PRODUCT OVERVIEW

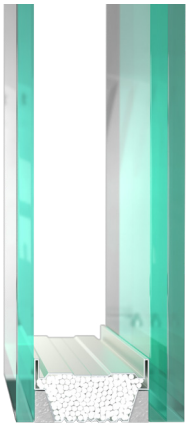
ENTHERMAL PLUS

Enthermal. R18. 8-mm.

TRANSPARENT INSULATION

Enthermal Plus™ is a breakthrough in high-performance residential and commercial glazing. This 1-inch insulating glass unit (IGU) combines LuxWall's Enthermal 8-mm and 10-mm slim profile vacuum technology with a traditional insulating glass unit to deliver an impressive 0.045 U-Factor—more than 5x the performance of standard double-pane units and 3x the performance of triple-pane units. Best of all, Enthermal Plus fits seamlessly into your existing 1-inch (25-mm) IGU framing system, so no engineering re-design or factory retooling is required. Give your customers next-level energy efficiency, noise reduction, condensation resistance, and year-round comfort—without changing your product design.

DOUBLE PANE
25-mm



ENTHERMAL PLUS
25-mm

0.045
U-Factor
(BTU/hr-ft²-F)

51%
Visible
Transmittance (VLT)

0.22
Solar Heat
Gain Coefficient (SHGC)

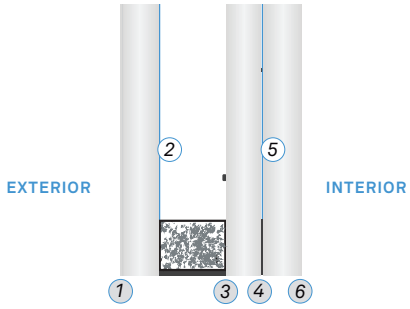
77+
Condensation
Resistance Factor

info@luxwall.com 888.229.1039

COATING POSITION

Low-E coatings applied to ***Surface 2,*** and either ***Surface 4*** or ***Surface 5*** of the Enthermal Plus enable targeted thermal efficiency. Low-E coatings can be selected to optimize for visible light transmission, passive solar design, insulating performance, and elevation specific design.

The illustration on the right is for reference only and depicts coating placement on surfaces 2 and 5.



ENTHERMAL PLUS (4/4/4) LOW-E OUTBOARD + IGU CAVITY WITH ARGON + ENTHERMAL INBOARD

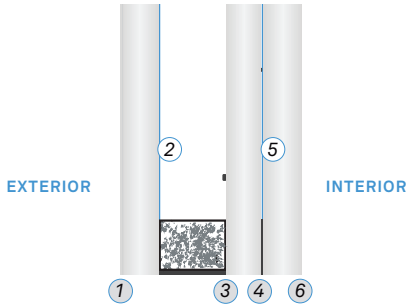
	VISIBLE LIGHT		FADING		SOLAR/INSULATION		
	Light Transmission (VLT)	Exterior Reflectance	T-UV	T-UV DW ISO	SHGC	U-Factor IP / SI	LSG
② LoÉ-180™ / Clear / ④ LoÉ-180™	69%	21%	12%	50	0.51	0.066 / 0.38	1.34
② LoÉ-180™ / Clear / ④ LoÉ²-270®	61%	18%	6%	41	0.33	0.051 / 0.29	1.82
② LoÉ-180™ / Clear / ④ LoÉ²-272®	63%	17%	8%	44	0.37	0.054 / 0.31	1.68
② LoÉ-180™ / Clear / ④ LoÉ³-366®	57%	18%	2%	36	0.26	0.043 / 0.26	2.21
② LoÉ²-270® / Clear / ④ LoÉ-180™	61%	17%	18%	41	0.31	0.065 / 0.37	1.97
② LoÉ²-270® / Clear / ④ LoÉ²-270®	54%	15%	3%	35	0.25	0.050 / 0.28	2.14
② LoÉ²-270® / Clear / ④ LoÉ²-272®	55%	14%	4%	37	0.27	0.053 / 0.30	2.06
② LoÉ²-270® / Clear / ④ LoÉ³-366®	50%	14%	1%	31	0.21	0.042 / 0.24	2.39
② LoÉ²-272® / Clear / ④ LoÉ-180™	63%	17%	8%	44	0.35	0.065 / 0.37	1.81
② LoÉ²-272® / Clear / ④ LoÉ²-270®	55%	13%	4%	37	0.27	0.050 / 0.28	2.04
② LoÉ²-272® / Clear / ④ LoÉ²-272®	57%	12%	5%	40	0.29	0.054 / 0.31	1.94
② LoÉ-272® / Clear / ④ LoÉ³-366®	51%	13%	2%	32	0.22	0.043 / 0.24	2.32
② LoÉ³-366® / Clear / ④ LoÉ-180™	57%	15%	2%	36	0.23	0.064 / 0.36	1.31
② LoÉ³-366® / Clear / ④ LoÉ²-270®	50%	13%	1%	31	0.20	0.050 / 0.28	2.47
② LoÉ³-366® / Clear / ④ LoÉ²-272®	51%	13%	2%	32	0.21	0.053 / 0.30	2.43
② LoÉ³-366® / Clear / ④ LoÉ³-366®	46%	13%	0%	27	0.18	0.042 /0.24	2.60

