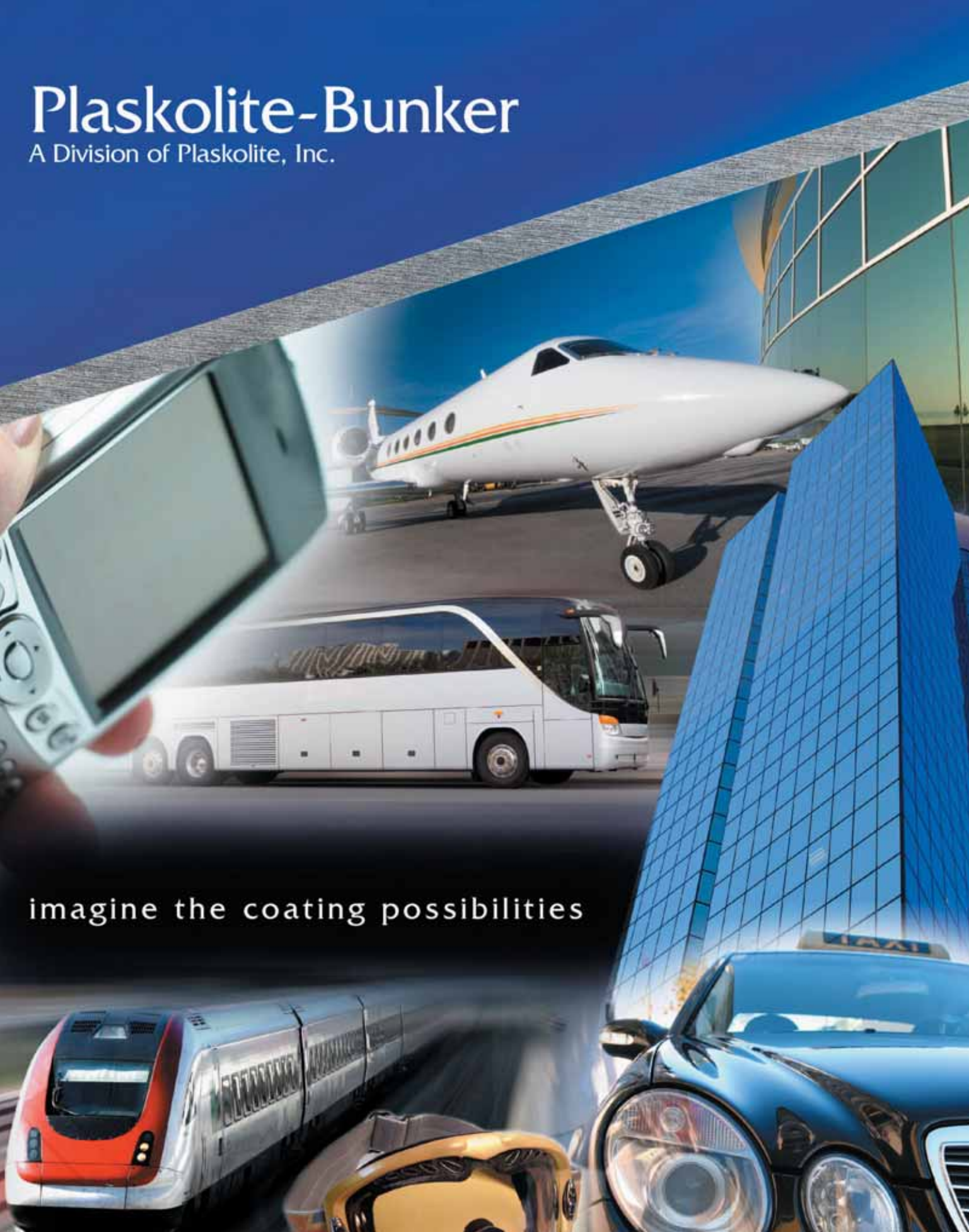
Plaskolite-Bunker

A Division of Plaskolite, Inc.



imagine the coating possibilities

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Imagine the coating possibilities

Founded in 1950 in Columbus, Ohio, by the Dunn Family, Plaskolite Inc. is proud to be the largest privately owned U.S. manufacturer of continuously processed acrylic sheeting. Now, with the acquisition of Bunker Plastics and the formation of Plaskolite-Bunker, our reputation of unparalleled service, quality, stability and integrity in the manufacturing of acrylic sheeting is being carried over and expanded into our diverse line of high-performance coatings. When you combine Plaskolite's proven acrylic sheeting expertise with these new capabilities, you can only begin to imagine the coating possibilities. From aircraft windows, safety goggles, automobile headlights and cell phone displays to skylights, greenhouse panels, clean-room products, lenses and much more, Plaskolite-Bunker can manufacture and deliver a product to meet and exceed your demanding unique specifications.

