



# Look Beyond®

Focused on Innovation, AFG Anticipates Customer's Evolving Needs













## AFG GLASS: INNOVATIVE SOLUTIONS FROM A PROVEN INDUSTRY LEADER

AFG Glass is part of Japan-based Asahi Glass Company, one of the world's largest float glass companies—a relationship that provides both financial strength and technology expertise to AFG. This partnership also makes AFG the largest supplier to the construction/specialty glass market, and the second-largest glass manufacturer in North America.

AFG's global links—and the import/export expertise of subsidiary AMA Glass Corporation—afford customers exclusive access to brand-name Asahi and Glaverbel products such as Matelux® acid-etched blue satin-finish glass, Sunergy® low-emissivity glass, and Stopsol® reflective glass. As a result of its aggressive growth strategy, AFG also offers fire- and safety-rated products from its subsidiary, InterEdge Technologies.

#### **Look Beyond: More Than a Slogan**

Founded in 1978, AFG has built a nearly 30-year history of success on a simple philosophy: understand customers, and provide innovative products that anticipate their changing needs. That straightforward approach is more than the basis for the company's "Look Beyond" tagline—it's a way of life at AFG.

A proven industry leader, AFG is also a forward-looking business that continually invests in new technologies—and adapts as the market changes.

Today, AFG offers advanced products to address recent market demands for record-low emissivity, increased solar control, and other customized performance characteristics.

AFG's commitment to product innovation and operational excellence is reflected every day within its three major divisions: AFG Primary, responsible for primary glass manufacturing; AFG Coatings, focused on applying advanced coatings; and AFG Fabrication, which adds value through tempering, laminating, and insulating.



AFG Primary

AFG Coatings

AFG Fabrication—Residential

AFG Fabrication—Commercial

AFG Fabrication—Laminating

While the following pages provide an overview of AFG's innovative product family, customers can learn more about these next-generation solutions by visiting www.afgglass.com—or calling 1-800-251-0441.

### AFG'S HIGH-QUALITY FLOAT PRODUCTS LOOK BEYOND THE ORDINARY

Outstanding glass quality and innovative, forward-looking products have helped AFG to rise above the historic view of float glass as a "commodity" business—and create the industry's broadest, most versatile family of float solutions. Instead of taking a "one-glass-fits-all" approach, AFG provides customized float solutions that anticipate ever-evolving customer needs.

With 10 float lines across North America, AFG Glass leads the industry in manufacturing innovative, value-added float glass—with an exceptional and diverse product line. Float glass solutions from AFG include clear float, heavy float, low-iron, and tinted Solarshield™ products.

While the majority of AFG's float glass is used in windows, doors, skylights, and other architectural applications, AFG also creates next-generation float solutions for photovoltaics, automobiles, and other specialty applications. With thousands of individual products available, AFG's float glass is definitely beyond the ordinary.



Beautiful and energy-efficient, tinted Solarshield products from AFG Glass are ideal for a spectrum of commercial applications—where they offer an unparalleled appearance, unobstructed views, and enhanced comfort. By absorbing solar heat and light, Solarshield glasses help to reduce glare, cut energy consumption, and create a more comfortable interior, especially in regions where air conditioning costs outweigh heating costs.

With a rainbow of color choices—including Solarshield Bronze™, Solarshield Gray™, Solarshield Green™, Solarshield Blue-Green™, and Solarshield Dark Green™—AFG's tinted solutions are the perfect palette for architectural works of art. AFG's Solarshield solutions are ideal for atriums, skylights, entrances and storefronts, spandrel glass, windows, and insulating units.



















### ADVANCED LOW-E GLASS FROM AFG: TRULY CUSTOMIZED PERFORMANCE

AFG Glass offers both sputter-coated (soft-coat) and pyrolytic (hard-coat) low-emissivity products. These spectrally selective solutions meet exacting specifications for energy performance, daylighting, comfort, and aesthetics. They also meet the inventory and durability requirements of fabricators, and the speed to market demanded by construction schedules.

#### **Comfort Ti™: Sputter-Coated Solutions That Are Soft on Energy**

AFG's Comfort Ti family includes innovative options that meet virtually any need. Engineered for cold climates, AFG's Comfort Ti-PS™ provides record levels of light transmittance and color neutrality—as well as one of the lowest emissivity ratings available. It capitalizes on passive solar energy to reduce heating costs.

