

## Product Description

3M™ FASARA™ Glass Finishes are decorative glass and window films available in more than 100 designs. These decorative films can be used in vertical applications in commercial buildings to control both light and privacy through a building's interior glass, including the interior of an outside glass wall (the "Interior Applications").

3M™ FASARA™ Glass Finishes Mat Crystal 2, 3M™ FASARA™ Glass Finishes Milky Crystal, 3M™ FASARA™ Glass Finishes Frost Matte, 3M™ FASARA™ Glass Finishes Frost Sucre and 3M™ FASARA™ Glass Finishes Illumina Alpha are the only products designed for use on exterior glass.

## Product Line

3M™ FASARA™ Glass Finishes, more than 100 different designs, two designs for outdoor decoration only. For available colors and patterns see the appendix or refer to [www.3Mgraphics.com](http://www.3Mgraphics.com). Please contact the 3M Sales Office for stock available and lead times.

Expected Performance Life is 5 to 20 years for indoor, vertical applications on non-perimeter glass, depending on the design.

## Characteristics

These are typical values for unprocessed product. Processing may change the values.

## Physical Characteristics

Characteristic		Value
Material	Film	Polyester*
	Adhesive	Acrylic, pressure-sensitive, permanent, clear
	Release Liner	Silicone coated polyester
Thickness	Film + Adhesive	Designs vary in thickness 74 µm – 153 µm (0.074 mm – 0.153 mm)
	Release Liner	25 µm (0.025 mm)
Maximum Roll Size	Standard	127 cm x 30 m
	Mist W/S/PR, Pop W, Oval, Sand, Cloud, Illumina PR, Matte, Crystal-i, Milky White, Milky Milky, Oslo, Fine Crystal, Frost Walnut, Frost Walnut Smoke, Pyrgos	152.4 cm x 30 m
	Milky White	152.4 cm x 60 m
Adhesion, Typical Indicative values 24 hours after application FTM 1 24h 23°C / 50% RH		Glass Substrate 7 N/ 25 mm
Applied Shrinkage Indicative values FTM 14		No detectable shrinkage
Flammability		Classification of the reaction to fire performance according to DIN EN 13501 is B-s1, d0
Design		See "Product Design List". Follow the link to see the: <a href="http://3m-glass-finishes-sample-book-2022.pdf">3m-glass-finishes-sample-book-2022.pdf</a>

\*The Matte Crystal 2, Milky Crystal, Frost Matte, Frost Sucre, Hairline, and 4 Cross Hairline patterns contain polyester and polyvinyl chloride.

NOTE: Illumina Silky-W, Illumina Silky-S, Illumina Seamless-W2, Illumina Seamless-S2, and Illumina Seamless-PR are available in sheet format. Please see the 3M™ FASARA™ Glass Finishes Sheet Format Application Guidelines for sheet size and layout details.

**Application Characteristics**

Characteristic	Value
Application Recommendation	Surface type: Flat Substrate type: Glass only Application Temperature: 12 – 38°C (54°F – 100°F) Application Method: Wet
Applied Product Exposure Temperature	Interior applications: maximum +80°C (176°F) Exterior applications: -40°C to +65°C (-40°F to +149°F) Mat Crystal 2, Milky Crystal, Frost Matte, Frost Sucre, Illumina Alpha
Electronic Cutting	Not recommended, however, should you wish to electrocut this material 3M would advise: Ensure the blades are as always as sharp as possible to reduce the risk of damage to the film edge during cutting. Avoid cutting sharp corners as these can tear during the application process.
Removal	Removable with heat and/or chemicals from supported substrate within the Expected Performance Life. After removal low adhesive residue is possible.
Shatter Prevention	FASARA™ film reduces the scattering and falling of broken pieces of glass in the event of glass breakage, and it satisfies the glass scattering prevention capability (A method, B method) according to the JIS A5759 (Japan code).
UV Block	FASARA™ films block at least 99% of the UV light to reduce the discolouring (fading caused by sunlight) of furniture that is mainly caused by UV light. Performance characteristics are based on data deemed reliable.

