintains closer thickness tolerances than standard ASTM 4802 commercial grade sheet (based on standard size sheets of 24" × 36"). Polycast® CT can also be manufactured in clear and colors, Infrared transmitting, UV filtering or transmitting, cross-linked or pre-shrunk and is suitable for FDA applications.

National Sanitation Foundation—NSF
A special formulation that meets the requirements of the NSF for food contact.

Preshrunk Sheet
Sheet that is thermally preshrunk, but does not meet MIL-P-5425. Available in thicknesses of .060" to 4.250".

FDA
An acrylic sheet which complies with the Food and Drug Administration's regulations concerning food contact applications as described in 21 CFR 177.1010 for all food types, including alcoholic beverages in room temperature or refrigerated applications.

Aircraft Quality
Our Aircraft Quality grade conforms to ASTM-D4802 and AMS-L-P-391, but is manufactured and inspected to the highest optical quality standards of Aerospace mil specs.

Poly FR9
Interior acrylic materal ideal for aircraft applications where low flame spread and low smoke generation are desirable.

Poly 900
A semi-cross-linked material formulated to meet British specification DTD-5592.

Military Specification Sheet
Polycast produces sheet covered in Mil-P-5425, Mil-P-8184 and Mil-P-25690 whose inherent properties include; increased weatherability, high solvent and craze resistance and lower water absorption. Material manufactured to Mil-PRF-25690, maintains process control from cell casting to stretching operation. Poly 2000 (Mil-P-25690) is a biaxially stretched acrylic sheet derived from Mil-P-8184 base material. It offers enhanced craze properties and increased crack resistance, primarily for those applications involving pressurized aircraft. These technologically advanced materials are supplied primarily to the aviation industry.

UV Blocking & Solar Heat Control Cell Cast Acrylic Sheet
Polycast® SolarControl™ is a custom cell cast acrylic sheet solution that blocks out significant amounts of near-infrared (NIR) radiation while maintaining high visible light transmission. It is available in a wide range of colors and light transmissions, including Night Vision Compatibility (NVG). This aircraft-quality monolithic glazing material can be manufactured to MIL-PRF 5425, 8184 and 25690; DTD-5592; L-P-391; ASTM D-4802 and other specifications.

PHYSICAL PROPERTIES			POLYCAST	ULTRA-VIOLET FILTERING			(UVT) Ultra-Violet Transmitting
				UF3	UF4	UF96	
MECHANICAL	**TEST METHOD**	**UNIT**					
Ballistic Protection			–	–	–	–	–
Specific Gravity	ASTM D792		1.19	1.19	1.19	1.19	1.19
Tensile Strength Yield Elongation, Rupture Modulus Elasticity	ASTM D638	 psi % psi	 11,250 6.4 450,000	 11,250 6.4 450,000	 11,250 6.4 450,000	 11,250 6.4 450,000	 11,250 6.4 450,000
Flexural Strength (Rupture) Modulus of Elasticity	ASTM D790	 psi psi	 15,250 475,000	 15,250 475,000	 15,250 475,000	 15,250 475,000	 15,250 475,000
Compressive Strength (Yield) Modulus of Elasticity	ASTM D695	 psi psi	 18,000 440,000	 18,000 440,000	 18,000 440,000	 18,000 440,000	 18,000 440,000
Compressive Deformation (Under Load) 4000 PSI 122F, 24hr	ASTM D621	%	0.75	0.75	0.75	0.75	9,000
Shear Strength	ASTM D732	psi	9,000	9,000	9,000		9,000
Impact Strength Izod Milled Notch Falling Steel Ball, 0.5lb. (Breakage drop height (ft.)	ASTM D256	 ft-lbs/in of notch	 .375* 18	 .375* 18	 .375* 18	 .375* 18	 .375* 18
Rockwell Hardness	ASTM D785	–	M98*	M98*	M98*	M98*	M98*
Barcol Hardness	ASTM D2583	–	50*	50*	50*	50*	50*
Residual Shrinkage (Internal Strain) Polycast Polycast Mil Spec	ASTM D4802	 % %	 2.2	 2.2	 2.2	 2.2	 2.2
OPTICAL PROPERTIES	**TEST METHOD**	**UNIT**					
Refractive Index	ASTM D542		1.49	1.49	1.49	1.49	1.49
Luminous Transmittance (As Cast) Total Haze Yellowness Index	ASTM D1003 ASTM D1925	 % 	 92 <0.5 0.5	 92 <0.5 2.1	 92 <0.5	 92 <0.5 1.0	 92 <0.5
After 1000 Hrs. Accelerated Weathering Total Haze	ASTM G26	 %	 92 <0.5	 –	 –	 –	 –
Effect of Accelerated Weathering on Appearance – Crazing, Discoloration, Warping	ASTM G26	–	none	–	–	–	–
Ultraviolet Transmission @ 320nm		%	0	0 @ 390nm	0 @ 385nm	0 @ 390nm	>80
Craze Resistance DRY IPA Lacquer Thinner Sulfuric Acid WET IPA Lacquer Thinner Sulfuric Acid	Mil-P-8184	psi	2,000 1,000 0 500 0 0	–	–	–	–
Abrasion Resistance (Reported as increase in % haze)	–	–	–	–	–	–	–
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM D1044	–	14	–	–	–	–
Mar Resistance	ASTM D637	–	29	–	–	–	–
THERMAL PROPERTIES	**TEST METHOD**	**UNIT**					
Hot Forming Temperature		°F	320**	320**	320**	320**	260**
Deflection Temperature Under Load (Heat Distortion Temp.) 60 psi 264 psi	ASTM D648	 °F °F	 230* 203*	 230* 203*	 230* 203*	 230* 203*	 230* 203*
Max. Recommended Continuous Service Temperature	–	°F	180	180	180	180	180
Min.. Recommended Continuous Service Temperature" (lowest temp. tested for bullet-resistance)	–						
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	0.000042	0.000042	0.000042	0.000042	0.000042
Coefficient of Thermal Conductivity	Cento-Fitch[4]	BTU/(hr) (Ft^2) (°F/in)	1.3	1.3	1.3	1.3	1.3
Thermal Relaxation @ 230°F @ 293°F	 Mil-P-25690 Mil-P-25690	 % %	 – –	 – –	 – –	 – –	 – –
Water Absorption	26 day immersion 24 hour immersion	% %	.065 0.2	.065 0.2	.065 0.2	.065 0.2	.065 0.2
Flammability (Burning Rate) UL94HB	ASTM D635	in/min	1.2*	1.2*	1.2*	1.2*	1.2*
Self-ignition Temperature	ASTM D1929	°F	830*	830*	830*	830*	830*
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(lb) (°F)	0.35	0.35	0.35	0.35	0.35
Smoke Density	ASTM D2843	%	27**	27**	27**	27**	27**
Crack Propagation (Received at STD Conditions)	Mil-P-25690	lbs/in 3/2	–	–	–	–	–

The above data are average values for Polycast cell cast acrylic sheet and should not be used for any specific purpose. Spartech will furnish any additional information you may require.

