



POLYCAST[®]

Cell Cast Acrylic
Rods & Tubes



RODS & TUBES

Polycast® cast acrylic rods and tubes provide outstanding optical clarity, high impact resistance, superb weathering ability and excellent UV properties. A variety of sizes, thicknesses and colors are available for a wide range of applications and industrial uses.

INVENTORY AND MANUFACTURING

Featuring exceptional and consistent quality, Polycast rods and tubes are delivered with the dependability and service you expect from Polycast. We maintain a large tubing and rod inventory for quick and timely order processing. Each rod and tube is inspected, then carefully packaged and labeled with all specifications.

Our inventory tracking system ensures that we have real time information and can fill your order quickly and accurately.

MACHINING & FABRICATION

We have a fabrication and machining facility staffed by experts who are able to handle your exact needs. Available operations include flame polishing, angle cuts, drilling, chamfering and specialty machining. Any rod or tube can be cut to meet your specifications.

APPLICATIONS

Polycast Rods and Tubes are ideal for many applications, including:

- Displays
- Signage
- Medical devices
- Arts & crafts
- Aquariums
- Game calls
- Reservoirs
- Sight glasses
- Lighting displays
- Product displays

And much more

CAST ACRYLIC TUBING

Clear cast acrylic tubing is manufactured in standard 6' lengths (random 71" to 73") and in diameters ranging from 1.5" O.D. to 27.65" O.D. Wall thicknesses of .187", .250", .375" and .500" are available in most diameter tubes.

Special wall thicknesses are available on request.

CAST ACRYLIC ROD

Clear cast acrylic rods are manufactured in diameters ranging from .625" to 9.00". Tight tolerances throughout the manufacturing process ensure you receive the highest quality rods available. Standard lengths for clear rods are:

- 8' for rods .250" to 2.00" in diameter
- 6' for rods 2.125" to 3.00" in diameter
- 4' for rods 3.25" to 6.00" in diameter
- 3' for rods 6.50" to 8.00" in diameter
- 2' for rods 9.00" in diameter

Colored rods are manufactured in 46"–49.5" lengths.

CERTIFICATIONS

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

NSF Grade: Polycast offers rods and tubes which meet the requirements for the National Sanitation Foundation.

FDA: 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.

POLYCAST FDA GRADE ACRYLIC SHEET:

- For use in manufacturing food and beverage dispensing equipment
- Certified colors: Clear, White, Green, Red, Blue
- Polycast® FDA Grade products are Certified NSF Standard 51.

ASTM D5436: Polycast acrylic rods and tubes are manufactured in alignment with ASTM D5436.

POLYCAST® FDA



Tight tolerances throughout the manufacturing process ensure you receive the highest quality rods available.



DATA CHART

PROPERTIES	UNITS	DATA
Refractive Index	—	1.49
Specific Gravity	—	1.19
Spectral Transmittance (Type (UVA))		
270nm	%	<5
280nm	%	<5
290nm	%	<5
310nm	%	<5
340nm	%	<5
Luminous Transmittance		
< 4.7 mm (0.187 in.) thickness	%	92
25.4 mm (1.00 in.) thickness	%	89
> 25.4 mm (1.00 in.) thickness	%	87
Haze	%	1.0
Deflection Temperature	°F (°C)	401 (205)
Water Absorption	%	0.8
Tensile Strength	psi	11,000
Elongation at Break	%	3



RODS

COLORS

STANDARD

2025	Black	2130	Pink	2473	Copper
2026	Extra Black	2146	Ivory	2630	Brown
2044	Lt Navy Gray	2208	Yellow	3030	Green
2050	Blue	2283	Red	4000	Ultra-Brite
2054	Dk Navy Gray	2328	Dk Tan	6512	Green
2064	Gray	2370	Bronze	6738	Violet
2069	Blue	2404	Bronze	7328	White
2074	Gray	2414	Green	9702	Violet
2092	Green	2422	Amber	9712	Purple
2111	Green	2423	Red		
2112	Dk Green	2424	Blue		
2114	Blue	2447	White		

FLUORESCENT

6213	Red
6481	Green
6533	Neon Green
6677	Blue
6954	Amber

PEARL

1601	White
1603	Fluorescent Green
1725	Golden Oak
1730	Black
1735	Black 'n' Gold
1740	Red
1745	Orange
1750	Blue
1755	Hot Pink
1765	Green
1770	Black Cherry
1775	Teal

Diameters for colored rods range from .500" to 3.00" in standard 4' lengths



CLEAR, POLISHED

(Machine grade rod is available upon request.)