**Warranty Information**

**3M Basic Product Warranty**

3M Graphics Products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in its applicable 3M Graphics Product Bulletin and as further set forth in the 3M Graphics Warranties Bulletin.

**Limited Remedy**

**Unsuitable End Uses**

This bulletin provides technical information only. Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith. As outdoor graphics age, natural weathering occurs causing a gradual reduction in gloss, slight color changes, some lifting of the graphic at the edges or around rivets, and ultimately a minor amount of cracking. These changes are not evidence of product failure and are not covered by a 3M warranty.

**Limitations of liability**

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.



## Maintenance, Cleaning and Removal

**NOTE:** FASARA™ may be cleaned beginning 30 days after installation.

Regular cleaning will help maintain the appearance of the design. Use only clean, nick-free tools and wipe gently only in one direction (do not wipe back and forth). Do not use ammonia, chlorine, or organic-based cleaning products, polishing or cleaning compounds, sponges, brushes, or electric polishing equipment.

- If there is dust and grit, wipe it off with a soft, damp cloth.
- If it is soiled, but not gritty, use water and a rubber squeegee. Carefully use a rubber squeegee for window glass in particular moving over edges.
- If there is heavier soil, use a mild liquid detergent and water solution, then clear water, and wipe gently with a cloth wipe.

FASARA™ is removable with heat and/or chemicals from supported substrate within the Expected Performance Life.

After removal low adhesive residue is possible.

## LEED®v4 Credits

The products can contribute to credits under LEED®v4. Please note that each application is different.

It is the sole responsibility of the end user to evaluate and determine whether LEED®v4 credits are applicable.

Follow the link to the customer information '[LEED®v4 credits](#)'

## Shelf Life, Storage and Shipping

The shelf life as defined below remains indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as a warranty.

The shelf life is never more than 2 years from the date of manufacture on the original box. If you process the film, the shelf life is changed to 1 year from the processing date, but not later than the 2-year maximum from the manufacturing date.

Storage conditions: +4°C to +40°C, out of sunlight, original container in a clean and dry area.

## Health and Safety

When handling any chemical products, read the manufacturer's container labels and the Safety Data Sheets (SDS) for important health, safety, and environmental information.

Follow the link to obtain SDS sheets for 3M products on [3M.com/SDS](http://3M.com/SDS).

**IMPORTANT!** When using any equipment, always follow the manufacturer's instructions for safe operation.

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### Optical Performance Characteristics and Warranty of all Product Designs

Table A. Optical Performance Characteristics for All Product Designs. The optical values in this table are calculated as theoretical values and compiled with existing data. In patterned Product designs, the value is an average across the pattern. The values in this table are typical and are based on test data deemed reliable, but they are not warranted.