In climates with changing seasonal energy needs, Comfort  $Ti-R^{TM}$  provides balanced performance and exceptional insulation. Comfort Ti-R helps to maximize both heating and cooling efficiency.

For locations where air conditioning costs dominate, AFG offers a range of spectrally selective single- and double-silver low-e products. Engineered to control the most warming wavelengths of energy, each offers customized levels of visible light transmission and reflectance, with outstanding solar heat blocking properties:

- **▼** Comfort Ti-AC 36<sup>™</sup> and Comfort Ti-AC 40<sup>™</sup> are ideal for applications that demand high light transmittance, neutral color, and low reflectance.
- Comfort Ti-AC 23<sup>™</sup> provides solar protection by absorbing visible light, making this a perfect application for glare-control in the hottest climates.
- **▼** Comfort Ti-AC<sup>™</sup> offers solar protection and privacy, with a neutral color and a touch of reflectivity.

Comfort Ti on Solarshield™ tints is AFG's latest low-e innovation. By combining Comfort Ti-AC, Ti-AC 23, or Ti-AC 40 with its Solarshield tinted glasses, AFG offers both excellent solar control and superior aesthetics—in five distinct substrates.

#### **Comfort E2™ and Sunergy®: Pyrolytic Products With Hard Benefits**

AFG's Comfort E2 is a pyrolytic product that combines high light transmission with low emissivity—benefiting from its passive solar properties. Hard-coat Comfort E2 is easy to temper, laminate, insulate, transport, stack, and store.

Available in Clear, Green, and Azur tints, hard-coat Sunergy offers outstanding solar control and thermal insulation—as well as a neutral, non-reflective appearance. Because its coating is applied directly to a clear or colored substrate, Sunergy requires no special transportation and offers problem-free stacking and storage.

#### COATED PRODUCTS

2nd Surface Solarshield Low-E Solutions — All data based on 1/4"(6mm) Clear or Tinted Low-E Exterior / 1/4"(6mm) Clear Interior Lites															
PRODUCT Transmittance			nce	Reflectance			U-Value				Shading		Rel.	Light	Damage-
	Vis.	Solar	UV	Vis. Ext.	Vis. In.	Solar	Wir	nter	Sun	nmer	Coefficient SH	SHGC	Heat	to SHGC	Weighted
							Air	Argon	Air	Argon			Gain	Ratio	Index ISO
Clear Comfort Ti-AC 40	68	34	39	9	11	30	0.29	0.24	0.28	0.22	0.45	0.39	93	1.74	0.59
Clear Comfort Ti-AC 36	65	31	32	10	11	32	0.29	0.24	0.27	0.21	0.41	0.36	86	1.81	0.54
Clear Comfort Ti-AC 23	38	18	16	13	11	27	0.29	0.24	0.28	0.22	0.26	0.23	55	1.70	0.33
Clear Comfort Ti-AC	58	33	25	29	23	36	0.29	0.24	0.27	0.21	0.44	0.38	90	1.55	0.48
Clear Comfort Ti-R	66	38	17	21	19	30	0.29	0.24	0.27	0.21	0.50	0.44	104	1.52	0.45
Clear Comfort Ti-PS	73	43	33	14	13	26	0.30	0.24	0.28	0.22	0.57	0.49	117	1.49	0.61
Clear Comfort E2	73	54	39	14	15	13	0.34	0.30	0.34	0.30	0.72	0.63	148	1.17	0.61
Clear Sunergy	60	42	36	12	16	12	0.37	0.33	0.38	0.34	0.59	0.51	123	1.18	0.54
Green Comfort Ti-AC 40	59	25	20	8	10	10	0.29	0.24	0.28	0.22	0.37	0.32	77	1.86	0.47
Green Comfort Ti-AC 23	34	14	8	11	11	10	0.29	0.24	0.28	0.22	0.24	0.21	52	1.62	0.27
Green Comfort Ti-AC	51	23	13	23	23	15	0.29	0.24	0.27	0.21	0.34	0.29	71	1.74	0.38
Green Sunergy	50	24	13	10	15	7	0.37	0.33	0.38	0.34	0.39	0.33	82	1.48	0.39
Gray Comfort Ti-AC 40	35	18	16	5	9	12	0.29	0.24	0.28	0.22	0.29	0.25	62	1.38	0.30
Gray Comfort Ti-AC 23	20	10	7	6	11	11	0.29	0.24	0.28	0.22	0.19	0.17	43	1.18	0.17
Gray Comfort Ti-AC	30	17	11	10	22	14	0.29	0.29	0.27	0.21	0.28	0.25	60	1.21	0.24
Bronze Comfort Ti-AC 40	41	20	15	6	9	14	0.29	0.24	0.28	0.22	0.32	0.27	67	1.51	0.32
Bronze Comfort Ti-AC 23	23	11	6	7	11	13	0.29	0.24	0.28	0.22	0.21	0.18	45	1.28	0.18
Bronze Comfort Ti-AC	35	20	10	13	22	16	0.29	0.24	0.27	0.21	0.31	0.27	65	1.34	0.26
DkGrn Comfort Ti-AC 40	51	20	10	7	10	6	0.29	0.24	0.28	0.22	0.31	0.27	66	1.90	0.38
DkGrn Comfort Ti-AC 23	29	11	4	9	11	7	0.29	0.24	0.28	0.22	0.21	0.18	46	1.61	0.22
DkGrn Comfort Ti-AC	44	17	7	18	23	10	0.29	0.24	0.28	0.21	0.28	0.24	60	1.79	0.31
Azur Sunergy	50	26	21	15	10	7	0.37	0.33	0.38	0.34	0.41	0.36	88	1.39	0.43