PHYSICAL PROPERTIES			Solacryl (tests based on .187")	MP 1.25[1] (UL 752 Level 1)	SAR HP 1.25 (UL 752 Level 2)	SP 1.25 (UL 752 Level 3)
MECHANICAL	**TEST METHOD**	**UNIT**				
Ballistic Protection			–	9mm	.357 Magnum	.44 Magnum
Specific Gravity	ASTM D792		1.19	–	–	
Tensile Strength Yield Elongation, Rupture Modulus Elasticity	ASTM D638	psi % psi	8,600 7 400,000	9,500 400,000	9,500 400,000	9,400 400,000
Flexural Strength (Rupture) Modulus of Elasticity	ASTM D790	psi psi	–	–	–	–
Compressive Strength (Yield) Modulus of Elasticity	ASTM D695	psi psi	–	 400,000	 400,000	 400,000
Compressive Deformation (Under Load) 4000 PSI 122F, 24hr	ASTM D621	%				–
Shear Strength	ASTM D732	psi	–	–	–	
Impact Strength Izod Milled Notch Falling Steel Ball, 0.5lb. (Breakage drop height (ft.)	ASTM D256	ft-lbs/in of notch	–	–	–	–
Rockwell Hardness	ASTM D785	–	–	–	–	
Barcol Hardness	ASTM D2583	–				
Residual Shrinkage (Internal Strain) Polycast Polycast Mil Spec	ASTM D4802	% %	2.2	2.2	2.2	–
OPTICAL PROPERTIES	**TEST METHOD**	**UNIT**				
Refractive Index	ASTM D542		1.49			–
Luminous Transmittance (As Cast) Total Haze Yellowness Index	ASTM D1003 ASTM D1925	 % 	 92 <1 	 >90 <1.0 <0.7	 >90 <1.0 <0.7	 >85 <1.5 <1.0
After 1000 Hrs. Accelerated Weathering Total Haze	ASTM G26	%	–	–	–	–
Effect of Accelerated Weathering on Appearance – Crazing, Discoloration, Warping	ASTM G26	–	–	–	–	
Ultraviolet Transmission @ 320nm		%		0	0	0
Craze Resistance DRY IPA Lacquer Thinner Sulfuric Acid WET IPA Lacquer Thinner Sulfuric Acid	Mil-P-8184	psi	–	–	–	–
Abrasion Resistance (Reported as increase in % haze)	–	–	–	–	–	–
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM D1044	–	–	–	1.5	1.5
Mar Resistance	ASTM D637	–	–	–	2.3	2.3
THERMAL PROPERTIES	**TEST METHOD**	**UNIT**				
Hot Forming Temperature		°F	260**	320**	320**	–
Deflection Temperature Under Load (Heat Distortion Temp.) 60 psi 264 psi	ASTM D648	 °F °F	 200*	 	 	 –
Max. Recommended Continuous Service Temperature	–	°F	155	170	170	170
Min.. Recommended Continuous Service Temperature" (lowest temp. tested for bullet-resistance)	–			–26	–26	–26
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	0.000042	0.000042	0.000042	–
Coefficient of Thermal Conductivity	Cento-Fitch[4]	BTU/(hr) (Ft^2) (°F/in)		1.3	1.3	–
Thermal Relaxation @ 230°F @ 293°F	 Mil-P-25690 Mil-P-25690	 % %	 – –	 – –	 – –	 –
Water Absorption	26 day immersion 24 hour immersion	% %	 0.2	 0.2	 0.2	 0.2
Flammability (Burning Rate) UL94HB	ASTM D635	in/min	1.2*	1.2*	1.2*	.23*
Self-ignition Temperature	ASTM D1929	°F	830*	870	870	–
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(lb) (°F)	0.35	0.35	0.35	–
Smoke Density	ASTM D2843	%	–	Max 8%; Rating 5%	Max 8%; Rating 5%	Max. 65; Rating 49%
Crack Propagation (Received at STD Conditions)	Mil-P-25690	lbs/in 3/2	–	–	–	–

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PHYSICAL PROPERTIES			SAR (Super Abrasion Resistant)	POLY FR9 (.060")	POLY 900 (DTD-5592)	POLY II (Mil-PRF-5425)
MECHANICAL	**TEST METHOD**	**UNIT**				
Ballistic Protection			–	–	–	–
Specific Gravity	ASTM D792		1.19	1.19	1.19	1.19
Tensile Strength Yield Elongation, Rupture Modulus Elasticity	ASTM D638	 psi % psi	 10,000 4.5 427,000	 >10,500 4.5 450,000	 11,250 6.2	 11,250 6.4
Flexural Strength (Rupture) Modulus of Elasticity	ASTM D790	 psi psi	 16,000 450,000	 –	 15,250 475,000	 15,250 475,000
Compressive Strength (Yield) Modulus of Elasticity	ASTM D695	 psi psi	 17,900 427,000	 –	 18,000 440,000	 18,000 440,000
Compressive Deformation (Under Load) 4000 PSI 122F, 24hr	ASTM D621	 %		–	 0.75	 9,000
Shear Strength	ASTM D732	psi	8,900		9,000	
Impact Strength Izod Milled Notch Falling Steel Ball, 0.5lb. (Breakage drop height (ft.)	ASTM D256	 ft-lbs/in of notch	 .375* 18	 –	 –	 –
Rockwell Hardness	ASTM D785	–	M100*	M96*	M98*	M98*
Barcol Hardness	ASTM D2583	–			50*	50*
Residual Shrinkage (Internal Strain) Polycast Polycast Mil Spec	ASTM D4802	 % %	2.2	 <1	 2.2	 <1
OPTICAL PROPERTIES	**TEST METHOD**	**UNIT**				
Refractive Index	ASTM D542		1.43***	1.49	1.49	1.49
Luminous Transmittance (As Cast) Total Haze Yellowness Index	ASTM D1003 ASTM D1925	 % 	 93 0.5	 92 <0.5	 92 <0.5	 92 <0.5
After 1000 Hrs. Accelerated Weathering Total Haze	ASTM G26	 %	–	–	 92 <0.5	 92 <0.5
Effect of Accelerated Weathering on Appearance – Crazing, Discoloration, Warping	ASTM G26	–	–	–	none	none
Ultraviolet Transmission @ 320nm		%	0–5	0	0	0
Craze Resistance DRY IPA Lacquer Thinner Sulfuric Acid WET IPA Lacquer Thinner Sulfuric Acid	Mil-P-8184	psi	–	–	 2,100 1,350 NA 1,460 1,200 NA	 2,100 1,100 0 1,000 0 0
Abrasion Resistance (Reported as increase in % haze)	–	–	–	–	–	–
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM D1044	–	1.5	–	–	–
Mar Resistance	ASTM D637	–	2.3	–	–	–
THERMAL PROPERTIES	**TEST METHOD**	**UNIT**				
Hot Forming Temperature		°F	223**	–	320**	320**
Deflection Temperature Under Load (Heat Distortion Temp.) 60 psi 264 psi	ASTM D648	 °F °F	 200	 –	 230*	 216*
Max. Recommended Continuous Service Temperature	–	°F	176	–	180	180
Min.. Recommended Continuous Service Temperature" (lowest temp. tested for bullet-resistance)	–			–	–	–
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	0.000042	–	0.000042	0.000042
Coefficient of Thermal Conductivity	Cento-Fitch[4]	BTU/(hr) (Ft^2) (°F/in)	1.45	–	1.3	1.3
Thermal Relaxation @ 230°F @ 293°F	 Mil-P-25690 Mil-P-25690	 % %	 – –	 –	 –	 –
Water Absorption	26 day immersion 24 hour immersion	% %	 0.2	.065 0.2	.065 0.2	.065 0.2
Flammability (Burning Rate) UL94HB	ASTM D635	in/min	0.98	<0.3*	1.2*	1.2*
Self-ignition Temperature	ASTM D1929	°F	870*	–	–	830*
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(lb) (°F)	0.35	0.35	0.35	0.35
Smoke Density	ASTM D2843	%	13.9	Max. 65; Rating 23.2%	–	–
Crack Propagation (Received at STD Conditions)	Mil-P-25690	lbs/in 3/2	–	–	–	–