Plaskolite-Bunker is located in a 60,000 square foot production facility near Dallas, Texas. The company's core business units consist of:

- Specialty coatings
- Toll coating programs
- Custom thermoforming
- Custom metallized products

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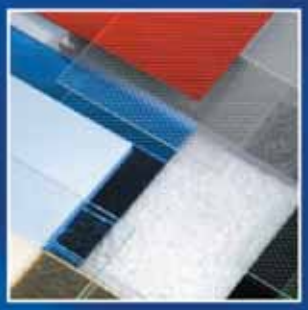

Product Availability	Abrasion Resistant	Formable Hard Coat	IMHC-UV Cure Hard Coat	Anti-Fog	Hard Coat Anti-Fog	IR Solar Coating	Reduced Glare 20, 45 & 80 Gloss Level
Continuously Manufactured Acrylic	◆		◆	◆	◆	◆	◆
Opaque Acrylic Mirror	◆		◆				◆
1st Surface Acrylic Mirror	◆		◆				◆
Duraplex Impact Modified Acrylic	◆		◆			◆	◆
Polycarbonate	◆	◆	◆	◆	◆	◆	◆
Flame Retardant Polycarbonate	◆	◆	◆	◆	◆	◆	◆
Opaque Polycarbonate Mirror	◆	◆	◆	◆			◆
First Surface Polycarbonate Mirror	◆	◆	◆	◆			◆
Flame Retardant Polycarbonate Mirror	◆	◆	◆	◆			◆
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Abrasion Resistant Optical Quality Acrylic Coatings (HMR/AR)

Continuously Manufactured Acrylic • Cell Cast Acrylic • Molded Acrylic

Description

The highest level of scratch resistance is available with our state-of-the-art, silicone hard coatings. Our coatings are applied under stringent clean-room conditions, and are specifically formulated to match each material. Chemical resistance and UV (ultraviolet) light protection for long-term exposure to harsh weather conditions are two additional benefits of these coatings. These coatings can be applied to molded, formed or fabricated as well as flat sheet substrate, on one or both sides. Our coatings are designed to protect and improve the optical quality characteristics of plastic substrates. Our HMR/AR hard coatings provide a clear, abrasion-resistant film when applied to suitably prepared plastic surfaces. These coatings can be applied in our flow, spray, or dip coating process which meet ISO 14644-1 Certified Class 100 clean-room conditions. Our coatings are designed for use on cell cast, continuously manufactured, or molded acrylic parts.

Applications for Plaskolite's HMR/AR Coatings include:

- Menu boards
- Public transportation for buses, trains, taxi
- Safety window glazing for the building industry
- Injection molded gasoline pump LCD displays

Key Properties

• Abrasion and mar resistance • Solvent/chemical resistance • Ultraviolet light protection
• Superior optical clarity • Thermal resistance • Anti-graffiti properties

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.4
Optical Refractive Index	ASTM D542	---	1.49
Film Thickness		mil	0.2 (5)
Abrasion Resistance***			
Taber Abrader, 100 cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	<2
Taber Abrader, 500 cycles, CS-10F Wheel, 500g Load	ASTM D1003	%	<10
MECHANICAL:			
Tensile Strength - Max	ASTM D638	psi	11,030
Tensile Modulus	ASTM D638	psi	490,000
Elongation	ASTM D638	%	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	490,000
Izod Impact Strength (gauge dependent)**			
Molded Notch	ASTM D256A	ft-lbs/in	.40
Milled Notch			.28
THERMAL:			
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.0×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	203
FLAMMABILITY:			
Flame Spread Index	ASTM E84		115
Smoke Developed Index			550
Solvent Properties	**Result**		
Acetone	Good		
Windex®	Good		
Methylene Chloride	Good		
Toluene	Good		
Sulfuric Acid	Good		
Nitric Acid	Good		
Isopropanol	Good		
Kerosene	Good		

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness

Abrasion Resistant Optical Quality Polycarbonate Coatings (HMR/AR)