3rd Surface Low-E Solutions — All data based on 1/4"(6mm) Clear or Tinted Exterior / 1/4"(6mm) Clear Low-E Interior Lites															
PRODUCT Transmittance			Reflectance			U-Value				Shading		Rel.	Light	Damage-	
	Vis.	Solar	UV	Vis. Ext.	Vis. In.	Solar	Wii	nter	Sur	nmer	Coefficient	SHGC	Heat	to SHGC	Weighted
							Air	Argon	Air	Argon			Gain	Ratio	Index ISO
Clear/Comfort Ti-AC 40	68	34	39	11	9	32	0.29	0.24	0.28	0.22	0.55	0.47	112	1.43	0.59
Clear/Comfort Ti-AC 36	65	31	32	11	10	34	0.29	0.24	0.27	0.21	0.52	0.45	107	1.45	0.58
Clear/Comfort Ti-AC	58	33	25	23	29	36	0.29	0.24	0.27	0.21	0.51	0.44	105	1.32	0.48
Clear/Comfort Ti-R	66	38	17	19	21	32	0.29	0.24	0.27	0.21	0.56	0.49	115	1.36	0.47
Clear/Comfort Ti-PS	73	43	33	13	14	27	0.30	0.24	0.28	0.22	0.62	0.54	128	1.35	0.61
Clear/Comfort E2	73	54	39	15	14	14	0.34	0.30	0.34	0.30	0.79	0.69	162	1.06	0.61
Clear/Sunergy	60	42	36	16	12	14	0.37	0.33	0.38	0.34	0.75	0.65	155	0.92	0.54
Green/Comfort Ti-AC 40	59	25	20	9	9	10	0.29	0.24	0.28	0.22	0.43	0.37	89	1.61	0.47
Green/Comfort Ti-AC 36	57	23	16	9	10	11	0.29	0.24	0.27	0.21	0.41	0.36	86	1.59	0.43
Green/Comfort Ti-AC	51	23	13	18	28	14	0.29	0.24	0.27	0.21	0.38	0.33	80	1.53	0.38
Green/Comfort Ti-R	58	26	9	16	20	13	0.29	0.24	0.27	0.21	0.41	0.35	85	1.63	0.38
Green/Comfort Ti-PS	64	29	17	10	14	10	0.30	0.24	0.28	0.22	0.45	0.39	94	1.63	0.49
Green/Comfort E2	64	33	20	12	13	9	0.34	0.30	0.34	0.30	0.52	0.45	108	1.42	0.49
Green/Sunergy	53	27	18	13	12	9	0.37	0.33	0.37	0.34	0.50	0.44	105	1.21	0.43
Gray/Comfort Ti-AC 40	35	18	16	6	8	13	0.29	0.24	0.28	0.22	0.34	0.30	72	1.17	0.30
Gray/Comfort Ti-AC 36	33	16	13	6	9	13	0.29	0.24	0.27	0.21	0.33	0.28	69	1.17	0.28
Gray/Comfort Ti-AC	30	17	11	9	28	14	0.29	0.24	0.27	0.21	0.32	0.28	68	1.06	0.30
Gray/Comfort Ti-R	34	20	7	8	20	13	0.29	0.24	0.27	0.21	0.34	0.30	73	1.11	0.24
Gray/Comfort Ti-PS	37	23	14	6	12	11	0.30	0.24	0.28	0.22	0.38	0.33	80	1.12	0.31