LUXWALL

COATING POSITION

Low-E coatings applied to ***Surface 2,*** and either ***Surface 4*** or ***Surface 5*** of the Enthermal Plus enable targeted thermal efficiency. Low-E coatings can be selected to optimize for visible light transmission, passive solar design, insulating performance, and elevation specific design.

The illustration on the right is for reference only and depicts coating placement on surfaces 2 and 5.



ENTHERMAL PLUS (4/4/4) SINGLE SILVER LOW-E OUTBOARD + IGU CAVITY WITH ARGON + ENTHERMAL INBOARD

	VISIBLE LIGHT		FADING		SOLAR/INSULATION		
	Light Transmission (VLT)	Exterior Reflectance	T-UV	T-UV DW ISO	SHGC	U-Factor IP / SI	LSG
(2) LoĒ-180™ / Clear / (5) LoĒ-180™	69%	20%	13%	50	0.54	0.066 / 0.38	1.29
(2) LoĒ-180™ / Clear / (5) LoĒ²-270®	61%	19%	6%	41	0.41	0.051 / 0.29	1.50
(2) LoĒ-180™ / Clear / (5) LoĒ²-272®	63%	18%	8%	44	0.44	0.054 / 0.31	1.45
(2) LoĒ-180™ / Clear / (5) LoĒ³-366®	56%	18%	2%	36	0.35	0.043 / 0.24	1.61

ENTHERMAL PLUS (4/4/4) DOUBLE SILVER LOW-E OUTBOARD + IGU CAVITY WITH ARGON + ENTHERMAL INBOARD

	VISIBLE LIGHT		FADING		SOLAR/INSULATION		
	Light Transmission (VLT)	Exterior Reflectance	T-UV	T-UV DW ISO	SHGC	U-Factor IP / SI	LSG
(2) LoĒ²-270® / Clear / (5) LoĒ-180™	61%	16%	6%	41	0.32	0.065 / 0.37	1.91
(2) LoĒ²-270® / Clear / (5) LoĒ²-270®	53%	15%	3%	35	0.30	0.050 / 0.28	1.79
(2) LoĒ²-270® / Clear / (5) LoĒ²-272®	55%	14%	4%	37	0.31	0.053 / 0.30	1.80
(2) LoĒ²-270® / Clear / (5) LoĒ³-366®	50%	15%	1%	31	0.28	0.042 / 0.24	1.80
(2) LoĒ²-272® / Clear / (5) LoĒ-180™	63%	15%	8%	44	0.36	0.065 / 0.37	1.75
(2) LoĒ²-272® / Clear / (5) LoĒ²-270®	55%	14%	4%	37	0.32	0.050 /0.28	1.70
(2) LoĒ²-272® / Clear / (5) LoĒ²-272®	57%	13%	5%	39	0.34	0.053 / 0.30	1.68
(2) LoĒ²-272® / Clear / (5) LoĒ³-366®	51%	13%	2%	32	0.30	0.043 / 0.24	1.73
(2) Solarban 60® / Clear / (5) Solarban 60®	57%	13%	6%	39	0.32	0.051 / 0.24	1.78
(2) Solarban 60® / Clear / (5) Solarban 70®	53%	14%	2%	33	0.27	0.042 / 0.24	1.92

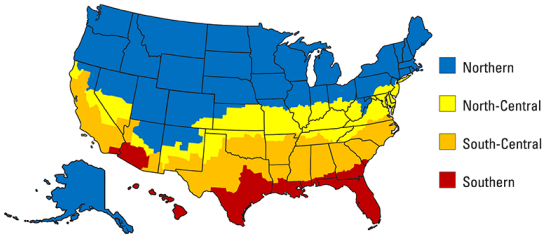
ENTHERMAL PLUS (4/4/4) TRIPLE SILVER LOW-E OUTBOARD + IGU CAVITY WITH ARGON + ENTHERMAL INBOARD