DIAMETER	LENGTH (FT)	WEIGHT (LBS/FT)	TOLERANCE
.250*	8	.026	±.005
.312*	8	.039	±.005
.375*	8	.056	±.005
.500*	8	.100	±.010
.625	8	.158	±.010
.750	8	.227	±.010
.875	8	.309	±.010
1.000	8	.403	±.010
1.125	8	.511	±.015
1.250	8	.630	±.015
1.375	8	.762	±.015
1.500	8	.907	±.015
1.625	8	1.070	±.015
1.750	8	1.240	±.015
1.875	8	1.420	±.015
2.000	8	1.610	±.015
2.125	6	1.820	±.030
2.250	6	2.040	±.030
2.500	6	2.520	±.030
2.750	6	3.050	±.030
3.000	6	3.630	±.030
3.250	4	4.260	±.045
3.500	4	4.940	±.045
3.750	4	5.670	±.045
4.000	4	6.450	±.045
4.250	4	7.280	±.045

DIAMETER	LENGTH (FT)	WEIGHT (LBS/FT)	TOLERANCE
4.500	4	8.200	±.045
4.750	4	9.100	±.045
5.000	4	10.100	±.045
5.250	4	11.100	±.045
5.500	4	12.200	±.045
5.750	4	13.300	±.045
6.000	4	14.600	±.045
6.500	3	17.200	±.060
7.000	3	20.000	±.060
7.500	3	22.800	±.060
8.000	3	26.000	±.060
9.000	2	29.259	±.060

*Available in machine grade only.



TUBES

COLORS

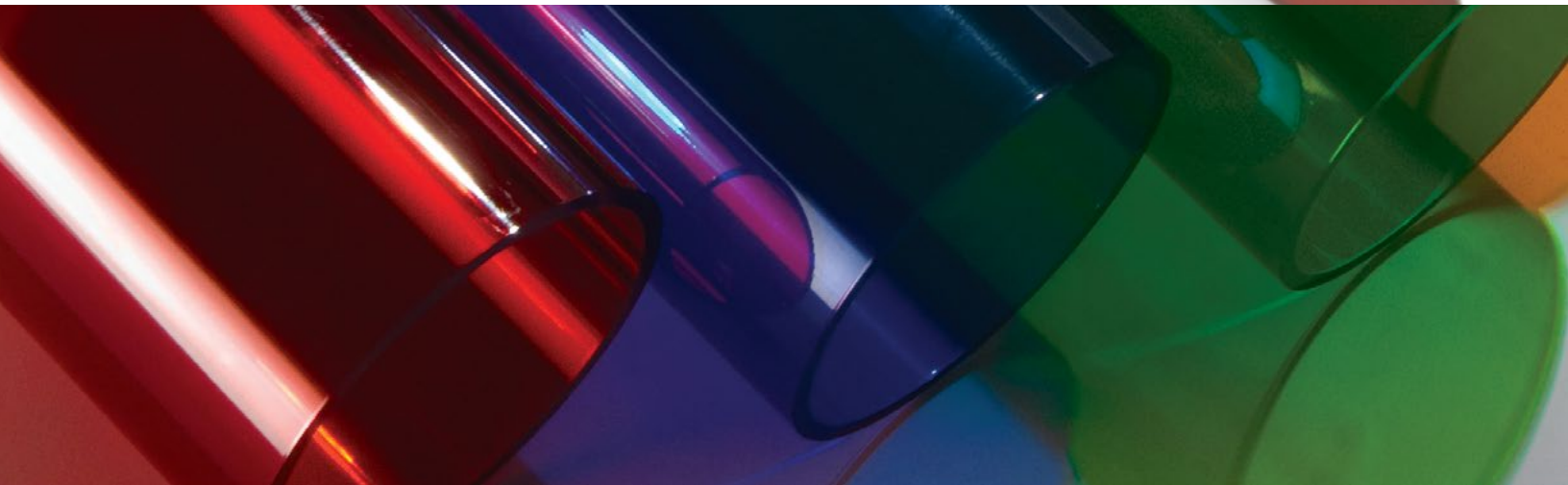
6000	White (Translucent)
6100	Black
6300	Opaque White
6400	Red
6500	Green
6600	Blue
6681	Gas Pump Blue
6700	Amber