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PHYSICAL PROPERTIES			POLY 76 MIL-PRF-8184	POLY 84 MIL-PRF-8184	POLY 2001 MIL-PRF-25690 CLASS 1 POLY 76	POLY 2002 MIL-PRF-25690 CLASS 2 POLY 84
MECHANICAL	**TEST METHOD**	**UNIT**				
Ballistic Protection			–	–	–	–
Specific Gravity	ASTM D792		1.19	1.19	1.19	1.19
Tensile Strength Yield Elongation, Rupture Modulus Elasticity	ASTM D638	psi % psi	11,250 5 450,000	11,250 5 450,000	12,100 –	12,100 –
Flexural Strength (Rupture) Modulus of Elasticity	ASTM D790	psi psi	15,250 450,000	15,250 450,000	– –	– –
Compressive Strength (Yield) Modulus of Elasticity	ASTM D695	psi psi	18,000 440,000	18,000 440,000	– –	– –
Compressive Deformation (Under Load) 4000 PSI 122F, 24hr	ASTM D621	%	0.75	0.75	–	–
Shear Strength	ASTM D732	psi	9,000	9,000	3,700	3,700
Impact Strength Izod Milled Notch Falling Steel Ball, 0.5lb. (Breakage drop height (ft.)	ASTM D256	ft-lbs/in of notch	–	–	–	–
Rockwell Hardness	ASTM D785	–	M98*	M98*		
Barcol Hardness	ASTM D2583	–	50*	50*		
Residual Shrinkage (Internal Strain) Polycast Polycast Mil Spec	ASTM D4802	% %	<1	<1	–	–
OPTICAL PROPERTIES	**TEST METHOD**	**UNIT**				
Refractive Index	ASTM D542		1.49	1.49	1.49	1.49
Luminous Transmittance (As Cast) Total Haze Yellowness Index	ASTM D1003 ASTM D1925	% 	92 <0.5	92 <0.75	91 <1.5	91 <1.5
After 1000 Hrs. Accelerated Weathering Total Haze	ASTM G26	%	91 <0.75	91 <0.75	90 <3.0	90 <3.0
Effect of Accelerated Weathering on Appearance – Crazing, Discoloration, Warping	ASTM G26	–	none	none	–	–
Ultraviolet Transmission @ 320nm		%	0	0	0	0
Craze Resistance DRY IPA Lacquer Thinner Sulfuric Acid WET IPA Lacquer Thinner Sulfuric Acid	Mil-P-8184	psi	 3,100 3,150 1,285 2,440 2,450 500	 3,225 3,030 1,550 2,775 2,700 1,020	 3,700 3,300 2,750 2,650	 4,300 3,600 3,600 3,600
Abrasion Resistance (Reported as increase in % haze)	–		–	–	–	–
Taber Abrasion (500g. ea. wheel, 100 rev.) ANSI Z26.1	ASTM D1044	–	–	–	–	–
Mar Resistance	ASTM D637	–	–	–	–	–
THERMAL PROPERTIES	**TEST METHOD**	**UNIT**				
Hot Forming Temperature		°F	320*	320*	218*	218*
Deflection Temperature Under Load (Heat Distortion Temp.) 60 psi 264 psi	ASTM D648	 °F °F	 235*	 225*	 –	 –
Max. Recommended Continuous Service Temperature	–	°F	180	180	–	–
Min.. Recommended Continuous Service Temperature" (lowest temp. tested for bullet-resistance)	–		0.000042	0.000042	0.000042	0.000042
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	1.3	1.3	1.3	1.3
Coefficient of Thermal Conductivity	Cento-Fitch[4]	BTU/(hr) (Ft^2) (°F/in)	–	–	3.3	3.3
Thermal Relaxation @ 230°F @ 293°F	 Mil-P-25690 Mil-P-25690	 % %	 2.6 0.2*	 1.6 0.2*	 2.6 0.2*	 1.6 0.2*
Water Absorption	26 day immersion 24 hour immersion	% %	0.8*	0.8*	–	–
Flammability (Burning Rate) UL94HB	ASTM D635	in/min	–	–	–	–
Self-ignition Temperature	ASTM D1929	°F	0.35	0.35	0.35	0.35
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.)	BTU/(lb) (°F)	–	–	–	–
Smoke Density	ASTM D2843	%	–	–	2,900	2,900
Crack Propagation (Received at STD Conditions)	Mil-P-25690	lbs/in 3/2	–	–	–	–

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ELECTRICAL PROPERTIES	TEST METHOD	UNIT	AVERAGE VALUE FOR .250" THICKNESS
Dielectric Strength Short Time Test	ASTM D149	volts/mil. (1/8" thickness)	430**
Dielectric Constant 60 Cycles 1,000 Cycles 1,000,000 Cycles	ASTM D150	–	 3.5 3.2 2.7
Dissipation Factor 60 Cycles 1,000 Cycles 1,000,000 Cycles	ASTM D150	–	 0.06 0.04 0.02
Power Factor 60 Cycles 1,000 Cycles 1,000,000 Cycles	ASTM D1500	–	 0.06 0.044 0.02
Loss Factor 60 Cycles 1,000 Cycles 1,000,000 Cycles	ASTM D150	–	 0.21 0.13 0.06
Arc Resistance	ASTM D495	–	No Tracking
Volume resistivity	ASTM D257	ohm–cm	1.6 × 1016
Surface Resistivity	ASTM D257	ohms	1.9 × 1015

[1] ADDITIONAL DATA, CODES AND APPROVALS ARE AVAILABLE UPON REQUEST. All values shown are for 0.250" thickness sheet, unless otherwise noted. Asterisked (*) values will change with thickness. Difference in length and width, as measured at room temperature, before and after heating above 300°F.

[2] Unshrunk sheet will shrink in size by approximately 2% and increase in thickness by aproximately 4% when heated to forming temperature.

[3] Not ASTM method.

** Varies with thickness.

*** Because the surface of Polycast SAR has a lower refractive index than the substrate, the amount of back reflectance is reduced and the transmittance increased.

(A) Steel Wool Rotary Test–This severe abrasion uses a 1.25" square pad of commercially available 0000 grade steel wool. The steel wool pad is loaded with appropriate weights to give either 12 or 24 psi pressure and is revolved five times.

(B) Simulated Cleaning Test–An abrasive water slurry of a commercially available standard test dust is placed on the sample. It is then stroked 360 times with a felt pad under an approximately 2.0 psi load. @ MP 1.25 also available in SAR abrasion resistant coating.

COLOR

Colors and whites listed below are standard items and may be ordered in the case and pallet quantities listed on inside back cover. These colors are also available in other sizes and thicknesses as non-standard items. Polycast manufactures many other colors. Please call for availability.

COLOR	TYPE	% TRANS	COLOR	TYPE	% TRANS	COLOR	TYPE	% TRANS
Semi Opaque			**White Translucent**			**Solar Transparent**		
2022 Black	SO	0%	2067 White	TL	71%	2064 Gray	TP	27%
2025 Black	SO	0%	2447 White	TL	51%	2074 Gray	TP	13%
White Semi Opaque			**Transparent**			2094 Gray	TP	45%
7138 White	SO	41%	2069 Blue	TP	55%	2370 Bronze	TP	10%
7328 White	TL	34%	2092 Green	TP	26%	2404 Bronze	TP	49%
7420 White	TL	26%	2111 Green	TP	77%	2412 Bronze	TP	27%
7508 White	TL	8%	2208 Yellow	TP	77%	2514 Gray	TP	59%
Translucent			2414 Green	TP	60%	2515 Gray	TP	76%
2039 Red	TL	2%	2422 Amber	TP	48%	2537 Gray	TP	32%
2050 Blue	TL	1%	2423 Red	TP	6%	2538 Gray	TP	16%
2146 Ivory	TL	38%	2424 Blue	TP	8%	2539 Bronze	TP	61%
2157 Red	TL	2%	2444 Red	TP	5%	2540 Bronze	TP	75%
2283 Red	TL	12%	3030 Green	TP	92%			
2662 Red	TL	4%						

POLY II UVA
MIL-PRF-5425

Product Dimensions			Thickness[2]															
Inches	Metric (mm)	Tolerance Class[1]	.030" .8 mm	.060" 1.6 mm	.080" 2.1 mm	.100" 2.6 mm	.125" 3.2 mm	.150" 3.9 mm	.185" 4.8 mm	.220" 5.6 mm	.250" 6.4 mm	.312" 8.0 mm	.375" 9.6 mm	.500" 12.7 mm	.625" 15.9 mm	.750" 19.1 mm	.875" 22.3 mm	1.000" 25.4 mm
36 × 48	914.40 × 1219.2	A	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
36 × 60	914.40 × 1524.0	*		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
36 × 72	914.40 × 1828.8	*		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
40 × 50	1016.00 × 1270.0	A	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○
48 × 48	1219.20 × 1219.2	*					●	●	●	●	●	●	●	●	●	●	●	●
48 × 60	1219.20 × 1524.0	*		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
48 × 72	1219.20 × 1828.8	B		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
48 × 96	1219.20 × 2438.4	B					●	●	●	●	●	●	●	●	●	●	●	●
60 × 72	1524.00 × 1828.8	B					●	●	●	●	●	●	●	●	○	○	○	○
60 × 96	1524.00 × 2438.4	C					●	●	●	●	●	●	●	●	○	○	○	○
72 × 72	1828.80 × 1828.8	C					●	●	●	●	●	●	●	●	○	○	○	○
72 × 96	1828.80 × 2438.4	C					●	●	●	●	●	●	●	●	○	○	○	○

Poly II UVT available upon request.