Polycarbonate

Description

The highest level of scratch resistance is available with our state-of-the-art, silicone hard coatings. Our coatings are applied under stringent clean-room conditions, and are specifically formulated to match the polycarbonate substrate. Our HMR/AR coatings offer chemical resistance and UV (ultraviolet) light protection for long-term exposure to harsh weather conditions. These coatings can be applied to molded, formed or fabricated as well as flat sheet substrate, on one or both sides. Our coatings are designed to protect and improve the optical quality characteristics of plastic substrates. Our HMR/AR hard coatings provide a clear, abrasion-resistant film when applied to suitably prepared plastic surfaces. These coatings can be applied in our flow, spray, or dip coating process which meet ISO 14644-1 Certified Class 100 clean-room conditions. Our HMR/AR premium-performance hard coat is a non-yellowing silicone coating which provides optimal protection against deterioration from weather. HMR coated polycarbonate complies with the ECE Automotive Regulations for European forward lighting applications. These coatings also meet the requirements of DOT FMVSS #108 and are in the AMECA list of Acceptable Plastics for optical lenses and reflectors used on motor vehicles and are suitable for all types of polycarbonate substrates.

Applications for Plaskolite's HMR/AR Coatings include:

- Aircraft windows, mirrors, lighting panels
- Public transportation for buses, trains, taxis
- Safety window glazing for the building industry
- Injection molded gasoline pump LCD displays

Key Properties

• Ultraviolet resistance • Thermal resistance • Abrasion and mar resistance
• Good clarity • Solvent/chemical resistance • Anti-graffiti properties

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.15
Sound Transmission, STC Rating (36" x 84") @ .125"	ASTM E9070	---	25
Film Thickness		Microns	6-8
Abrasion Resistance, Taber Abrader, 100 Cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	<5.0
MECHANICAL:			
Tensile Strength			
@ Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength (gauge dependent)**			
Notched @ 70°F	ASTM D256A	ft-lbs/in	12-16
Unnotched @ 73°F			60 (no failure)
THERMAL:			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY:			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1
Solvent Properties	**Result**		
Acetone	Good		
Windex®	Good		
Methylene Chloride	Good		
Toluene	Good		
Sulfuric Acid	Good		
Nitric Acid	Good		
Isopropanol	Good		
Kerosene	Good		

*These are typical properties and are not intended for specification purposes

Anti-Fog Mirror Coatings (AFM)
Polycarbonate

Description
AFM is the leading industry standard Anti-Fog Mirror coating. AFM coating offers scratch resistance while providing superior anti-fog properties. This coating can be utilized for our standard mirror, first surface, and see-thru mirror products. Our see-thru mirror coatings not only offer fog-free vision, in applications such as firefighting helmets providing relief from high heat and intense light, these coatings also protect swimmers from harsh chemicals such as chlorine and salt water in swim goggle applications.

Applications for Plaskolite's AFM Coatings include:
- Fog-free shaving mirrors
- Swim goggles and ski goggles
- Industrial safety shields

Key Properties
Permanent anti-fog surfaces • Scratch resistance • Various light transmission levels

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.15
Sound Transmission, STC Rating (36" x 84") @ .125"	ASTM E9070	---	25
Water Immersion 30 days R.T.			No Effect
Face Down Over Glass of Water at 122°F	ASTM F659***	sec.	>30
See-Thru Mirror Light Transmission	ASTM D1003	%	10-40
MECHANICAL:			
Tensile Strength			
@ Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength, (gauge dependent)**			
Notched @ 73°F	ASTM D256A	ft-lbs/in	12-16
Unnotched @ 73°F			60 (no failure)
THERMAL:			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY:			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
***Test Procedure is adapted from this test method

Anti-Fog Optical Quality Polycarbonate Coatings (AF)

Polycarbonate

Description

Plaskolite's AF coated products have a cross-linked aqueous hydrophilic polymer composition that offers outstanding anti-fog permanence. The coating will not saturate or fail under very humid conditions and will retain anti-fog properties after repeated cleaning with commercial glass and lens cleaners. This coating is formable with drape forming or line bending soft radii. Our AF technology is available with standard sized polycarbonate sheets as well as molded polycarbonate parts.