TOLERANCES

NORMAL O.D.	PLUS/MINUS
1.250" – 3.000"	.020
3.125" – 3.875"	.030
4.000" – 6.000"	.045
6.250" – 12.000"	.065
12.250" – 27.625"	.125



Spartech™ acrylic tubes provide outstanding optical clarity and high impact resistance



CLEAR, POLISHED 71"–73" LENGTHS

(Custom lengths can be cut for a charge.)

O.D.	WEIGHT (LBS/FT)				
	.125"	.187"	.250"	.375"	.500"
1.500	.277	.397	.504		
1.625	.303	.435	.555		
1.750	.328	.473	.605		
1.875	.355	.489	.630		
2.000	.370	.548	.706	.889	1.075
2.250	.429	.624	.807	1.060	1.353
2.375	.453	.662	.857	1.145	1.431
2.500	.479	.699	.908	1.233	1.499
2.625	.483	.703	.950	1.297	1.635
2.750	.529	.775	1.008	1.437	1.703
2.875	.545	.813	1.059	1.513	1.806
3.000	.580	.851	1.109	1.588	1.932
3.125	.605	.889	1.168	1.664	2.030
3.250	.630	.926	1.210	1.740	2.126
3.375	.655	.964	1.260	1.815	2.223
3.500	.681	1.002	1.311	1.891	2.420
3.625	.705	1.039	1.362	1.967	2.520
3.750	.731	1.078	1.412	2.043	2.622
3.875	.757	1.115	1.462	2.119	2.724
4.000	.781	1.154	1.512	2.193	2.824
4.124	.807	1.191	1.564	2.269	2.925
4.250	.833	1.230	1.614	2.344	3.025
4.375	.860	1.275	1.664	2.420	3.125
4.500	.883	1.305	1.715	2.496	3.227
4.625	.908	1.342	1.765	2.572	3.329
4.750	.933	1.381	1.815	2.648	3.429
4.875	.957	1.417	1.865	2.722	3.529
5.000	.983	1.455	1.915	2.798	3.630
5.250	1.034	1.533	2.170	2.950	3.832
5.500	1.084	1.609	2.092	3.101	4.033
5.625	1.108	1.644	2.168	3.177	4.134
5.750	1.134	1.683	2.219	3.253	4.235
6.000	1.184	1.759	2.319	3.403	4.437
6.093	1.204	1.786	2.357	3.459	4.513

O.D.	WEIGHT (LBS/FT)				
	.125"	.187"	.250"	.375"	.500"
6.250	1.255	1.831	2.388	3.583	4.677
6.500	1.280	1.910	2.522	3.706	4.841
6.750	1.340	1.963	2.575	3.864	5.077
7.000	1.389	2.060	2.722	4.008	5.244
7.250	1.450	2.115	2.800	4.047	5.395
7.500	1.488	2.214	2.925	4.311	5.647
7.626	1.502	2.234	2.950	4.359	5.730
8.000	1.588	2.634	3.125	4.613	6.051
8.250	1.639	2.440	3.227	4.765	6.252
8.500	1.689	2.515	3.329	4.916	6.454
8.750	1.739	2.591	3.445	5.068	6.656
9.000	1.789	2.659	3.529	5.218	6.857
9.125	1.800	2.705	3.560	5.280	6.902
9.250	1.841	2.743	3.360	5.370	7.059
9.500	1.891	2.819	3.732	5.505	7.261
10.000	1.989	2.969	3.932	5.832	7.661
10.500	2.090	3.120	4.134	6.125	8.201
10.625	2.140	3.186	4.152	6.155	8.402
11.000	2.193	3.271	4.336	6.428	8.741
11.500	2.294	3.424	4.539	6.7352	8.874
11.750	2.398	3.499	4.641	6.882	9.074
12.000	2.421	3.574	4.739	7.033	9.278
12.500	2.540	3.720	4.930	7.310	9.650
13.625	2.620	3.924	5.207	7.718	10.149
14.000	2.800	4.235	5.550	8.245	10.891
15.000	3.001	4.485	5.953	8.858	11.698
16.000	3.187	4.600	6.221	9.077	12.023
18.000	3.610	5.201	7.026	10.209	13.886
20.000	4.167	6.441	8.229	12.135	15.180
24.000	4.650	7.126	9.395	13.701	18.463
27.625	–	7.836	10.585	16.007	22.601