POLY 76
MIL-PRF-8184, Type I and II, Class 1

POLY 84
MIL-PRF-8184, Type I and II, Class 2

Product Dimensions			Thickness [2] (inches/mm)											
Inches	Metric (mm)	Tolerance Class[1]	.060" 1.6 mm	.080/ 2.1 mm	.100" 2.6 mm	.125" 3.2 mm	.150" 3.9 mm	.187" 4.8 mm	.220" 5.6 mm	.250" 6.4 mm	.312" 8.0 mm	.375" 9.6 mm	.500" 12.8 mm	.625" 15.9 mm & Up
36 × 48	914.40 × 1219.2	A	●	●	●	●	●	●	●	●	●	●	●	○
36 × 60	914.40 × 1524.0	*	○	○	○	○	○	○	○	○	○	○	○	○
36 × 72	914.40 × 1828.8	*	○	○	○	○	○	○	○	○	○	○	○	○
40 × 50	1016.00 × 1270.0	A	○	○	○	●	○	●	○	●	○	○	○	○
48 × 48	1219.20 × 1219.2	*				●	○	●	○	●	○	○	○	○
48 × 60	1219.20 × 1524.0	*	○	○	○	●	○	●	○	●	○	○	○	○
48 × 72	1219.20 × 1828.8	B	○	○	○	●	●	●	●	●	●	●	●	●
48 × 96	1219.20 × 2438.4	B				●	●	●	●	●	●	●	●	●
60 × 72	1524.00 × 1828.8	B				●	○	●	○	●	●	○	○	○
60 × 96	1524.00 × 2438.4	C				●	○	●	○	●	●	○	○	○
72 × 72	1828.80 × 1828.8	C				●	○	●	○	●	●	●	●	●
72 × 96	1828.80 × 2438.4	C				○	○	●	○	●	○	○	○	○

CLEAR

● **Standard Items:** Standard items may be ordered in standard packages (cases and pallets).

○ **Non-Standard Items:** Contact Polycast® Customer Service for availability.

COLOR

Poly 76 & Poly 84 are available in most colors, manufactured in accordance with MIL-PRF-8184 insofar as the specification is applicable.

POLY II is available in most colors, manufactured in accordance with MIL-PRF-5425 insofar as the specification is applicable. Please contact Customer Service for further information.

[1] **Refer to tolerance table on page 6.**

[2] **Intermediate thicknesses are available with special ordering requirements.**

* **Available with cutdowns from larger sizes. Tolerance of larger size prevails.**

SPECIFICATIONS BY PRODUCT, RANKED BY PERFORMANCE

PRODUCT	PRODUCT DESCRIPTION	USA	EUROPEAN EQUIVALENT SPECIFICATION
POLY A	As Cast	ASTM 4802, AMS-L-P-391	EN 4364, WL5.1412
POLY II	As Cast, Pre-Shrunk	MIL-PRF 5425	EN 4364, WL5.1412
POLY 900	Crosslinked, As Cast		DTD 5592, EN4365, meets and exceeds requirements of WL 5.1415.2, LN 9130 and DIN 65321
POLY 76	Crosslinked, As Cast, Pre-Shrunk	MIL-PRF 8184 (Class 1)	EN4365, WL5.1415
POLY 84	Crosslinked, As Cast, Lower Water Absorption, Pre-Shrunk	MIL-PRF 8184 (Class 2)	EN4365, WL5.1415
POLY 2000 (POLY 2001, POLY 2002)	Crosslinked and Stretched, Pre-Shrunk	MIL-PRF 25690	EN4366, WL5.1416

Customers may inquire about other specifications not listed, such as France AIR 9106 and Russia GOST 10667-90

TOLERANCES FOR POLY II, POLY 76 AND POLY 84
as per MIL-SPEC

Standard Thickness[1]		Class A		Class B		Class C	
Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
0.030	0.762	±0.012	±0.305				
0.060	1.524	±0.012	±0.305	±0.020	±0.508		
0.080	2.032	±0.012	±0.305	±0.020	±0.508		
0.100	2.540	±0.012	±0.305	±0.020	±0.508		
0.125	3.175	±0.015	±0.381	±0.020	±0.508	±0.030	±0.762
0.150	3.810	±0.017	±0.432	±0.020	±0.508	±0.030	±0.762
0.187	4.750	±0.020	±0.508	±0.023	±0.584	±0.030	±0.762
0.220	5.588	±0.023	±0.584	±0.025	±0.635	±0.030	±0.762
0.250	6.350	±0.025	±0.635	±0.030	±0.762	±0.035	±0.889
0.312	7.925	±0.030	±0.762	±0.035	±0.889	±0.040	±1.016
0.375	9.525	±0.035	±0.889	±0.040	±1.016	±0.045	±1.143
0.500	12.700	±0.040	±1.016	±0.045	±1.143	±0.050	±1.270
0.625	15.875	±0.050	±1.270	±0.050	±1.270	±0.060	±1.524
0.750	19.050	±0.050	±1.270	±0.050	±1.270	±0.065	±1.651
0.875	22.225	±0.050	±1.270	±0.050	±1.270	±0.070	±1.778
1.000	25.400	±0.050	±1.270	±0.050	±1.270	±0.075	±1.905
1.250	31.750	±0.063	±1.600	±0.063	±1.600	±0.094	±2.388
1.500	38.100	±0.075	±1.905	±0.075	±1.905	±0.112	±2.845
2.000	50.800	±0.100	±2.540	±0.100	±2.540	±0.131	±3.327
2.250	57.150	±0.113	±2.870	±0.113	±2.870	±0.168	±4.267
2.500	63.500	±0.126	±3.200	±0.126	±3.200	±0.180	±4.572
3.000	76.200	±0.146	±3.708	±0.146	±3.708	±0.204	±5.182
3.500	88.900	±0.150	±4.039	±0.159	±4.039	±0.219	±5.563

[1]Intermediate thicknesses are available.

POLY 900
Thickness and Sheet Sizes

Thickness	Tolerance	36 × 48"	40 × 50"	48 × 72"	48 × 96"	60" × 72"	60" × 96"	72" × 72"	72" × 96"
.060" / 1.50 mm	.048/.072"	●	●	●	—	—	—	—	—
.080" / 2.0 mm	.165/.095"	●	●	●	—	—	—	—	—
.100" / 2.50 mm	.082/.118"	●	●	●	●	—	—	—	—
.118" / 3.0 mm	.098/.138"	●	●	●	●	—	—	—	—
.125" / 3.20 mm	.105/.145"	●	●	●	●	○	○	○	○
.138" / 3.50 mm	.116/.159"	●	●	●	●	○	○	○	○
.150" / 3.80 mm	.127/.173"	●	●	●	●	○	○	○	○
.157" / 4.0 mm	.133/.181"	●	●	●	●	○	○	○	○
.187" / 4.70 mm	.161/.213"	●	●	●	●	○	○	○	○
.197" / 5.0 mm	.169/.225"	●	●	●	●	○	○	○	○
.220" / 5.60 mm	.191/.249"	●	●	●	●	○	○	○	○
.236" / 6.0 mm	.208/.264"	●	●	●	●	○	○	○	○
.250" / 6.40 mm	.220/.280"	●	●	●	●	○	○	○	○
.315" / 8.0 mm	.280/.350"	●	●	●	●	○	○	○	○
.375" / 9.50 mm	.337/.413"	●	●	●	●	○	○	○	○
.394" / 10.0 mm	.355/.433"	●	●	●	●	○	○	○	○
.472" / 12.70 mm	.429/.514"	●	●	●	●	○	○	○	○
.50" / 12.70 mm	.455/.545"	●	●	●	●	○	○	○	○
.512" / 13.0 mm	.466/.558"	●	●	●	●	○	○	○	○
.591" / 15.0 mm	.544/.638"	●	●	●	●	○	○	○	○
.625" / 15.90 mm	.575/.675"	●	●	●	●	○	○	○	○
.709" / 18.0 mm	.659/.759"	●	●	●	●	○	○	○	○
.750" / 19.0 mm	.697/.803"	●	●	●	●	○	○	○	○
.787" / 20.0 mm	.736/.838"	●	●	●	●	○	○	○	○
.875" / 22.20 mm	.822/.928"	●	●	●	●	○	○	○	○
.984" / 25.0 mm	.930/1.038"	●	●	●	●	○	○	○	○

● **Standard Items:** Standard items may be ordered in standard packages (cases and pallets).