Gray/Comfort E2	37	29	16	7	12	7	0.34	0.30	0.34	0.30	0.48	0.42	101	0.89	0.31
Gray/Sunergy	31	23	15	7	11	7	0.37	0.33	0.38	0.34	0.47	0.41	99	0.74	0.28
Bronze/Comfort Ti-AC 40	41	20	15	6	8	14	0.29	0.24	0.28	0.22	0.37	0.32	78	1.28	0.32
Bronze/Comfort Ti-AC 36	40	19	13	7	9	15	0.29	0.24	0.27	0.21	0.39	0.31	75	1.28	0.29
Bronze/Comfort Ti-AC	35	20	10	11	28	16	0.29	0.24	0.27	0.21	0.35	0.30	73	1.17	0.26
Bronze/Comfort Ti-R	40	23	7	10	20	14	0.29	0.24	0.27	0.21	0.38	0.33	79	1.22	0.26
Bronze/Comfort Ti-PS	45	26	13	7	13	13	0.30	0.24	0.28	0.22	0.42	0.36	87	1.23	0.33
Bronze/Comfort E2	44	32	15	8	12	8	0.34	0.30	0.34	0.30	0.52	0.45	109	0.98	0.33
Bronze/Sunergy	37	25	14	8	11	8	0.37	0.33	0.38	0.34	0.51	0.44	106	0.84	0.29
BlueGrn/Comfort Ti-AC 40	58	25	21	9	9	11	0.29	0.24	0.28	0.22	0.43	0.37	90	1.56	0.48
BlueGrn/Comfort Ti-AC 36	56	23	17	10	10	12	0.29	0.24	0.27	0.21	0.42	0.36	87	1.55	0.44
BlueGrn/Comfort Ti-AC	50	23	14	18	29	15	0.29	0.24	0.27	0.21	0.39	0.34	81	1.48	0.39
BlueGrn/Comfort Ti-R	57	26	10	16	21	14	0.29	0.24	0.27	0.21	0.42	0.36	87	1.57	0.39
BlueGrn/Comfort Ti-PS	63	30	19	11	14	11	0.30	0.24	0.28	0.22	0.46	0.40	95	1.57	0.50
BlueGrn/Comfort E2	63	35	21	12	13	9	0.34	0.30	0.34	0.30	0.54	0.46	112	1.37	0.50
BlueGrn/Sunergy	52	28	20	13	12	9	0.37	0.33	0.38	0.34	0.52	0.45	109	1.15	0.43
DkGrn/Comfort Ti-AC 40	51	19	9	8	9	7	0.29	0.24	0.28	0.22	0.35	0.30	74	1.67	0.36
DkGrn/Comfort Ti-AC 36	48	18	8	8	9	7	0.29	0.24	0.27	0.21	0.34	0.30	72	1.64	0.33
DkGrn/Comfort Ti-AC	43	17	6	15	28	9	0.29	0.24	0.27	0.21	0.31	0.27	66	1.60	0.29
DkGrn/Comfort Ti-R	49	19	4	13	20	9	0.29	0.24	0.27	0.21	0.33	0.29	69	1.72	0.30
DkGrn/Comfort Ti-PS	54	22	8	9	13	7	0.30	0.24	0.28	0.22	0.36	0.31	76	1.72	0.38
DkGrn/Comfort E2	54	24	10	10	13	6	0.34	0.30	0.34	0.30	0.40	0.35	85	1.54	0.38
DkGrn/Sunergy	45	20	9	11	12	7	0.37	0.33	0.38	0.34	0.40	0.34	85	1.30	0.32







