

# About the manufacturer

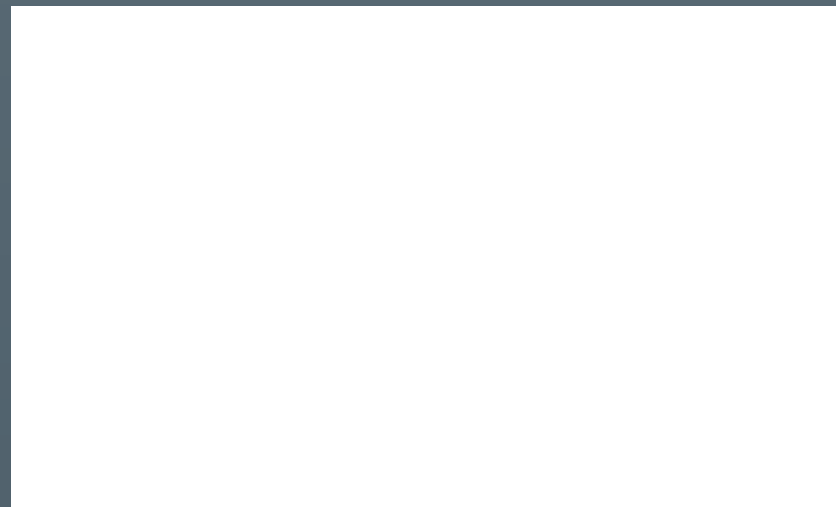
**Solutia's Performance Films division, CPFilms**, draws on over 50 years experience in film production and technology to maximize efficiency and produce precise film solutions to meet our customers' exacting requirements. Solutia's Performance Films division **is the global leader in the manufacturing and marketing of branded window films, with a complete line of automotive window tint, commercial and residential architectural window films, safety & security, anti-graffiti, and decorative films.**

With its headquarters in St. Louis, Missouri, USA, the company operates globally with approximately 3,300 employees in more than 50 worldwide locations.

Solutia's Performance Films division, CPFilms, manufactures films that provide **comfort, aesthetics, energy savings, safety and security** when applied to glass, as well as high-value precision coated films and film components sold for advanced technology and performance products.

We work directly with a variety of designers, manufacturers and customers to develop products that **improve efficiency and performance and offer the industry's widest array of film technologies**, produced in a clean-room environment to ensure optimum quality.

In Europe Solutia / CPFilms is certified by SGS United Kingdom Ltd. (Société Générale de Surveillance) according to **ISO 9001:2008, certificate No. GB95/5381.**



Your authorised LLumar dealer - [www.LLumar.com](http://www.LLumar.com)



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Gold Standard Energy Savings Window Film Series from LLumar

**EnerLogic®**



# Change the vision

Golden vision for your home – save energy all year-round.



# Unparalleled capabilities.

It is well known that window film can save significant amounts of energy. But until now one had to trade a reduced outside view for solar performance. The new EnerLogic® range gives you the opportunity to utilise the possibilities modern window films offer to the full: Great insulation and a perfect view.

EnerLogic 35 and EnerLogic 70 improve the performance of glazing systems in every respect. The low-emissivity properties of EnerLogic deliver even greater energy savings than traditional spectrally selective window films with high visible light transmission. On top of that they provide comfort, protect interior decoration from fading and maintain an unrestricted outside view.

Virtually invisible, new EnerLogic 70 is a revolution in the window film technology. EnerLogic provides unparalleled glass-insulating capabilities. With its patent-pending low-e technology, EnerLogic has the best insulating performance of any window film available.

When you compare how much EnerLogic improves insulating performance to other film technologies, you clearly see that EnerLogic is in a class by itself.

EnerLogic keeps heat out during summer and locks heat in during winter - providing twice the insulation performance of traditional low-e window films. This saves a significant amount of energy and helps to protect the environment. With EnerLogic you save costs while being responsible towards our planet.

**Start reducing your energy costs now - with a virtually invisible LLumar EnerLogic:** The perfect balance of energy efficiency, comfort, and cost savings - all-season, year-round.



**EnerLogic®**  
Gold Standard Energy Savings Window Film Series from LLumar



# The Gold Standard.



## RENOVATE EUROPE

The introduction of EnerLogic® window film has revolutionised the window film market. The capabilities offered by the new technology have set a standard that is second to none.

Within the range of EnerLogic you can choose between EnerLogic 35, which contains real silver, and EnerLogic 70, our new window film containing pure gold.

If you are looking for a high-performance window film, you will have a hard time searching for a film with better energy-saving capacity than the EnerLogic 35. Our top product, new EnerLogic 70, offers you also significant energy savings while providing an enormous transparency.

While we seek to develop the most innovative products for our customers, Corporate Social Responsibility becomes more and more relevant to us. We therefore also support the Renovate Europe campaign to make Europe's buildings more energy efficient. With EnerLogic everyone is able to make a significant contribution to energy savings, for themselves and for the planet.

**i** Over its warranty lifetime 1m<sup>2</sup> of EnerLogic® film can save enough energy to **power 50 computers for a year.\***



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from LLumar





# The guarantee for a crystal-clear view.

With EnerLogic® window films you can save significant amounts of energy while enjoying a perfectly clear view.