○ **Non-Standard Items:** Contact Polycast® Customer Service for availability.

Tolerances interpreted from Fig. 2 of DTD-5592A.

POLYCAST® POLY 2000 STRETCHED ACRYLIC
SHEET (MIL PRF 25690)

KEY ATTRIBUTES

- Largest sheet yields lower unit costs
- Superior optical quality
- Available in standard thicknesses

MANUFACTURING PERFORMANCE

- Offer tighter tolerances than standard mil spec (+/- .020" < .250"; >.250" +/- 10%), upon request
- Flexibility and consistency
- Control from cell casting to stretching

SERVICE

- Parts cut to your size and shape configurations
- Cradle to grave options
- Inventory levels exacted to your specifications
- Technical expertise and superior customer support

APPLICATIONS

Military, commercial and general aviation glazing for fixed and rotary wing:

- Aircraft cockpit windows
- Aircraft canopies
- Windscreens
- Cabin windows
- Outer laminates

PROPERTY	REQUIREMENT	TYPICAL VALUE
Angular Deviation*	7 minutes (more than 2" from edge)	1–3 min.
Optical Distortion*	< 14 minute of arc over any 6"	3 min./6"
Luminous Transmittance		
Before Weathering	0.060" – 0.220": 91% 0.221" – 0.375": 90% 0.376" – 0.675": 89% > .675": 88%	92.0 91.0 90.0 89.0
After Weathering	0.060" – 0.220": 89% 0.221" – 0.375": 88% 0.376" – 0.675": 87% > .675": 86%	89.0 90.0 88.0 87.0
Haze*:		
Before Weathering	3% max.	< 1.5
After Weathering	4% max.	< 3.0
Long Term Water Absorption (Class 2)	≤ 2.90%	2.79 – 2.85%
Crack Propagation		
Received @ STD Conditions	Individual value: 2,300 lbs/in$^{3/2}$ Average value: 2,700 lbs/in$^{3/2}$	2,600 – 3,000 2,700 – 3,100
As Received @ –17.8C	Individual value: 1,150 lbs/in$^{3/2}$ Average value: 1,250 lbs/in$^{3/2}$	1,200 – 1,500 1,300 – 1,600
After Weathering @ STD Conditions	Individual value: 2,100 lbs/in$^{3/2}$ Average value: 2,300 lbs/in$^{3/2}$	2,500 3,000
Thermal Relaxation		
@ 110C @ 145C	10.0% max. 37.5% min.	1.6 – 5.0% 40.0 – 50.0%
Tensile Strength	Individual value: 10,000 psi Average value: 10,500 psi	11,300 – 12,700 11,300 – 12,900
Shear Strength	3,000 psi	3,200 – 4,200
Craze Resistance		
Dry IPA		
a) Class 1	3,000 psi	3,700 – no craze
b) Class 2	3,000 psi	4,300 – no craze
Dry Laquer Thinner		
a) Class 1	2,500 psi	3,300 – no craze
b) Class 2	2,500 psi	3,400 – 3,800
Wet IPA		
a) Class 1	2,000 psi	2,400 – 3,000
b) Class 2	2,500 psi	3,100 – 4,100
Wet Laquer Thinner		
a) Class 1	1,750 psi	2, 200 – 3,100
b) Class 2	2,000 psi	2, 700 – 3,300
Dimension Stability	0.2% max. after natural weathering	0.11

***Special optical requirements will be considered.**

APPROVALS AND SPECIFICATIONS

MEETS THE TEST REQUIREMENTS OF:

ANSI Z97.1 (American National Standards Institute Specification); defines performance criteria for safety glazing used in buildings, concerning impact hardness and degradation after accelerated weathering. Polycast acrylic sheet in thicknesses greater than 0.099 are certified as complying.

ANSI Z26.1 and FMVSS 205 (Federal Motor Vehicle Safety Standard); define performance characteristics of safety glazing for passenger car, trailers, trucks, buses, and motorcycles, including (but not limited to) impact resistance, chemical resistance, abrasion resistance, flammability, weathering, and optics.

NSF Grade Sheet; Polycast offers an acrylic sheet which meets the requirements for the national Sanitation Foundation.

FDA; Food and Drug Administration's regulations concerning food contract applications as described in 21 CFR 177.1010 for all food types, including alcoholic beverages in room temperature or refrigerated applications.

UL 94HB; Underwriters Laboratories recognized for flammability* of plastic materials for parts in devices and appliances. Polycast acrylic is recognized under UL 94HB, with some exceptions.

UL 723; Underwriters Laboratories classified for surfaces burning characteristics of a building material. Polycast acrylic 3/8 inches and greater is classified with the following test values: flame spread = 140; smoke developed = greater than 500.

UL 746A; Underwriters Laboratories recognized for polymeric materials in electrical applications. Contact inside sales for further information.

UL 752; Underwriters Laboratories listed for bullet-resisting equipment. Polycast offers the following in clear and bronze:

—Level 1, MP 1.25, SAR MP 1.25 Medium power, small arms resistant.

—Level 2, SAR HP 1.25 High power, small arms resistant.

—Level 3, SP 1.25 Super power, small arms resistant.

FAR 25.853 (Federal Aviation Regulation); defines the flammability requirements for acrylic windows and signs for aircraft interiors. Polycast sheet .049" and greater meets this requirement.

FMVSS-302 (Federal Motor Vehicle Safety Standard); defines burn rates of interior materials for passenger cars, trailers, trucks and buses. All Polycast materials meet this standard.

ASME PVHO-1 and MIL-C-24449; defines the requirements for materials used in the fabrication of windows for service in pressure vessels for human occupancy. Polycast material meets these requirements.

MIL-DTL-24191; Shipboard application of illumination and signal lighting. Defines the requirements of the material intended for use in the fabrication of lighting fixtures for Naval service. Among the associated tests are flammability, deflection temperature, flexural strength, impact strength and optical properties. Polycast material meets these requirements.

City of New York, Dept. of Buildings; Accepted for use, City of New York, Department of Buildings, as glazing material in lieu of glass in non-rated windows, doors and in skylights in sheet thicknesses up to 3/8-inch maximum, and for ground, wall and roof sign combustible material, where permitted by Code. File number MEA 80-82-M.

City of New York, Board of Standards and Appeals; Approved for use in safety glazing applications. Calendar number 1997-61-SM.

Consumer Product Safety Commission (CPSC); Polycast acrylic sheet .080 and greater complies with the requirements of the Consumer Product Safety Act and the CPSC Safety Standard of Architectural Glazing materials, 16 CFR 1201 for both Category I and Category II.

POLYCAST ACRYLIC SHEET CONFORMS TO THE FOLLOWING SPECIFICATIONS
(Current Editions)

ASTM D702; defines physical properties which acrylics should meet or exceed, such as tensile strength, refractive index, specific gravity, deflection temperature, and impact strength. Polycast acrylic sheet meets or exceeds the requirements for all types of grades of sheet of this specification.

ASTM D4802; A specification covering monolithic methacrylate sheet produced by the cell-cast method. Polycast acrylic sheet in thickness 0.030-4.250 meets or exceeds the requirements for Category A-1, finish 1,2,3; Types UVA & UVT.

AMS-L-P-391; An S.A.E. material specification referencing specific Federal quality standards and ASTM test methods. Polycast acrylic sheet in thickness 0.030-4.250 meets or exceeds the requirements for item A, Type I, II and III, Grade A, B, or C.

MIL-P-8184; military specification covering modified acrylic (specially designed for superior resistance to chemical attack). Materials supplied for conformance to this specification are Polycast Poly-76® and Poly-84® (available in both Type I and II and Class 1 and 2). All products are on the Qualified Products list for this Mil-Spec.

MIL-P-25690; military specification covering stretched acrylic sheet specially designed from Mil-P-8184 base material. It offers enhanced craze properties and increased crack resistance. Material supplied for conformance to this specification is identified as Poly 2000TM.

