

LOW-E GLASS

■ The Ultimate Energy Efficiency Revolution ■

A Comprehensive Visual Guide to Low Emissivity Glass Technology
Featuring products from Saint-Gobain, AIS Glass India & Guardian Glass

■ Energy Savings	■ Key Feature	■ Environmental
30-50% reduction in energy bills	Coating 1/75th of human hair thickness	2-3 tons CO ₂ reduction per year

■ WHAT IS LOW EMISSIVITY?

Emissivity is a material's ability to emit thermal radiation (0 to 1 scale). Standard glass has emissivity of **0.84**, meaning it readily emits heat. Low-E glass features ultra-thin metallic coatings that reduce emissivity to **0.02-0.20**, creating a revolutionary change in heat control!

Glass Type	Emissivity	Heat Reflection	Performance
Standard Glass ■	0.84	~16%	■ Poor
Hard-Coat Low-E ■	0.15-0.20	~85%	■ Good
Soft-Coat Low-E ■	0.02-0.10	~98%	■ Excellent

■ **KEY INSIGHT:** The coating is just 1/75th of a human hair thickness, yet it can **slash energy bills by 50%**! That's the power of nanotechnology! ■

FIVE CRITICAL PARAMETERS

1 U-Factor (Thermal Transmittance)

What it measures: Rate of heat transfer through glass ($\text{W}/\text{m}^2\cdot\text{K}$). **Lower is better!**

Standard double-pane: 2.7-3.0 $\text{W}/\text{m}^2\cdot\text{K}$ ■

Low-E double-pane: 1.4-1.8 $\text{W}/\text{m}^2\cdot\text{K}$ ■

Low-E triple-pane: 0.8 $\text{W}/\text{m}^2\cdot\text{K}$ ■

That's a 50-70% improvement!

2 Solar Heat Gain Coefficient (SHGC)

What it measures: Fraction of solar radiation admitted (0 to 1 scale).

Cold Climate: High SHGC (0.55-0.70) ❄️ ■ - Let warmth in!

Hot Climate: Low SHGC (0.25-0.35) ■ - Block the heat!

Tunable for your climate zone!

3 Visible Light Transmittance (VLT)

What it measures: Percentage of visible light passing through.

High-quality Low-E: 60-80% VLT ■

Keeps rooms **bright and cheerful** while blocking heat!

Best of both worlds - daylight WITHOUT the heat!

4 Coating Types

HARD-COAT (Pyrolytic):

- ✓ Applied during manufacturing at high temp
- ✓ Emissivity: 0.15-0.20
- ✓ Super durable, can use on single pane

SOFT-COAT (Sputtered):

- ✓ Applied in vacuum chambers
- ✓ Emissivity: 0.02-0.10 (BEST performance!)
- ✓ Multiple silver layers for max efficiency

5 Spectral Selectivity

The Magic: Transmit visible light, reflect infrared!

Triple-silver Low-E:

- 70%+ visible light ■
- 90%+ near-infrared rejection ■■

It's like having a super-smart bouncer for your windows!

■ PERFORMANCE COMPARISON

Glass Type	U-Factor	SHGC	VLT%	Emissivity	Rating
Single Pane	5.8	0.86	90	0.84	■
Double Pane	2.8	0.76	81	0.84	■■
Low-E Hard	1.8	0.70	75	0.15	■
Low-E Soft	1.4	0.27	70	0.04	■
Low-E Triple	0.8	0.23	62	0.02	■

■ ENERGY SAVINGS VISUALIZATION ■

Glass Type	Energy Loss	Annual Cost*	Savings
Single Pane ■	100%	■40,000	■0
Double Pane ■	60%	■24,000	■16,000
Low-E Double ■	30%	■12,000	■28,000
Low-E Triple ■	15%	■6,000	■34,000

*Based on 2000 sq ft home in composite climate

SAINT-GOBAIN GLASS INDIA

Global leader with advanced magnetron sputtering technology!

Product	Key Features	Best For
■ SGG PLANITHERM	Thermal insulation • 4-12mm Neutral/Green/Blue/Bronze	Residential & Commercial
■ PLANITHERM ONE	U-value 1.0 W/m ² -K • 71% VLT Best-in-class performance	Strict building regulations
■ SGG EVO	Solar + Thermal protection Works in single/double glazing	Versatile applications
■ COOL-LITE SKN	Double silver • Low g-value High light transmission	Facades & overhead glazing

■ AIS GLASS INDIA

India's #1 with 70% market share • Ecosense for Indian climate!

Product	Key Features	Best For
■ ECOSENSE ENHANCE	Solar control for tropics Dawn/Snow/Sky/Oasis series	Hot Indian summers
■ ECOSENSE EXCEED	Double glazing champion Brook/Vision/Lite Plus series	Beauty + Efficiency
■ ECOSENSE ESSENCE	Modern Low-E • Eco-friendly Thermal insulation	Green buildings
■ ECOSENSE EDGE	UNIQUE single glazing Low-E! Natura/Electra/Chroma	Structural glazing
■ ECOSENSE EXCEL	Double Low-E • Pearl/Sparkle Best-in-class solar control	Premium projects
■ ECOSENSE SPECTRA	FLAGSHIP product! Top selectivity & performance	Ultimate performance

■ GUARDIAN GLASS INDIA

Made in Gujarat • SunGuard advanced sputter-coating technology!

Product	Key Features	Best For
■ SUNGUARD SNX 70+	TRIPLE silver • 68% VLT 0.28 SHGC • 2.45 LSG ratio	Maximum clarity
■ SOLAR SERIES	Highly reflective Maximum solar protection	Heat & glare control
■ HIGH PERFORMANCE	Design flexibility Solar + Thermal balance	Commercial & Residential
■ DOUBLE SILVER	Perfect balance Neutral appearance	Wide range applications
■ SOLAR PLUS	Enhanced performance Used in airports & stations	Iconic projects
■ HIGH DURABLE COLOURS	Vivid colors + Durability Energy efficiency	Architectural statements

CLIMATE SELECTION GUIDE

Pick the perfect glass for YOUR Indian climate zone!

Climate Zone	Regions	Recommended Products	Priority
■ HOT & DRY	Rajasthan, Gujarat, Interior Maharashtra	Ecosense Edge SGG Evo SunGuard Solar Plus	Low SHGC (0.25-0.35) Block desert heat
■ HOT & HUMID	Mumbai, Chennai, Coastal Areas	Ecosense Exceed Cool-Lite SKN Double Silver	Low SHGC + Condensation resistance
■■ COMPOSITE	Delhi, Bengaluru, Pune	Ecosense Excel Planitherm High Performance	Balanced SHGC (0.35-0.50) Year-round
❄️ COLD	Himalayas, Hill Stations	Planitherm One Ecosense Essence SNX 70 Plus	Low U-value (0.8-1.2) Keep warmth IN

■ READY TO TRANSFORM YOUR BUILDING?

■ Financial Benefits	■ Environmental Impact	■ Comfort Benefits
<ul style="list-style-type: none">• 30-50% energy savings• 7-12 year payback• Increase property value• Reduce HVAC costs	<ul style="list-style-type: none">• 2-3 tons CO₂ reduction/year• Equivalent to removing 1 car• LEED/GRIHA credits• Sustainable future	<ul style="list-style-type: none">• Year-round comfort• No condensation• 99% UV protection• Quieter interiors

■ Small Coating. BIG Impact. Sustainable Future! ■

Low-E glass is the SMARTEST investment for your building!

Contact Saint-Gobain, AIS Glass, or Guardian Glass today to start saving energy and money!