Applications for Plaskolite's AF Coatings include:

- Chemical face shields
- Swim goggles, safety glasses
- Condensation control for architectural glazing
- Condensation control for greenhouses and skylights

Key Properties

• Well suited for water-related applications: SCUBA masks, swim goggles, underwater photographic equipment, etc. • World standard for long-term and anti-fog performance

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.15
Sound Transmission, STC Rating (36" x 84") @ .125"	ASTM E9070	---	25
Water Immersion 30 days R.T.			No Effect
Face Down Over Glass of Water at 122°F	ASTM F659***	sec.	>30
MECHANICAL:			
Tensile Strength			
@ Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength, (gauge dependent)**			
Notched @ 73°F	ASTM D256A	ft-lbs/in	12-16
Unnotched @ 73°F			60 (no failure)
THERMAL:			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY:			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
***Test procedure is adapted from this test method

Hard Coat Anti-Fog Optical Quality Coating (HCAF)

Acrylic

Description

Plaskolite's HCAF coated products provide a lasting fog-free surface that is easily cleaned and resists scratching/marring. The coating will not saturate or fail under very humid conditions and will retain anti-fog properties after repeated cleaning with commercial glass and lens cleaners. This coating is formable with drape forming or line bending soft radii.

Applications for Plaskolite's HCAF Coating include:

- Retail deli-style display cases
- Condensation control for architectural uses/greenhouses

Key Properties

• Well suited for water-related applications: swim goggles, underwater photographic equipment, etc. • Long-term anti-fog performance

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.4
Optical Refractive Index	ASTM D542	---	1.49
Film Thickness		mil (microns)	0.2 (5)
Pencil Hardness Test	Handwriting Pressure	---	7H-8H
Abrasion Resistance†:			
Taber Abrader, 100 cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	< 10
Face Down Over Glass of Water at 122°F	ASTM F659***	seconds	> 30
MECHANICAL			
Tensile Strength - Max	ASTM D638	psi	11,030
Tensile Modulus	ASTM D638	psi	490,000
Elongation	ASTM D638	%	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	490,000
Izod Impact Strength, (gauge dependent)**			
Molded Notch	ASTM D256A	ft-lbs/in	.40
Milled Notch			.28
THERMAL			
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.0 x10-5
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	203
FLAMMABILITY			
Flame Spread Index	ASTM E84		115
Smoke Developed Index			550

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
*** Test Procedure is adapted from this test method
†Humidity during testing and Taber wheel variability will affect final values

Formable Acrylic Hard Coat Coatings (FAHC)

Acrylic

Description

Plaskolite's acrylic hard coated sheet is one- or two-sided, hard-coated with anti-fog properties. This material offers excellent optical clarity and good abrasion resistance. FAHC may be cold-formed or heat-drape-formed to form various contours, offering improved design capabilities.

Applications for Plaskolite's FAHC Coatings include:

- Optics/lenses
- Retail deli-style display cases
- ATV windshields
- Condensation control for architectural uses/greenhouses

Key Properties

Scratch resistance • Formable • Limited anti-fog capabilities

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.4
Optical Refractive Index	ASTM D542	---	1.49
Film Thickness		mil (microns)	0.2 (5)
Abrasion Resistance***:			
Taber Abrader, 100 cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	<10
MECHANICAL:			
Tensile Strength - Max	ASTM D638	psi	11,030
Tensile Modulus	ASTM D638	psi	490,000
Elongation	ASTM D638	%	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	490,000
Izod Impact Strength, (gauge dependent)**			
Molded Notch	ASTM D256A	ft-lbs/in	.40
Milled Notch			.28
THERMAL:			
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.0 x10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	203
FLAMMABILITY:			
Flame Spread Index	ASTM E84		115
Smoke Developed Index			550

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
***Humidity during testing and Taber wheel variability will affect final values

Formable Hard Coat Optical Quality Polycarbonate Coatings (FHC)

High Temp Resistant Substrates • Polycarbonate

Description

Plaskolite's FHC coated sheet is a thermo-formable hard-coated polycarbonate material offering excellent impact resistance, optical clarity and excellent abrasion resistance. FHC may be cold-formed or heat-drape-formed to very tight radii. The product offers virtually unlimited design flexibility without the cost of secondary coating operations of formed parts.