TYPICAL PROPERTIES			CAST ACRYLIC TUBING (ASTM D5436)	CAST ACRYLIC RODS (ASTM D5436)
MECHANICAL PROPERTIES	TEST METHOD	UNIT		
Specific Gravity	ASTM D792	—	1.19	1.19
Tensile Strength	ASTM D638			
Yield		psi	11,250	11,250
Elongation, Rupture		%	6.4	6.4
Modulus of Elasticity		psi	450,000	450,000
Flexural Strength	ASTM D790			
Rupture		psi	15,250	15,250
Modulus of Elasticity		psi	475,000	475,000
Compressive Strength	ASTM D695			
Yield		psi	18,000	18,000
Modulus of Elasticity		psi	440,000	440,000
Compressive Deformation (Under Load) 4,000 psi 112F, 24 hr.	ASTM D621	%	0.75	0.75
Shear Strength	ASTM D732	psi	9,000	9,000
Impact Strength	ASTM D256			
Izod Milled Notch		ft-lbs/in.	.0375*	.0375*
Falling Steel Ball, 0.5 lb. (Breakage drop height (ft.))			18	18
Rockwell Hardness	ASTM D785	—	M98*	M98*
Barcol Hardness	ASTM D2583	—	50*	50*
Residual Shrinkage (Internal Strain) Cast Acrylic Rods and Tubes	ASTM D4802	%	2.2	2.2
OPTICAL PROPERTIES	TEST METHOD	UNIT		
Refractive Index	ASTM D542		1.49	1.49
Luminous Transmittance (as Cast)	ASTM D1003	%	92	92
Total			<0.5	<0.5
Haze			0.5	0.5
Yellowness Index	ASTM D1925			
After Accelerated Weathering	ASTM G155	%	92	—
Total			<0.5	
Haze				
Effect of Accelerated Weathering on Appearance Crazing/Discoloration/Warping	ASTM G155	—	none	—
Ultraviolet Transmission @ 320 nm		%	0	>80
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*
Deflection Temperature Under Load (HDT)	ASTM D648			
66 psi		°F	230*	230*
264 psi		°F	203*	203*
Max. Recommended Continuous Service Temperature	—	°F	180	180
Coefficient of Linear Thermal Expansion	ASTM D696	in/in/°F	0.000042	0.000042
Coefficient of Thermal Conductivity	Cenco-Fitch	BTU/ (hr) (Ft ²) (°F/in)	1.3	1.3
Water Absorption	26 day immersion	%	0.65	0.65
	24 hour immersion	%	0.2	0.2
Flammability (Burning Rate) UL94HB	ASTM D635	in/min	1.2*	1.2*
Self-ignition Temperature	ASTM D1929	°F	830*	830*
Specific Heat @ 77°F	DuPont 900 (Therm. An. Cal.) [†]	BTU/(lb) (°F)	0.35	0.35
Smoke Density	ASTM D2843	%	27*	27*

*Values will change with thickness.

Call 800-677-4338 or email marketing@spartech.com to order these products.

FOLLOW US:

TYPICAL PROPERTIES			CAST ACRYLIC TUBING (ASTM D5436)
ELECTRICAL PROPERTIES	TEST METHOD	UNIT	
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 D150	—	0.06 0.04 0.02
Loss Factor 60 Cycles 1,000 Cycles 1,000,000 Cycles	ASTM D150	—	0.21 0.32 0.06
Arc Resistance	ASTM D495	—	No Tracking
Volume	ASTM D257	ohm-cm	1.6 x 10 ¹⁶
Surface Resistivity	ASTM D257	ohms	1.9 x 10 ¹⁵

Additional data codes and approvals are available upon request.

*Values will change with thickness.

We are a leading plastics manufacturer that leverages our knowledge of materials, processing, and application development to deliver the highest level of value to our customers.



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