MIL-P-5425; military specifications covering heat-resistant, preshrunk, clear, and colored acrylic sheet. Material supplied for conformance for this specification is identified by the name POLY II®. Polycast is qualified to furnish sheets in thickness 0.060-1.000 to meet this specification.

There are many more standards, codes, and specifications to which Polycast can demonstrate compliance. Inquiries regarding your particular problems or requirements should be directed to the Polycast Marketing Department. Call 1-800-243-9002 or email polycast.marketing@spartech.com.

*This term and any corresponding data refer to typical performance in the specific tests indicated and should not be construed to imply this material's behavior under actual fire conditions.

COMMERCIAL TOLERANCE CLASSES

THICKNESS	.060	.080	.100	.125	.150	.187	.220	.250	.312	.375	.500	.625	.750	.875	1.000	1.125	1.250	1.500	1.750	2.000	2.250	2.500	2.750	3.000	3.250	3.500	3.750	4.000	4.250
SIZES																													
36 × 48	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
36 × 60*	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
36 × 72*	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
40 × 50	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
48 × 48	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
48 × 60*	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
48 × 72	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
48 × 84	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
48 × 96			B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
53 × 80*				B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
53 × 90*				B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
60 × 60*				B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
60 × 72				B	B	B	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
60 × 84				C	C	C	C	C	C	C	C	C	C	C	C	A	C	C	C	A	A	A	A	A	A	A	A	A	A
60 × 96				C	C	C	C	C	C	C	C	C	C	C	C	A	C	C	C	A	A	A	A	A	A	A	A	A	A
72 × 72				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A
72 × 84				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A
72 × 96				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A
OVERSIZE																													
48 × 120				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
60 × 120				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
72 × 120				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

*Available as cutdown from larger size. Tolerance of larger size prevails.

COMMERCIAL THICKNESS TOLERANCES (ASTM D4802/LP-391)

Normal Thickness in inches	Approx. Wt. per Sq. Ft.	Thickness Tolerances in Inches		
		Size 1 Class A	Size 2 Class B	Size 3 Class C
.030	.18 lb.	+.007 / -.009	–	–
.040	.25 lb.	+.006 / -.010	–	–
.050	.31 lb.	+.006 / -.010	–	–
.060	.37 lb.	+.015 / -.019	+.023 / -.027	–
.080	.49 lb.	+.014 / -.020	+.022 / -.028	–
.100	.62 lb.	+.013 / -.021	+.021 / -.029	–
.125	.77 lb.	+.015 / -.025	+.020 / -.030	+.030 / -.040
.150	.92 lb.	+.016 / -.030	+.022 / -.036	+.029 / -.050
.187	1.15 lb.	+.017 / -.033	+.022 / -.038	+.027 / -.043
.220	1.36 lb.	+.020 / -.040	+.025 / -.045	+.029 / -.050
.250	1.54 lb.	+.020 / -.040	+.025 / -.045	+.030 / -.050
.312	1.92 lb.	+.022 / -.048	+.027 / -.053	+.032 / -.058
.375	2.31 lb.	+.025 / -.055	+.030 / -.060	+.035 / -.065
.500	3.08 lb.	+.025 / -.065	+.030 / -.070	+.035 / -.075
.625	3.85 lb.	+.033 / -.077	+.033 / -.077	+.038 / -.082
.750	4.62 lb.	+.030 / -.080	+.030 / -.080	+.040 / -.090

Normal Thickness in inches	Approx. Wt. per Sq. Ft.	Thickness Tolerances in Inches		
		Size 1 Class A	Size 2 Class B	Size 3 Class C
.875	5.39 lb.	+.026 / -.084	+.026 / -.084	+.046 / -.104
1.000	6.16 lb.	+.023 / -.087	+.023 / -.087	+.048 / -.112
1.125	6.93 lb.	+.039 / -.091	+.039 / -.091	+.050 / -.102
1.250	7.70 lb.	+.052 / -.094	+.052 / -.094	+.052 / -.094
1.500	9.24 lb.	+.039 / -.121	+.039 / -.121	+.077 / -.159
1.750	10.78 lb.	+.049 / -.137	+.049 / -.137	+.092 / -.180
2.000	12.32 lb.	+.058 / -.152	+.058 / -.152	+.108 / -.202
2.250	13.86 lb.	+.070 / -.166	+.070 / -.166	–
2.500	15.40 lb.	+.079 / -.181	+.079 / -.181	–
2.750	16.94 lb.	+.092 / -.194	+.092 / -.194	–
3.000	18.48 lb.	+.102 / -.208	+.102 / -.208	–
3.250	20.02 lb.	+.114 / -.222	+.114 / -.222	–
3.500	21.56 lb.	+.121 / -.239	+.121 / -.239	–
3.750	23.10 lb.	+.134 / -.252	+.134 / -.252	–
4.000	24.64 lb.	+.142 / -.268	+.142 / -.268	–
4.250	26.18 lb.	+.150 / -.280	+.150 / -.280	–

POLYCAST® STANDARD PACKAGING, TOLERANCES AND OVERAGES

The following listing shows guaranteed overages, tolerance ranges and standard package quantities.

THICKNESS	BILLING SIZE	ACTUAL SIZE	TOLERANCE RANGE	SHEETS PER CASE	SHEETS PER PALLET
0.060	36 × 48	37 × 51	.033–.084	60	384
	48 × 72	51 × 75	.033–.084	30	192
0.080	36 × 48	37 × 51	.052–.102	48	288
	48 × 72	51 × 75	.052–.102	24	144
0.100	36 × 48	37 × 51	.071–.121	40	240
	48 × 72	51 × 75	.071–.121	20	120
	60 × 60	63 × 63	.071–.121	19	114
0.125	36 × 48	37 × 51	.095–.145	32	192
	48 × 72	51 × 75	.095–.145	16	96
	48 × 84	51 × 88	.095–.145	14	84
	48 × 96	51 × 100	.095–.145	12	72
	53 × 80	56 × 83	.095–.145	13	78
	53 × 90	55 × 93	.095–.145	12	72
	60 × 60	63 × 63	.095–.145	15	90
	60 × 72	63 × 75	.095–.145	13	78
	60 × 84	63 × 88	.085–.155	11	66
	60 × 96	63 × 100	.085–.155	10	60
	72 × 72	75 × 75	.085–.155	11	66
	72 × 84	75 × 88	.085–.155	9	54
	72 × 96	75 × 100	.085–.155	8	48
0.150	36 × 48	37 × 51	.114–.172	28	168
	48 × 72	51 × 75	.114–.172	14	84
	48 × 84	51 × 88	.114–.172	11	66
	48 × 96	51 × 100	.114–.172	9	54
	53 × 80	56 × 83	.114–.172	11	66
	53 × 90	55 × 93	.114–.172	10	60
	60 × 60	63 × 63	.114–.172	12	72
	60 × 72	63 × 75	.114–.172	11	66
	60 × 84	63 × 88	.100–.179	9	54
	60 × 96	63 × 100	.100–.179	8	48
	72 × 72	75 × 75	.100–.179	9	54
	72 × 84	75 × 88	.100–.179	8	48
	72 × 96	75 × 100	.100–.179	7	42
0.187	36 × 48	37 × 51	.149–.209	22	132
	48 × 72	51 × 75	.149–.209	11	66
	48 × 84	51 × 88	.149–.209	9	54
	48 × 96	51 × 100	.149–.209	8	48
	53 × 80	56 × 83	.149–.209	9	54
	53 × 90	55 × 93	.149–.209	8	48
	60 × 60	63 × 63	.149–.209	10	60
	60 × 72	63 × 75	.149–.209	9	54
	60 × 84	63 × 88	.144–.214	8	48
	60 × 96	63 × 100	.144–.214	7	42
	72 × 72	75 × 75	.144–.214	7	42
	72 × 84	75 × 88	.144–.214	6	48
	72 × 96	75 × 100	.144–.214	6	48
0.220	36 × 48	37 × 51	.175–.245	18	108
	48 × 72	51 × 75	.175–.245	9	54
	48 × 84	51 × 88	.175–.245	8	48
	48 × 96	51 × 100	.175–.245	7	42
	53 × 80	56 × 83	.175–.245	8	48
	53 × 90	55 × 93	.175–.245	7	42
	60 × 60	63 × 63	.175–.245	9	54
	60 × 72	63 × 75	.175–.245	8	48
	60 × 84	63 × 88	.170–.249	7	42
	60 × 96	63 × 100	.170–.249	6	36
	72 × 72	75 × 75	.170–.249	6	36
	72 × 84	75 × 88	.170–.249	5	30
	72 × 96	75 × 100	.170–.249	5	30
0.250	36 × 48	37 × 51	.205–.275	16	96
	48 × 72	51 × 75	.205–.275	8	48
	48 × 84	51 × 88	.205–.275	7	42
	48 × 96	51 × 100	.205–.275	6	36
	53 × 80	56 × 83	.205–.275	7	42
	53 × 90	55 × 93	.205–.275	6	36
	60 × 60	63 × 63	.205–.275	8	48
	60 × 72	63 × 75	.205–.275	7	42
	60 × 84	63 × 88	.200–.280	6	36
	60 × 96	63 × 100	.200–.280	5	30
	72 × 72	75 × 75	.200–.280	6	36
	72 × 84	75 × 88	.200–.280	5	30
	72 × 96	75 × 100	.200–.280	4	24