	VISIBLE LIGHT		FADING		SOLAR/INSULATION		
	Light Transmission (VLT)	Exterior Reflectance	T-UV	T-UV DW ISO	SHGC	U-Factor IP / SI	LSG
(2) LoĒ³-366® / Clear / (5) LoĒ-180™	56%	14%	2%	36	0.24	0.064 / 0.36	2.38
(2) LoĒ³-366® / Clear / (5) LoĒ²-270®	50%	14%	1%	31	0.24	0.050 / 0.28	2.11
(2) LoĒ³-366® / Clear / (5) LoĒ²-272®	51%	13%	2%	32	0.24	0.053 / 0.30	2.14
(2) LoĒ³-366® / Clear / (5) LoĒ³-366®	46%	13%	0	27	0.23	0.042 / 0.24	2.02
(2) Solarban 70® / Clear / (5) Solarban 60®	53%	15%	2%	33	0.24	0.050 / 0.28	2.22
(2) Solarban 70® / Clear / (5) Solarban 70®	48%	16%	1%	29	0.22	0.042 / 0.24	2.18

ENERGY STAR® CERTIFICATION FOR RESIDENTAL WINDOWS

ENERGY STAR® is a program run by the U.S. Environmental Protection Agency (EPA) that promotes energy efficiency in consumer products, including windows. ENERGY STAR 7.0 is the latest version of the ENERGY STAR program's requirements for windows.

LuxWall's Enthermal transparent insulation combined with defying insulating glass technology delivers best in class performance to meet the ENERGY STAR® criteria for all four climate zones.



ENERGY STAR® REQUIREMENTS	C180/ CLR/ C180	C180/ CLR/ C270	C180/ CLR/ C272	C180/ CLR/ C366	C270/ CLR/ C180	C270/ CLR/ C270	C270/ CLR/ C272	C270/ CLR/ C366	C272/ CLR/ C180	C272/ CLR/ C270	C272/ CLR/ C272	C272/ CLR/ C366	C366/ CLR/ C180	C366/ CLR/ C270	C366/ CLR/ C272	C366/ CLR/ C366	SB60/ CLR/ SB60	SB60/ CLR/ SB70	SB70/ CLR/ SB70
U-Factor ≤ 0.22, SHGC ≥ 0.17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
U-Factor ≤ 0.23, SHGC ≥ 0.35	✓	✓	✓						✓										
U-Factor ≤ 0.24, SHGC ≥ 0.35	✓	✓	✓						✓										
U-Factor ≤ 0.25, SHGC ≥ 0.40	✓		✓																
U-Factor ≤ 0.26, SHGC ≥ 0.40	✓		✓																
U-Factor ≤ 0.25, SHGC ≤ 0.40		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
U-Factor ≤ 0.28, SHGC ≤ 0.23																✓			✓
U-Factor ≤ 0.32, SHGC ≤ 0.23																✓			✓

**Assumptions: Coating surfaces are located on surfaces 2 and 5. Outboard 1/2 inch argon cavity 90/10. All lites are 5-mm thickness. Window LBNL calculation method.*

SPECIFICATIONS

ENTHERMAL DIMENSIONS
Maximum | 60" x 96"
Minimum | 12" x 18"

GLASS STRENGTH
Tempered Enthermal
Tempered Enthermal with Heat Soak
Annealed, HS or Tempered Outboard

ENTHERMAL THICKNESS PROFILE
8-mm, 9-mm, 10-mm, 11-mm,
and 12-mm

COATED GLASS OPTIONS
Cardinal LoĒ-180™, Cardinal LoĒ²-270®,
and Cardinal LoĒ³-366®
Solarban 60® and Solarban 70®

OUTBOARD DESIGN OPTIONS
Tinted Outboard Substrates
Privacy Glass
Storm Laminated Glass
Security Laminated Glass
Bird Friendly Glass
Grids Between Glass
Additional Low-E Coatings

WARRANTY

LuxWall Enthermal comes with a 20-year, 150% credit warranty when combined with insulating glass products. LuxWall has subjected Enthermal to accelerated durability testing well beyond the industry standard requirements of ASTM 2188/2189/2190 to ensure product longevity. LuxWall has successfully passed the following accelerated performance levels: -60° C to +130° C thermal cycling, +85° C with 85% relative humidity, +/- 90° C asymmetric thermal shock, DP Rating of 80, 25K door slam cycles, accelerated UV (up to 32X standard ultraviolet exposure), combinatorial humidity freeze, and salt spray.

ADDITIONAL PERFORMANCE AND AESTHETIC OPTIONS ARE AVAILABLE UPON REQUEST

MADE WITH PRIDE IN LITCHFIELD MICHIGAN