Series	Product	Product Number	Film Thickness [µm] (Excluding liner)	Shading Coefficient	Solar Heat			Visible Light		UV	Warranty (vertical only)		
					Reflectance [%]	Transmittance [%]	Absorbance [%]	Reflectance [%]	Transmittance [%]	Transmittance [%]	Interior [years]	Interior with UV light [years]	Exterior [years]
Border / Dot / Geometric	Astral Silver	SH2CSAS	82	0.42	44	28	28	51	30	0.0	5	3	0
	Aura 9	SH2PCA9	81	0.96	8	89	3	8	87	0.0	5	3	0
	Cut Glass	SH2CSC	76	0.75	15	55	30	20	55	0.1	5	3	0
	Cut Glass pearl	SH2CSCP	78	0.76	16	58	26	18	58	0.1	5	3	0
	Kanon	SH2FGKN	79	0.88	13	73	14	14	78	0.0	5	3	0
	Lattice	SH2FGLT	84	0.60	22	41	37	28	36	0.0	5	3	0
	Leise	SH2FGLS	81	0.96	9	81	11	9	88	0.0	5	3	0
	Luna 6	SH2PCL6	76	0.68	17	48	34	22	46	0.0	5	3	0
	Luna 9	SH2PCL9	83	0.63	19	43	39	24	39	0.0	5	3	0
	Paracell	SH2FGPR	80	0.71	17	53	30	20	50	0.0	5	3	0
	Pixela	SH2FGPX	81	0.78	16	62	22	18	60	0.0	5	3	0
	Shizuku	SH2FGSK	81	0.84	13	68	19	16	71	0.0	5	3	0
	Slat	SH2FGSL	88	0.6	22	41	37	28	36	0.0	5	3	0
	Slat g	SH2FGSL-G	83	0.77	14	58	28	16	56	0.0	5	3	0
	Vista	SH2FGVI	81	0.83	15	67	18	17	72	0.0	5	3	0
Fabric	Buckram	SH2FGBU	79	0.86	12	69	19	14	69	0.0	5	3	0
	Buckram pearl + gray	SH2FGBUG	77	0.76	11	55	34	12	55	0.0	5	3	0
	Canvas	SH2FGCV	77	0.66	21	47	33	28	47	0.0	5	3	0
	Canvas champagne gold	SH2CSCVC	78	0.74	25	61	14	29	61	0.0	5	3	0
	Grain champagne gold	SH2CSGC	78	0.78	22	64	14	24	64	0.0	5	3	0
	Linen	SH2FGLN	78	0.79	17	64	19	23	65	0.0	5	3	0
	Linen Crystal	SH2LNCR	81	0.81	13	62	25	17	63	0.0	5	3	0
	Sensai Linen champagne gold	SH2CSSEC	79	0.77	22	63	15	25	63	0.0	5	3	0
	Sensai Linien	SH2FGSE	74	0.75	16	56	28	21	56	0.0	5	3	0
	Weave pearl	SH2EMWP	90	0.84	12	66	22	15	66	0.0	5	3	0
Weave pearl + dark gray	SH2EMWG	94	0.73	10	50	40	10	50	0.0	5	3	0	
Frost / Matte	Chamonix	SH2EMCH	120	0.67	26	51	23	35	47	0.0	5	3	0
	Cielo	SH2FGCE	81	0.74	19	58	23	26	56	0.0	5	3	0
	Essen	SH2EMES	120	0.67	23	50	27	26	55	0.1	5	3	0
	Fine Crystal	SH2FNCR	113	0.94	8	78	14	9	84	0.1	5	3	0
	Frost Matte	SH2FRMAX	135	0.95	8	80	13	8	89	0.2	3	3	3
	Frost Sucre	SH2FRSCX	127	0.78	11	59	30	14	57	0.2	3	3	3
	Glace	SH2MAGL	85	0.77	14	58	28	18	56	0.0	5	3	0
	Lausanne	SH2EMLA	113	0.94	8	78	14	9	84	0.1	5	3	0
	Luce	SH2FGLU	85	0.59	23	39	38	31	34	0.0	5	3	0
	Mare	SH2FGMR	90	0.91	9	74	18	10	78	0.0	5	3	0
	Matte Crystal 2	SH2MACRX2	126	0.95	7	79	14	8	86	0.2	3	3	3
	Matte Crystal-i	SH2MACR-I	95	0.94	8	78	14	9	85	0.1	5	3	0
	Milky Crystal	SH2MLCRX	126	0.4	31	18	51	42	19	0.0	3	3	3
	Milky Milky (San Marino)	SH2MAMM	105	0.44	34	25	41	43	21	0.0	5	3	0
	Milky White (Milano)	SH2MAML	77	0.75	17	57	26	21	59	0.0	5	3	0
Opaque White	SH2MAOW	142	0.3	46	13	41	57	10	0.0	5	3	0	
Oslo	SH2EMOS	119	0.92	8	76	16	9	83	0.1	5	3	0	