Applications for Plaskolite's FHC Coatings include:

- Retail deli-style display cases
- Safety visor face shields
- Aircraft windows, dust covers
- Motorcycle glazing

Key Properties

- Scratch resistance • Formable • Optical clarity
- Also available in flame retardant version that meets FAR25.853 F1AI

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.15
Sound Transmission, STC Rating (36" x 84") @ .125"	ASTM E9070	---	25
Abrasion Resistance, Taber Abrader, 100 cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	<5.0
MECHANICAL:			
Tensile Strength			
@ Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength (gauge dependent)**			
Notched @ 73°F	ASTM D256A	ft-lbs/in	12.16
Unnotched @ 73°F			60 (no failure)
THERMAL:			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY:			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1

*These are typical properties and are not intended for specification purposes

**Reported values based on .125" gauge thickness

Impact Modified UV Cure Hard Coat (IMHC)

Impact Modified Acrylic

Description

The performance, durability and clarity of Plaskolite's OPTIX Abrasion Resistant Acrylic Sheets come shining through in everyday use—and even in the most rugged of conditions. Our coated sheet offers maximum protection and resists wear and tear, maintaining its "like new" look that will hold up under all types of use, whether indoor or outdoor. The sheets are available with the OPTIX AR coating on one or both sides. Plaskolite, Inc. is a leading supplier of acrylic sheets, and its products are known for their innovation and high quality.

Applications for Plaskolite's IMHC Acrylic sheet include:

- Cell phone displays
- Visors
- Dust covers

Key Properties

• Abrasion and mar resistance with added impact resistance • Solvent/Chemical resistance • Ultraviolet light protection • Superior optical clarity • Thermal resistance • Anti-graffiti properties • Superior resistance to, and control of, electrostatic discharge • Used for high-tech electronics such as LCDs, projection TV screens, instrument clusters and cell phone displays

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	D-792	g/cm3	1.19
Optical Refractive Index	D-542		1.52
Light Transmittance	D-1003		92%
Haze			<2%
Pencil Hardness	D-3363		3H
Abrasion Resistance	D-1044	% change	<10
(100 cycles/500g Cs-10F wheels)			
Water Absorption	D-570	% by wt	0.3
Impact Resistance	*Internal	cm	>50
MECHANICAL:			
Tensile Strength	D-638	Mpa	76
Modulus of Elasticity	D-638	Mpa	3.4×10^3
Flexural Strength	D-790	Mpa	117
THERMAL:			
Maximum Recommended Continuous Service Temperature		°C	71-82
Softening Temperature		°C	93-99
Melting Temperature		°C	138-149
Deflection Temperature Load, Unannealed	D648	°C	91
Coefficient of Thermal Expansion	D-696	cm/cm/°C	$5.4\ 10^{-5}$
Solvent Properties	**Result**		
Acetone	Good		
Windex®	Good		
Methylene Chloride	Good		
Toluene	Good		
Sulfuric Acid	Good		
Nitric Acid	Good		
Isopropanol	Good		
Kerosene	Good		

*36 gram steel ball, 2 cm diameter free fall, average results of 20 specimens

Reduced Glare Optical Quality Acrylic (RG)

Acrylic

Applications for Plaskolite's Acrylic RG sheet include:

- Digital sign displays
- Anti-graffiti coatings
- Handheld GPS displays
- Menu boards

Description

Reduced glare acrylic sheet RG-520, 510, 505 is the ideal protective filter for optical display screens. It improves the clarity and brilliance of the image with increased light transmission, while reducing the unwanted glare and reflection that often interferes with the information display. For added protection, the reduced glare sheet has an abrasion-resistant coating that resists marring and scratching. Its high optical quality, light weight and impact strength characteristics make it the preferred material for LCDs, PDAs, projection television screens, multimedia displays and instrument clusters. At half the weight of glass, it is well suited for non-standard sized displays while reducing breakage and shipping costs.

Key Properties

- Reduces glare and unwanted reflections on monitors from natural and ambient light
- Superior viewing of vehicle dashboard displays even in harsh lighting conditions
- Reduces reflection on projection TVs for better viewing at any angle
- Safeguards your monitors from external damage

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.040
Available Gloss Levels+ Novo-gloss 60° - Low, Med., High	Gloss Levels	%	20, 50, 80
Pencil Hardness Test***		---	4H - 5H
Chemical Resistance			Excellent
MECHANICAL:			
Tensile Strength - Max	ASTM D638	psi	11,030
Tensile Modulus	ASTM D638	psi	490,000
Elongation	ASTM D638	%	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	490,000
Izod Impact Strength (gauge dependent)**			
Molded Notch	ASTM D256A	ft-lbs/in	.40
Milled Notch			.28
THERMAL:			
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.0 X 10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	203
FLAMMABILITY:			
Flame Spread Index	ASTM E84		115
Smoke Developed Index			550