### PROTECTIVE SOLUTIONS FROM AFG COMBINE AESTHETICS WITH PERFORMANCE

Fire- and safety-rated glasses and framing systems are in greater demand than ever before—and AFG Glass offers a spectrum of next-generation products developed by AFG's subsidiary company, InterEdge Technologies.

When personal safety is at stake, quality cannot be compromised—and the industry-leading solutions offered by AFG Glass have been proven in rigorous testing, as well as real-world installations. Fire-rated glasses and framing systems from AFG meet the highest architectural standards for natural light, beauty, and visibility—while also meeting or exceeding the most demanding safety standards.

#### Fire- and Safety-Rated Glazings: A View Toward Protection

Innovative new glass technologies from AFG make it possible to achieve larger expanses of clear viewing, without compromising the protection required by building codes. PyroEdge™ products meet or exceed all code requirements for 20- and 30-minute applications without a hose stream. The revolutionary Pyrobel™ family also meets stringent code requirements for applications from 45 to 120 minutes, and blocks both fire expansion and heat transmission. Complementing these products are PYRAN® Star and Crystal, made of an innovative glass-ceramic material.

#### Fire- and Safety-Rated Framing: A Strong, Flexible Foundation

Thanks to AFG's revolutionary fire- and safety-rated framing systems, walls no longer have to be a barrier to free vision. AFG Glass offers a range of products—including Quick-Frame™, StileLite, and Vision 60™— that can provide an open, aesthetically pleasing environment that also ensures exceptional protection. Whether the design vision demands wood, aluminum, or steel framing; thermally broken framing for transparent walls; or no intermediate framing at all, AFG can help bring it to life.

For more information on fire-rated products, customers can call InterEdge Technologies directly at 1-877-376-3343.

Maximum Glazing Sizes (Clear View)												
Product Application	PyroEdge-20 Steel Doors	PyroEdge-20 Wood Doors	Pyrobel-45 Doors	Pyrobel-60 Doors	Pyrobel-90 Doors	PYRAN® Star Non-Temp.	PYRAN® Crystal Rise Doors					
Rating	20 minutes	20 minutes	45 minutes	60 minutes	90 minutes	20-60 minutes	20-60 minutes					
Max. Width	90 3/4"	87 9/16"	58 3/4"	87 5/8"	36"	31"	31"					
Max. Height	90 3/4"	87 9/16"	58 3/4"	87 5/8"	61"	76"	76"					
Max. Sq. Inches	3154"	2868"	2747"	3855"	2196"	2356"	2356"					
Stop Height	5/8"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"					
Product		PYRAN® Crystal	Pyrobel-60	Pyrobel-90	Pyrobel-45	Pyrobel-60	Pyrobel-120					
Application		Sidelites, Borrowe	•	•		Walls	Walls					
Rating	20-60 minutes	20-60 minutes	60 minutes	90 minutes	45 minutes	60 minutes	120 minutes					
Max. Width	76"	76 1/4"	87 5/8"	83 1/2"	96"	96 1/2"	88"					
Max. Height	76"	76 1/4"	87 5/8"	83 1/2"	96"	96 1/2"	88"					
Max. Sq. Inches	3192"	3246"	3855"	3465"	4608"	4487"	3828"					
Stop Height	3/4"	3/4"	5/8"	5/8"	5/8"	1"	1"					

#### PATTERNED AND LAMINATED GLASS

### AFG'S PATTERNED AND LAMINATED SOLUTIONS MEET SPECIAL NEEDS, BEAUTIFULLY

In keeping with its "Look Beyond" philosophy, AFG Glass delivers advanced solutions for specialized applications, including attractive patterned glass and high-strength laminated products. Both combine innovative manufacturing technologies with the highest-quality materials.



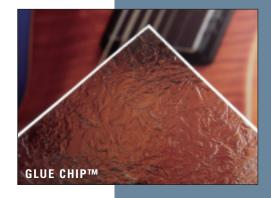
AFG Glass offers 19 classic patterned solutions—as well as five innovative Heavy Krystal products—to meet a spectrum of architectural applications. Versatile and beautiful, patterned solutions from AFG are used in shower doors and tub enclosures—including frameless shower doors—as well as interior partitions, translucent door and window treatments, foyers, and vestibules. They also have applications in patio furniture, shelving, decorative furniture, and lighting fixtures.