Series	Product	Product Number	Film Thickness [µm] (Excluding liner)	Shading Coefficient	Solar Heat			Visible Light		UV	Warranty (vertical only)		
					Reflectance [%]	Transmittance [%]	Absorbance [%]	Reflectance [%]	Transmittance [%]	Transmittance [%]	Interior [years]	Interior with UV light [years]	Exterior [years]
Gradiations	Aerina	SH2FGAR	81	0.91	12	76	13	13	79	0.0	5	3	0
	Cloud	SH2FGCL	90	0.87	11	70	19	13	73	0.1	5	3	0
	Cloud Narrow	SH2FGCN	93	0.93	9	77	14	11	83	0.0	5	3	0
	Cloud Narrow blue gray	SH2FGCNB	92	0.84	8	64	29	8	66	0.0	5	3	0
	Cloud Narrow dark gray	SH2FGCND	92	0.79	7	57	36	8	59	0.0	5	3	0
	Cloud Narrow light gray	SH2FGCNL	93	0.88	8	70	23	9	73	0.0	5	3	0
	Diamond	SH2FGDM	80	0.76	16	58	26	20	58	0.0	5	3	0
	Illumina	SH2FGIM	83	0.72	16	53	31	20	51	0.0	5	3	0
	Illumina Alpha	SH4FGMIX	153	0.8	16	63	21	22	65	0.4	5	3	3
	Illumina Black	SH2BKIM	79	0.52	6	19	75	6	20	0.0	2	0	0
	Illumina Seamless-PR	SH2SSIM-PR	90	0.79	16	62	22	22	61	0.0	3	1	0
	Illumina Seamless-S2	SH2SSIM-S2	90	0.79	16	62	22	22	61	0.0	3	1	0
	Illumina Seamless-W2	SH2SSIM-W2	90	0.83	14	66	20	19	67	0.0	3	1	0
	Illumina Silky S	SH2SSIM-S	78	0.66	32	53	16	40	48	0.1	5	3	0
	Illumina Silky W	SH2SSIM-W	78	0.7	29	57	14	36	54	0.1	5	3	0
	Illumina Silver	SH2SIIM	77	0.44	50	33	17	59	36	0.0	5	3	0
	Illumina-g	SH2FGIM-G	81	0.83	13	66	21	14	66	0.0	5	3	0
	Illumina-PR	SH2FGIM-PR	80	0.72	20	54	26	28	53	0.0	3	1	0
	Lontano	SH2FGLO	81	0.74	20	57	23	22	61	0.0	5	3	0
	Mist-PR	SH2FGMI-PR	90	0.95	8	80	13	9	88	0.0	3	1	0
	Mist-S	SH2FGMI-S	90	0.95	8	80	13	9	88	0.0	3	1	0
	Mist-W	SH2FGMI-W	86	0.96	8	80	12	9	88	0.0	3	1	0
	Oval	SHFGOV	85	0.92	10	76	15	12	81	0.0	3	1	0
Pop-S	SH2FGPP-S	86	0.96	8	80	12	9	88	0.0	3	1	0	
Pop-W	SH2FGPP-W	86	0.95	8	79	13	10	86	0.0	3	1	0	
Sabrina	SH2FGSB	90	0.93	9	77	14	10	83	0.0	5	3	0	
Sand	SH2FGSD	88	0.95	8	79	13	9	86	0.0	3	1	0	
Tsurugi	SH2FGTG	81	0.75	19	58	23	21	61	0.0	5	3	0	
Venetian	SH2FGVN	85	0.73	18	55	27	23	54	0.0	5	3	0	
Natural	Aerina	SH2FGBR	80	0.83	13	65	22	17	66	0.0	3	1	0
	Brushed Black	SH2BKBR	84	0.54	6	23	72	6	17	0.0	3	1	0
	Fibril	SH2PTFB	91	0.71	20	53	27	27	52	0.0	3	1	0
	Shigure	SH2PTSG	89	0.79	15	61	24	19	63	0.0	3	1	0
	Shigure Black	SH2BKSG	88	0.52	6	20	75	6	15	0.0	3	1	0
	Shigure Gray	SH2GRSG	88	0.65	6	37	57	6	33	0.0	3	1	0
	Terrazzo	SH2FGTZ	81	0.72	18	54	27	25	53	0.0	3	1	0
	Terrazzo Black	SH2BKTZ	80	0.54	6	22	72	6	16	0.0	3	1	0
	Travertine	SH2FGTV	79	0.82	13	64	23	17	65	0.0	3	1	0
Travertine Black	SH2BKTV	80	0.52	6	20	75	6	15	0.0	3	1	0	