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
***Humidity during testing will affect final values. Hardness is gloss dependent
+Listed gloss levels have a tolerance of +- 10%

Reduced Glare Optical Quality Polycarbonate Coatings (RG)

Polycarbonate

Description

Reduced glare polycarbonate sheet is the ideal protective filter for optical display screens. It improves the clarity and brilliance of the image with increased light transmission, while reducing the unwanted glare and reflection that often interferes with the information display. For added protection, the reduced glare sheet has an abrasion-resistant coating that resists marring and scratching. It's lightweight and has superior optical quality and impact strength. These characteristics make it the preferred material for LCDs, PDAs, projection television screens, multimedia, displays and instrument clusters. At half the weight of glass, it is well suited for non-standard sized displays while reducing breakage and shipping costs.

Applications for Plaskolite's RG Coatings include:

- LCD display screens
- Handheld GPS & MP3 player screens
- Glare reduction on signs and other high glare situations

Key Properties

- Reduces glare and unwanted reflections on monitors from natural and ambient light
- Superior viewing of vehicle dashboard displays even in harsh lighting conditions
- Reduces reflection on projection TVs for better viewing at any angle
- Safeguards your monitors from external damage
- Thermo-formable version available (not scratch resistant or chemical resistant)

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL:			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	.15
Sound Transmission, STC Rating (36" x 84") @ .125"	ASTM E9070	---	25
Available Gloss Levels+ Novo-gloss 60° - Low, Med., High	Gloss Levels	%	20, 50, 80
Pencil Hardness Test***		---	4H - 5H
Chemical Resistance			Excellent
MECHANICAL:			
Tensile Strength			
@Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength (gauge dependent)**			
Notched @ 73°F	ASTM D256A	ft-lbs/in	12-16
Unnotched @73°F			60 (no failure)
THERMAL:			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY:			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1

*These are typical properties and are not intended for specification purposes
**Reported values based on .125" gauge thickness
***Humidity during testing will affect final values. Hardness is gloss dependent
+Listed gloss levels have a tolerance of +- 10%

Solar Reflective Optical Quality Polycarbonate Coatings (IR)

Polycarbonate

Description

Roofed and enclosed rooms protect from wind and rain—but not always from intense solar exposure. The heat adds up and temperatures rise. Shading brings cooling, but the room is darkened at the same time. This can be very unpleasant—for people, animals and plants. Classic shading systems use diverse additives, for example, white pigments, aluminum or absorption pigments. By applying this, however, not only the heat portion of the solar radiation, but also the visible light is shaded. The actual goal is a high transmission of light along with a low solar transmission. Through the selective transmission of Solar Interference coatings, a large part of the visible light is allowed to pass through while a large part of the sun's heat rays are reflected.

Applications for Plaskolite's IR Coatings Include:

- Skylight and roof lighting panels
- Interior ceiling lighting panels
- Greenhouse glazing
- Atriums, lobbies, sun roofs

Key Properties

- Maximizes visible light transmission while reducing radiant heat • UV absorption
- IR-iA is suitable for architectural applications since the light transmission is in the area of the green wavelength of light, exactly where the human eye is the most light sensitive • IR-gA is especially suitable for use in greenhouses. The highest value of transmission is in an area of a wavelength that is vital to photosynthesis

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL			
Specific Gravity	ASTM D792	---	1.20
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.15
Light Transmission Reflection:	ASTM D542	---	1.49
Visible Light Transmission 380-780nm	ASTM D1003	---	>60
(IR) Infrared Reflection 780-2500nm			>40
MECHANICAL			
Tensile Strength			
@Yield	ASTM D638	psi	9,000
Ultimate			9,500
Tensile Modulus	ASTM D638	psi	345,000
Elongation	ASTM D638	%	110
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000
Izod Impact Strength (gauge dependent)**			
Notched @ 73°F	ASTM D256A	ft-lbs/in	12-16
Unnotched @73°F			60 (no failure)
THERMAL			
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270
FLAMMABILITY			
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1

*These are typical properties and are not intended for specification purposes

**Reported values based on .125" gauge thickness

Solar Reflective Optical Quality Acrylic Coatings (IR)

Acrylic • Impact Modified Acrylic

Description

Roofed and enclosed rooms protect from wind and rain—but not always from intense solar exposure. The heat adds up and temperatures rise. Shading brings cooling, but the room is darkened at the same time. This can be very unpleasant—for people, animals and plants. Classic shading systems use diverse additives, for example, white pigments, aluminum or absorption pigments. By applying this, however, not only the heat portion of the solar radiation, but also the visible light is shaded. The actual goal is a high transmission of light along with a low solar transmission. Through the selective transmission of Solar Interference coatings, a large part of the visible light is allowed to pass through while a large part of the sun's heat rays are reflected.

