

TECHNICAL INFORMATION

PROPERTY	HYZOD	UNITS	TEST METHOD
GENERAL			
Specific Gravity	1.2	-	ASTM D-792
Water Absorption	0.15	%	ASTM D-570
OPTICAL			
Transmittance .125"	85	%	ASTM D-1003
Haze .125"	1.0	%	ASTM D-1003
Δ YI (3 yrs-AR & SL only)	<2	-	ASTM D-1925
ABRASION RESISTANCE (AR only)			
Taber Resistance, 100 cycles	0.5	Δ%	ASTM D-1044
Taber Resistance, 500 cycles	0.8	Δ%	ASTM D-1044
THERMAL			
Deflection Temperature 264 psi	270	°F	ASTM D-648
Deflection Temperature 66 psi	280	°F	ASTM D-648
Coefficient of Thermal Expansion	3.75 x 10 ⁻⁵	in/ in°F	ASTM D-696
Smoke Density .125"	62.8	-	ASTM D-2843
Coefficient of Thermal Conductivity	1.35	BTU/hr/ft ² /°F	ASTM C-177
Shading Coefficient Clear	1.02	-	ASHRAE
Shading Coefficient Gray/Bronze	.79	-	ASHRAE
MECHANICAL			
Tensile Strength Yield - .125"	9,000	psi	ASTM D-638
Tensile Strength, Ultimate	9,500	psi	ASTM D-638
Tensile Modulus	340,000	psi	ASTM D-638
Compressive Strength	10,373	psi	ASTM D-695
Flexural Strength at 5% strain	13,500	psi	ASTM D-790
Flexural Modulus .125"	345,000	psi	ASTM D-790
Izod Impact Notched .125"	12-16	ft.lb/in of notch	ASTM D-256
Drop Ball Impact .125"	>200	ft.lbs.	S.P Test
Gardner Impact 1/2" Diameter Dart	>320 @ 1/8"	in.lbs.	ASTM D-3029
FLAMMABILITY			
Horizontal Burn, AEB	<1	in	ASTM D-635
Horizontal Burn, ATB	<1	min	ASTM D-635
Ignition Temperature Self	1077	°F	ASTM D-1929
Ignition Temperature Flash	872	°F	ASTM D-1929

THE SHEFFIELD EDGE

Founded in 1949, Sheffield Plastics, Inc., is a world leader in the extrusion of high-quality, high-performance sheet plastics. With two production facilities and corporate headquarters located in Sheffield, Mass., and a nationwide distribution system, Sheffield Plastics manufactures a wide range of polycarbonate sheet products under the HYZOD® brand name. The company sets rigid raw material requirements for its polycarbonate resins supplied by GE Plastics, Miles and Dow. These materials, coupled with our state-of-the-art production and quality control technology, assure that the physical properties of HYZOD sheet will meet or exceed any directly competitive product on the market today.

Sheffield Plastics, Inc., will not be responsible for the use of this information relative to actual application. Users must make their own determination of its suitability for their specific use. No warranty is made for the fitness of any product, and nothing herein waives any of the seller's conditions of sale.

HYZOD SHEET COMBUSTIBILITY

Although the least combustible glazing material, polycarbonate sheet will ignite when exposed to an ignition source over 800°F.

TECHNICAL INFORMATION (continued)

Physical Properties

High impact resistance, abrasion and UV-protective surfaces, compliance with flammability ratings of major building codes and high light transmittance characterize HYZOD polycarbonate sheet.

Code Ratings

HYZOD polycarbonate sheet products satisfy major building code requirements including: -

- CC-1 rating in construction applications (BOCA, ICBO and SBCCI)
- Listed with Underwriter's Laboratories for the UL 94 flammability standard and UL 972 standard for Burglary Resisting Glazing Materials
- HYGARD BR750 and R1250 are listed with Underwriter's Laboratories for Level I and Level III Bullet Resisting Glazing under the UL 752 standard
- Approved for CPSC (16CFR1201) Categories I & II

- Meets ANSI Z 97.1 1984 Safety Glazing Standards

HYZOD AR meet H.P. White TP0500.02 Physical Attack Test Requirements for Level I containment glazing and HYGARD laminates meet a variety of specific requirements for protection against ballistic and/or physical attack. Test results and other product specific information is available directly from Sheffield Plastics upon request.

Thermal Properties

HYZOD polycarbonate sheet is an effective insulating material, particularly when compared to glass.

HYZOD Sheet Combustibility

Polycarbonate sheet is among the least combustible of popular plastic glazing materials.

However, it will ignite if exposed to an ignition source over 800°F.

Typical Physical Properties

HYZOD Sheet

General

Specific Gravity	1.2
Water Absorption	0.15

Optical

Transmittance .125"	85
Haze .125"	1.0
Δ YI (3yrs - AR & SI, only)	<2

Abrasion Resistance (AR only)

Taber Resistance, 100 cycles	0.5
Taber Resistance, 500 cycles	0.8

Thermal

Deflection Temperature 264 psi	270
Deflection Temperature 66 psi	280
Coefficient of Thermal Expansion	3.75 x 10 ⁻⁵
Smoke Density .125"	62.8
Coefficient of Thermal Conductivity	1.35
Shading Coefficient Clear	1.02
Shading Coefficient Gray/Bronze	79

Mechanical

Tensile Strength Yield .125"	9,000
Tensile Strength, Ultimate	9,000
Tensile Modulus	340,000
Compressive Strength	10,373
Flexural Strength at 5% strain	13,500
Flexural Modulus .125"	345,000
Izod Impact Notched .125"	12-16
Drop Ball Impact .125"	<200
Gardner Impact 1/2" Diameter Dart	<320 @ 1/8"

Flammability

Horizontal Burn, AEB	<1
Horizontal Burn, ATB	<1
Ignition Temperature Self	1077
Ignition Temperature Flash	872

Product Availability Product/Grade	Description	Standard Sizes	Standard Colors	Applications
HYZOD GP Sheet General Purpose	Polished Surfaces	Gauges 1/16 - 1/2" L:96,120" W:48, 60, 72, 96"	Clear Gray, Bronze	Flat Glazing Curved Glazing
Privacy Patterns HYZOD GP 9160 (Matte) HYZOD GP 9180 (Pebble)	Matte Surface 1 side, Polished 1 side Textured both sides	Gauges 1/16 - 1/4" L:96" W:48" Gauges 1/8 - 1/4" L:96" W:48"	Clear Colors available	Privacy/Protective Glazing Industrial Overglazing, Partitions, Light Diffusers
HYZOD SL SunLife Sheet Extended UV Protection	Extended UV Protection 1 side, Polished 2 sides	Gauges 1/8 - 1/2" L:96, 120" W:48, 60, 72, 96"	Clear Gray, Bronze	Skylights, Barrel Vault, Covered Walkways, Canopies
HYZOD AR Sheet Abrasion Resistant Sheet	Polished Surfaces Hard-Coat 2 sides	Gauges 1/8 - 1/2" L:72, 96" W:48, 60, 72"	Clear Gray, Bronze	Flat Architectural & Transportation Glazing, Security Applications
HYGARD Laminate Security Glazing	Laminated Polycarbonate & Polycarbonate/Acrylic, Hard-Coat 2 sides	Gauges 3/8, 1/2, 3/4, 1-1/4" L:72, 96" W:38, 48, 60"	Clear	Physical Attack & Bullet Resisting Security Glazing