Series	Product	Product Number	Film Thickness [µm] (Excluding liner)	Shading Coefficient	Solar Heat			Visible Light		UV	Warranty (vertical only)		
					Reflectance [%]	Transmittance [%]	Absorbance [%]	Reflectance [%]	Transmittance [%]	Transmittance [%]	Interior [years]	Interior with UV light [years]	Exterior [years]
Reflect / Hairline	Aerina	SH2SICMR	76	0.46	51	36	14	59	36	0.0	5	3	0
	Cross Hairline light gray	SH2CHMAL	126	0.78	6	55	39	6	51	0.0	5	3	0
	Cross Hairline Matte	SH2CHMA	126	0.96	8	81	11	9	90	0.0	5	3	0
	Cross Hairline Milky	SH2CHML	125	0.52	29	31	40	39	26	0.0	5	3	0
	Cross Hairline Surce	SH2CHSC	127	0.77	15	58	28	19	57	0.0	5	3	0
	Frost Walnut	SH2PTFW	84	0.96	8	80	12	9	87	0.1	5	3	0
	Frost Walnut Smoke	SH2PTFWS	87	0.75	7	50	43	7	49	0.0	5	3	0
	Hairline Matte	SH2HLMA	126	0.96	8	81	11	10	90	0.0	5	3	0
	Milky Milky blue gray	SH2MAMMB	95	0.77	11	55	34	11	55	0.0	5	3	0
	Milky- Milky dark gray	SH2MAMMD	93	0.74	10	51	39	10	51	0.0	5	3	0
	Milky Milky light gray	SH2MAMML	93	0.79	11	59	30	12	61	0.0	5	3	0
	Opaque Black	SH2BKOP	79	0.39	5	1	94	5	0	0.0	2	0	0
	Reflect	RE1SAIR	75	0.08	78	0	21	91	0	0.0	5	3	0
Stripe	Arpa	SH2FGAP	79	0.78	17	61	22	22	67	0.1	5	3	0
	Arpa Black	SH2BKAP	81	0.54	8	25	67	8	22	0.0	5	3	0
	Arpa Crystal	SH2APCR	81	0.78	13	59	28	17	58	0.0	5	3	0
	Fine	SH2FGFN	81	0.65	22	46	32	27	48	0.0	5	3	0
	Fine String	SH2PTFS	76	0.86	13	69	18	16	69	0.0	5	3	0
	Fusion pearl	SH2CSFP	78	0.78	16	60	24	21	60	0.1	5	3	0
	Safari	SH2PTSR	85	0.81	13	63	24	16	63	0.0	5	3	0
	Seattle	SH2DGST	81	0.85	16	70	14	22	74	0.0	5	3	0
	Seattle Fine	SH2DGST-F	80	0.85	16	71	13	25	68	0.0	5	3	0
	Shutie	SH2FGST	81	0.77	17	60	24	22	59	0.0	5	3	0
	Shutie Black	SH2BKST	81	0.7	21	53	26	29	51	0.0	5	3	0
	String	SH2PTST	77	0.88	17	74	9	22	74	0.0	5	3	0
	String Reverse	SH2PTSTR	78	0.74	16	54	30	21	54	0.0	5	3	0
	Wind	SH2PTWD	88	0.81	11	61	28	13	61	0.0	5	3	0
	Washi	Altair	SH2FGAT	86	0.77	17	60	22	23	60	0.0	5	3
Pyrgos		SH2PTPG	88	0.66	19	45	36	25	43	0.0	5	3	0
Rikyu		SH2PTRK	103	0.86	7	67	26	8	72	0.0	5	3	0
Safu		SH2PTSF	95	0.72	20	54	26	27	54	0.0	5	3	0
Sagano		SH2PTSA2	89	0.83	14	66	20	18	68	0.0	5	3	0
Straight Washi		SH2FGSW	90	0.77	14	57	29	18	57	0.0	5	3	0
Vega		SH2FGVG	86	0.77	16	60	24	21	60	0.0	5	3	0
Yamato		SH2PTYA	89	0.89	12	74	14	15	79	0.0	5	3	0
Transparent AR	SH2CLAR	76	0.98	8	83	9	8	90	0.1	5	3	0	