Applications for Plaskolite's IR Coatings include:

- Skylight and roof lighting panels
- Interior ceiling lighting panels
- Greenhouse glazing
- Atriums, lobbies, sun roofs

Key Properties

- Maximizes visible light transmission while reducing radiant heat • UV absorption
- IR-iA is suitable for architectural applications since the light transmission is in the area of the green wavelength of light, exactly where the human eye is the most light sensitive • IR-gA is especially suitable for use in greenhouses. The highest value of transmission is in an area of a wavelength that is vital to photosynthesis

Typical Property Values*

Property	Test Method	Units	Value
PHYSICAL			
Specific Gravity	ASTM D792	---	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.4
Light Transmission Reflection:	ASTM D542		1.49
Visible Light Transmission 380-780nm	ASTM D1003	%	>60
(IR) Infrared Reflection 780-2500nm		%	>40
MECHANICAL			
Tensile Strength - Max	ASTM D638	psi	11,030
Tensile Modulus	ASTM D638	psi	490,000
Elongation	ASTM D638	%	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	490,000
Izod Impact Strength (gauge dependent)**			
Molded Notch	ASTM D256A	ft-lbs/in	.40
Milled Notch			.28
THERMAL			
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.0×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	203
FLAMMABILITY			
Flame Spread Index	ASTM E84		115
Smoke Developed Index			550

*These are typical properties and are not intended for specification purposes

**Reported values based on .125" gauge thickness

1st Surface Mirror Coatings

Acrylic • Polycarbonate

Description

1st Surface, or two-sided mirror, is an opaque or see-thru, extremely thin film of aluminum. This type of finish is usually protected by a clear transparent coating applied by spray, flow or roller technique. Typically the substrate is acrylic or polycarbonate; however, other substrates may be utilized. This type of mirror is ideal for applications where there is a need for a high-quality reflection or two-way visibility.

Applications for Plaskolite's 1st Surface Coatings include:

- Digital signage, periscopes
- Rear screen projection TVs
- See-thru mirror windscreens
- Security mirror applications

Key Properties

Scratch resistance • Formable • Bright, high-quality reflection

Typical Property Values*

Property	Test Method	Units	Polycarbonate	Acrylic
PHYSICAL				
Specific Gravity	ASTM D792	---	1.20	1.19
Water Adsorption, Equilibrium, 24 hrs	ASTM D570	%	0.151	0.4
Optical Refractive Index	ASTM D542	---	---	1.49
Film Thickness		mil (microns)	0.2 (5)	0.2 (5)
Abrasion Resistance†:				
Taber Abrader, 100 cycles, CS-10F Wheel, 500g Load	ASTM D1044	%	<10	<10
MECHANICAL				
Tensile Strength - Max	ASTM D638	psi	9,500	11,030
Tensile Modulus	ASTM D638	psi	345,000	490,000
Elongation	ASTM D638	%	110	5.8
Flexural Strength (gauge dependent)**	ASTM D790	psi	13,500	17,000
Flexural Modulus (gauge dependent)**	ASTM D790	psi	345,000	490,000
Izod Impact Strength, (gauge dependent)**				
Molded Notch	ASTM D256A	ft-lbs/in	12-16	.40
Milled Notch			60 (no failure)	.28
THERMAL				
Coefficient of Thermal Expansion, -30 to 30°C	ASTM D696	in/in/°F	3.75×10^{-5}	3.0×10^{-5}
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270	203
FLAMMABILITY				
Flame Spread Index	ASTM E84		---	115
Smoke Developed Index			---	550
Horizontal Burn (Flame Spread) A&B	ASTM D635	in	<1	---

*These are typical properties and are not intended for specification purposes

**Reported values based on .125" gauge thickness

†Humidity during testing and Taber wheel variability will affect final values

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