THICKNESS	BILLING SIZE	ACTUAL SIZE	TOLERANCE RANGE	SHEETS PER CASE	SHEETS PER PALLET
0.312	36 × 48	37.00 × 49.25	.259–.339	12	72
	48 × 72	49.25 × 73.75	.259–.339	6	36
	48 × 84	49.25 × 86.00	.259–.339	5	30
	48 × 96	49.25 × 98.50	.259–.339	5	30
	53 × 80	54.50 × 82.00	.259–.339	5	30
	53 × 90	54.50 × 92.25	.259–.339	5	30
	60 × 60	61.50 × 61.50	.259–.339	6	36
	60 × 72	61.50 × 73.75	.259–.339	5	30
	60 × 84	61.50 × 86.00	.254–.344	4	24
	60 × 96	61.50 × 98.50	.254–.344	4	24
	72 × 72	73.75 × 73.75	.254–.344	4	24
	72 × 84	73.75 × 86.00	.254–.344	3	18
	72 × 96	73.75 × 98.50	.254–.344	3	18
0.375	36 × 48	37.00 × 49.25	.315–.405	12	72
	48 × 72	49.25 × 73.75	.315–.405	6	36
	48 × 84	49.25 × 86.00	.315–.405	4	24
	48 × 96	49.25 × 98.50	.315–.405	4	24
	53 × 80	54.50 × 82.00	.315–.405	4	24
	53 × 90	54.50 × 92.25	.315–.405	4	24
	60 × 60	61.50 × 61.50	.315–.405	5	30
	60 × 72	61.50 × 73.75	.315–.405	4	24
	60 × 84	61.50 × 86.00	.310–.410	3	18
	60 × 96	61.50 × 98.50	.310–.410	3	18
	72 × 72	73.75 × 73.75	.310–.410	4	24
	72 × 84	73.75 × 86.00	.310–.410	3	18
	72 × 96	73.75 × 98.50	.310–.410	3	18
0.500	36 × 48	37.00 × 49.25	.430–.530	8	48
	48 × 72	49.25 × 73.75	.430–.530	4	24
	48 × 84	49.25 × 86.00	.430–.530	3	18
	48 × 96	49.25 × 98.50	.430–.530	3	18
	53 × 80	54.00 × 82.00	.430–.530	3	18
	53 × 90	54.00 × 92.00	.430–.530	3	18
	60 × 60	61.50 × 61.50	.430–.530	4	24
	60 × 72	61.50 × 73.75	.430–.530	3	18
	60 × 84	61.50 × 86.00	.425–.535	2	12
	60 × 96	61.50 × 98.50	.425–.535	2	12
	72 × 72	73.75 × 73.75	.425–.535	3	18
	72 × 84	73.75 × 86.00	.425–.535	2	12
	72 × 96	73.75 × 98.50	.425–.535	2	12
0.625	48 × 72	48.50 × 72.75	.548–.658	3	18
	48 × 96	48.50 × 97.00	.548–.658	2	14
	60 × 72	60.75 × 72.75	.548–.658	2	14
	60 × 96	60.75 × 97.00	.543–.663	2	12
	72 × 72	72.75 × 72.75	.543–.663	2	12
	72 × 96	72.75 × 97.00	.543–.663	2	8
0.750	36 × 48	37.00 × 49.00	.670–.780	6	30
	48 × 72	48.50 × 72.75	.670–.780	3	15
	48 × 96	48.50 × 97.00	.670–.780	2	12
	60 × 72	60.75 × 72.75	.670–.780	2	12
	60 × 96	60.75 × 97.00	.660–.790	2	10
	72 × 72	72.75 × 72.75	.660–.790	2	10
	72 × 96	72.75 × 97.00	.660–.790	2	8
0.875	48 × 72	48.50 × 72.75	.791–.901	3	15
	48 × 96	48.50 × 97.00	.791–.901	2	10
	60 × 72	60.75 × 72.75	.791–.901	2	10
	60 × 96	60.75 × 97.00	.753–.921	2	8
	72 × 72	72.75 × 72.75	.753–.921	1	9
	72 × 96	72.75 × 97.00	.753–.921	1	6
1.000	36 × 48	37.00 × 49.00	.913–1.023	4	24
	48 × 72	48.50 × 72.75	.913–1.023	2	12
	48 × 96	48.50 × 97.00	.913–1.023	2	10
	60 × 72	60.75 × 72.75	.913–1.023	2	10
	60 × 96	60.75 × 97.00	.888–1.048	1	7
	72 × 72	72.75 × 72.75	.888–1.048	1	8
	72 × 96	72.75 × 97.00	.888–1.048	1	6
1.125	48 × 72	48.50 × 72.75	1.021–1.157	2	10
	48 × 96	48.50 × 97.00	1.021–1.157	1	8
	60 × 72	60.75 × 72.75	1.021–1.157	1	8
	60 × 96	60.75 × 97.00	1.005–1.175	1	6
	72 × 72	72.75 × 72.75	1.005–1.175	1	7
	72 × 96	72.75 × 97.00	1.005–1.175	1	5

POLYCAST® STANDARD PACKAGING, TOLERANCES AND OVERAGES

The following listing shows guaranteed overages, tolerance ranges and standard package quantities.