The newest members of the product family, AFG's Heavy Krystal Patterns, offer all the upscale benefits of heavy glass—without the "green edge" associated with high-iron glass. To ensure that these beautiful products are handled with care, AFG has created a Pattern Masters program that certifies those glass distributors and fabricators who have the expertise to cut, edge, drill, and temper Heavy Krystal solutions.



Laminated solutions from AFG Glass combine an attractive appearance with exceptional strength and protection—perfect for applications where safety, security, hurricane resistance, or sound control is a concern.

Constructed of two or more pieces of glass, separated by a vinyl interlayer, AFG Defender laminated products are sealed or bonded through heat and pressure. The resulting "sandwich"—which is visually indistinguishable from monolithic glass—can include a variety of AFG's primary, coated, or heat-treated products, to create custom-tailored solutions for a range of needs.









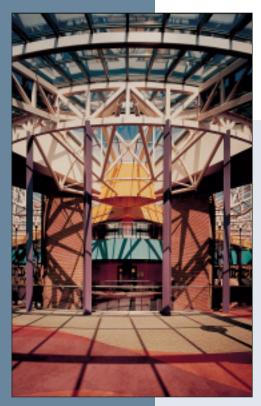
Glue Chip™ (NEW!), V-Groove™ (NEW!), Aquatex®, Flax®, Florex®, Glacier™, Glass Block™, Hammered, Illusions™, Industex®, Krystal Flutes®, Leaf™, Pattern 62, Rain®, Serenity™, Textured Flutex®, Velvex®, and Washboard

**Heavy Krystal Patterns** 

Heavy Krystal Glacier<sup>TM</sup>, Rain<sup>TM</sup>, Serenity<sup>TM</sup>, Storm<sup>TM</sup>, and Textured Flutex<sup>TM</sup>









AFG Glass P.O. Box 929 Kingsport, TN 37662 800-251-0441 www.afgglass.com

### AFG FABRICATION ADDS VALUE BY TAKING GLASS A STEP BEYOND

AFG Fabrication begins with outstanding primary and coated products from AFG Glass, then adds value by insulating, heat-treating, or laminating them—as well as creating unique spandrel and silkscreened solutions.

AFG's fabricated solutions deliver specialized levels of energy efficiency, strength, and security, while maintaining the highest aesthetic standards. Whether customer needs include installing high-efficiency windows, managing thermal stress, or meeting stringent building codes, AFG Glass has anticipated these demands.

Fabricated products from AFG Glass include laminated glass and firerated systems, described in previous pages. AFG Fabrication also manufactures storefront metal systems, insulating units, spandrel glass, silkscreened products, and a variety of heat-treated solutions—including heat-strengthened, tempered, and heat-soaked tempered glass.

## AFG'S INNOVATIVE PRODUCTS ARE BACKED BY SUPERIOR CUSTOMER SERVICE

AFG's product solutions are backed by one of the industry's strongest customer support teams. AFG Glass offers general experts in architectural glass, as well as specialty product managers. All are available to consult with AFG customers, and can be reached via e-mail at afg.ebusiness@afg.com.

The Technical Services department at AFG Glass can address questions about product capabilities, performance data, handling requirements, and other issues. Customers can contact Technical Services directly by sending an e-mail message to afg.ebusiness@afg.com.

Customers seeking general information about AFG Glass can visit the company's Web site at www.afgglass.com. Visitors can read about AFG's innovative products, request samples, print literature via the "Brochure Builder" feature, or choose the perfect AFG solution with the interactive "Glass Performance Calculator."

In keeping with its "Look Beyond" philosophy, AFG Glass has also created a continuing education program that helps architects, designers, engineers, and window manufacturers to understand next-generation product options. AFG can provide "lunch and learn" activities at customer facilities, as well as online courses at www.afgglass.com. Participants can earn AIA/CES continuing education credits, education contact hours, or learning units. For more information, customers can send an e-mail to info@afg.com, or call 1-800-251-0441.