THICKNESS	BILLING SIZE	ACTUAL SIZE	TOLERANCE RANGE	SHEETS PER CASE	SHEETS PER PALLET
1.250	36 × 48	37.00 × 49.00	1.156–1.302	3	18
	48 × 72	48.50 × 72.75	1.156–1.302	2	10
	48 × 96	48.50 × 97.00	1.156–1.302	1	7
	60 × 72	60.75 × 72.75	1.156–1.302	1	7
	60 × 96	60.75 × 97.00	1.156–1.302	1	6
	72 × 72	72.75 × 72.75	1.156–1.302	1	6
	72 × 96	72.75 × 97.00	1.156–1.302	1	5
1.125	48 × 72	48.50 × 72.75	1.156–1.344	2	10
	48 × 96	48.50 × 97.00	1.156–1.344	1	7
	60 × 72	60.75 × 72.75	1.156–1.344	1	7
	60 × 96	60.75 × 97.00	1.156–1.344	1	6
	72 × 72	72.75 × 72.75	1.156–1.344	1	6
	72 × 96	72.75 × 97.00	1.156–1.344	1	5
1.500	36 × 48	37.00 × 49.00	1.379–1.539	2	18
	48 × 72	48.50 × 72.75	1.379–1.539	1	9
	48 × 96	48.50 × 97.00	1.379–1.539	1	7
	60 × 72	60.75 × 72.75	1.379–1.539	1	7
	60 × 96	60.75 × 97.00	1.341–1.577	1	6
	72 × 72	72.75 × 72.75	1.341–1.577	1	6
	72 × 96	72.75 × 97.00	1.341–1.577	1	5
1.750	48 × 72	48.50 × 72.75	1.613–1.799	1	8
	48 × 96	48.50 × 97.00	1.613–1.799	1	6
	60 × 72	60.75 × 72.75	1.613–1.799	1	6
	60 × 96	60.75 × 97.00	1.570–1.842	1	5
	72 × 72	72.75 × 72.75	1.570–1.842	1	5
	72 × 96	72.75 × 97.00	1.570–1.842	1	4
2.000	36 × 48	37.00 × 49.00	1.848–2.058	2	14
	48 × 72	48.50 × 72.75	1.848–2.058	1	7
	48 × 96	48.50 × 97.00	1.848–2.058	1	6
	60 × 72	60.75 × 72.75	1.848–2.058	1	6
	60 × 96	60.75 × 97.00	1.798–2.108	1	5
	72 × 72	72.75 × 72.75	1.798–2.108	1	5
	72 × 96	72.75 × 97.00	1.798–2.108	1	4
2.250	48 × 72	48.50 × 72.75	2.084–2.320	1	5
	48 × 96	48.50 × 97.00	2.084–2.320	1	4
	60 × 72	60.75 × 72.75	2.084–2.320	1	4
	60 × 96	60.75 × 97.00	2.084–2.320	1	3
	72 × 72	72.75 × 72.75	2.084–2.320	1	4
	72 × 96	72.75 × 97.00	2.084–2.320	1	3
2.500	48 × 72	48.50 × 72.75	2.319–2.579	1	4
	48 × 96	48.50 × 97.00	2.319–2.579	1	4
	60 × 72	60.75 × 72.75	2.319–2.579	1	4
	60 × 96	60.75 × 97.00	2.319–2.579	1	3
	72 × 72	72.75 × 72.75	2.319–2.579	1	3
	72 × 96	72.75 × 97.00	2.319–2.579	1	2
2.750	48 × 72	48.50 × 72.75	2.556–2.842	1	5
	48 × 96	48.50 × 97.00	2.556–2.842	1	3
	60 × 72	60.75 × 72.75	2.556–2.842	1	4
	60 × 96	60.75 × 97.00	2.556–2.842	1	3
	72 × 72	72.75 × 72.75	2.556–2.842	1	3
	72 × 96	72.75 × 97.00	2.556–2.842	1	2
3.000	36 × 48	36.50 × 48.50	2.792–3.102	2	6
	48 × 72	48.50 × 72.75	2.792–3.102	1	4
	48 × 96	48.50 × 97.00	2.792–3.102	1	3
	60 × 72	60.75 × 72.75	2.792–3.102	1	3
	60 × 96	60.75 × 97.00	2.792–3.102	1	2
	72 × 72	72.75 × 72.75	2.792–3.102	1	3
	72 × 96	72.75 × 97.00	2.792–3.102	1	2
3.250	48 × 72	48.50 × 72.75	3.028–3.364	1	4
	48 × 96	48.50 × 97.00	3.028–3.364	1	3
	60 × 72	60.75 × 72.75	3.028–3.364	1	3
	60 × 96	60.75 × 97.00	3.028–3.364	1	2
	72 × 72	72.75 × 72.75	3.028–3.364	1	2
	72 × 96	72.75 × 97.00	3.028–3.364	1	2
3.500	48 × 72	48.50 × 72.75	3.261–3.621	1	3
	48 × 96	48.50 × 97.00	3.261–3.621	1	2
	60 × 72	60.75 × 72.75	3.261–3.621	1	2
	60 × 96	60.75 × 97.00	3.261–3.621	1	2
	72 × 72	72.75 × 72.75	3.261–3.621	1	2
	72 × 96	72.75 × 97.00	3.261–3.621	1	2
3.750	48 × 72	48.50 × 72.75	3.498–3.884	1	3
	48 × 96	48.50 × 97.00	3.498–3.884	1	2
	60 × 72	60.75 × 72.75	3.498–3.884	1	2
	60 × 96	60.75 × 97.00	3.498–3.884	1	2
	72 × 72	72.75 × 72.75	3.498–3.884	1	2
	72 × 96	72.75 × 97.00	3.498–3.884	1	2
4.000	36 × 48	36.50 × 48.50	3.732–4.142	1	6
	48 × 72	48.50 × 72.75	3.732–4.142	1	3
	48 × 96	48.50 × 97.00	3.732–4.142	1	2
	60 × 72	60.75 × 72.75	3.732–4.142	1	2
	60 × 96	60.75 × 97.00	3.732–4.142	1	2
	72 × 72	72.75 × 72.75	3.732–4.142	1	2
	72 × 96	72.75 × 97.00	3.732–4.142	1	2
4.250	48 × 72	48.50 × 72.75	3.970–4.400	1	3
	48 × 96	48.50 × 97.00	3.970–4.400	1	2
	60 × 72	60.75 × 72.75	3.970–4.400	1	2
	60 × 96	60.75 × 97.00	3.970–4.400	1	2
	72 × 72	72.75 × 72.75	3.970–4.400	1	2
	72 × 96	72.75 × 97.00	3.970–4.400	1	2

OVERSIZED SHEET

THICKNESS	BILLING SIZE	ACTUAL SIZE	TOLERANCE RANGE	SHEETS PER CASE
0.125	48 × 120	48.75 x 121.75	.085-.155	10
	60 × 120	61.00 x 121.75	.085-.155	8
	72 × 120	73.00 x 121.75	.085-.155	6
0.150	48 × 120	48.75 x 121.75	.109-.179	8
	60 × 120	61.00 x 121.75	.109-.179	7
	72 × 120	73.00 x 121.75	.109-.179	6
0.187	48 × 120	48.75 x 121.75	.144-.214	7
	60 × 120	61.00 x 121.75	.144-.214	6
	72 × 120	73.00 x 121.75	.144-.214	5
0.220	48 × 120	48.75 x 121.75	.170-.250	6
	60 × 120	61.00 x 121.75	.170-.250	5
	72 × 120	73.00 x 121.75	.170-.250	5
0.250	48 × 120	48.75 x 121.75	.200-.280	5
	60 × 120	61.00 x 121.75	.200-.280	4
	72 × 120	73.00 x 121.75	.200-.280	3
0.312	48 × 120	48.75 x 121.75	.254-.344	4
	60 × 120	61.00 x 121.75	.254-.344	3
	72 × 120	73.00 x 121.75	.254-.344	3
0.375	48 × 120	48.75 x 121.75	.310-.410	3
	60 × 120	61.00 x 121.75	.310-.410	3
	72 × 120	73.00 x 121.75	.310-.410	2
0.500	48 × 120	48.75 x 121.75	.425-.535	3
	60 × 120	61.00 x 121.75	.425-.535	2
	72 × 120	73.00 x 121.75	.425-.535	2
0.750	48 × 120	48.75 x 121.75	.690-.810	1
	60 × 120	61.00 x 121.75	.690-.810	1
	72 × 120	73.00 x 121.75	.690-.810	1
1.000	48 × 120	48.75 x 121.75	.888-1.048	1
	60 × 120	61.00 x 121.75	.888-1.048	1
	72 × 120	73.00 x 121.75	.888-1.048	1
1.250	48 × 120	48.75 x 121.75	1.156-1.302	1
	60 × 120	61.00 x 121.75	1.156-1.302	1
	72 × 120	73.00 x 121.75	1.156-1.302	1
1.500	48 × 120	48.75 x 121.75	1.341-1.577	1
	60 × 120	61.00 x 121.75	1.341-1.577	1
	72 × 120	73.00 x 121.75	1.341-1.577	1
2.000	48 × 120	48.75 x 121.75	1.798-2.108	1
	60 × 120	61.00 x 121.75	1.798-2.108	1
	72 × 120	73.00 x 121.75	1.798-2.108	1
2.500	48 × 120	48.75 x 121.75	2.319-2.579	1
	60 × 120	61.00 x 121.75	2.319-2.579	1
	72 × 120	73.00 x 121.75	2.319-2.579	1
3.000	48 × 120	48.75 x 121.75	2.792-3.102	1
	60 × 120	61.00 x 121.75	2.792-3.102	1
	72 × 120	73.00 x 121.75	2.792-3.102	1
3.500	48 × 120	48.75 x 121.75	3.261-3.621	1
	60 × 120	61.00 x 121.75	3.261-3.621	1
	72 × 120	73.00 x 121.75	3.261-3.621	1
4.000	48 × 120	48.75 x 121.75	3.732-4.142	1
	60 × 120	61.00 x 121.75	3.732-4.142	1
	72 × 120	73.00 x 121.75	3.732-4.142	1

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