The content of pure silver or valuable gold guarantees the very best material properties, combined with a high visible light transmission. Besides a balance of high-energy efficiency, comfort and cost reduction, the precious metals in the window films assure a luminous transparency.

The advantages EnerLogic window films offer are crystal-clear. If you choose a product out of our EnerLogic range, you will get a product of the highest quality.

With any EnerLogic product you choose the gold standard of window film – for a fraction of the cost of window replacement. **Don't settle for less.**



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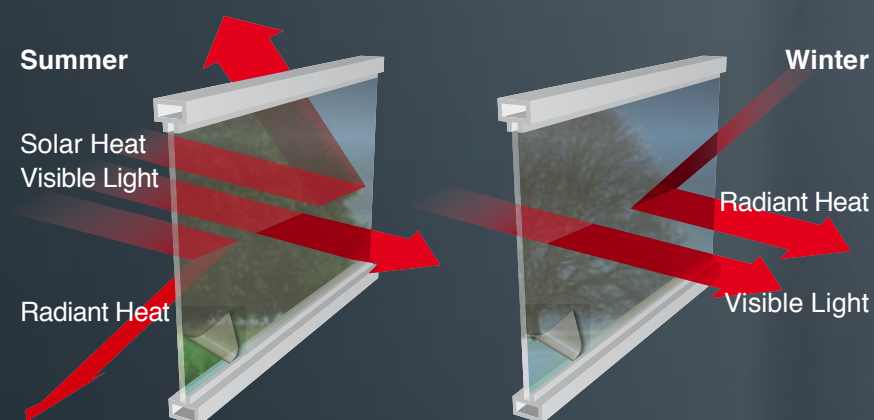
**EnerLogic®**   
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i Over its warranty lifetime 1m<sup>2</sup> of EnerLogic® film can save enough greenhouse gas emissions to drive a car up to 18,794 km.\*\*

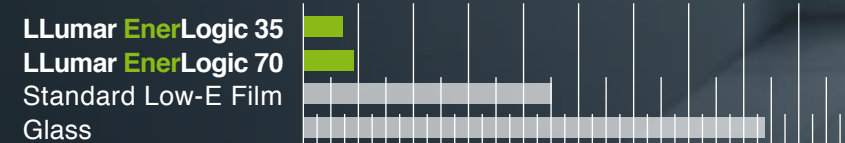
# Vision complete.

The properties of the EnerLogic® window films are revolutionary. The low-e coating reflects solar and radiant energy effectively.

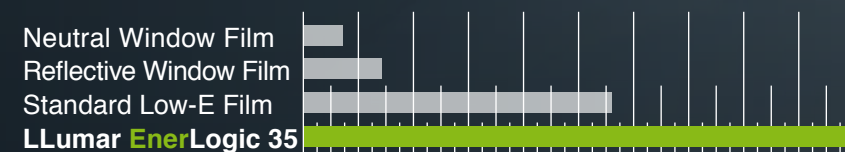


EnerLogic 35 reflects 91 % of radiant heat, EnerLogic 70 even 93 %. Therefore room temperature is comfortable all year round – it locks the heat in winter and keeps it out in summer. At the same time, EnerLogic 70 window film convinces with a fantastic light transmission.

## Emissivity



## Year-round Insulating Performance



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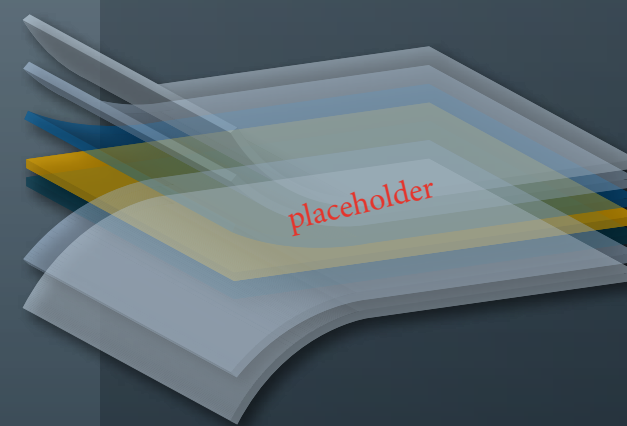
# Gold and Silver for outstanding performances.

The exceptional quality of the EnerLogic® window films is reached through a process of metal coating called sputtering. This is a special process using plasmas similar to the plasmas found on the surface of the sun. At the same time small silver or gold particles are worked into each film.

The effects of this complex process are spectrally selective window films that allow best possible visible light transmission. LEP35 is 1.33 times spectrally selective, and LEP70 1.35 times.

With the introduction EnerLogic you do no longer have to choose between window films that provide either a perfectly clear view or the highest energy savings. EnerLogic comes out top in both classes.

If you fit your house with EnerLogic70 it can lead to energy saving of up to 70 %. To receive the same result with other products your view might suffer. The visible light transmission of EnerLogic70 is three times as high compared to window films that achieve similar energy saving.



## Film Construction

- UV protected scratch resistant coating
- Clear polyester with UV absorbers
- Laminating adhesive with UV absorbers
- Metallised gold/silver**
- UV protected scratch resistant coating
- HPR adhesive with UV absorbers
- Release liner



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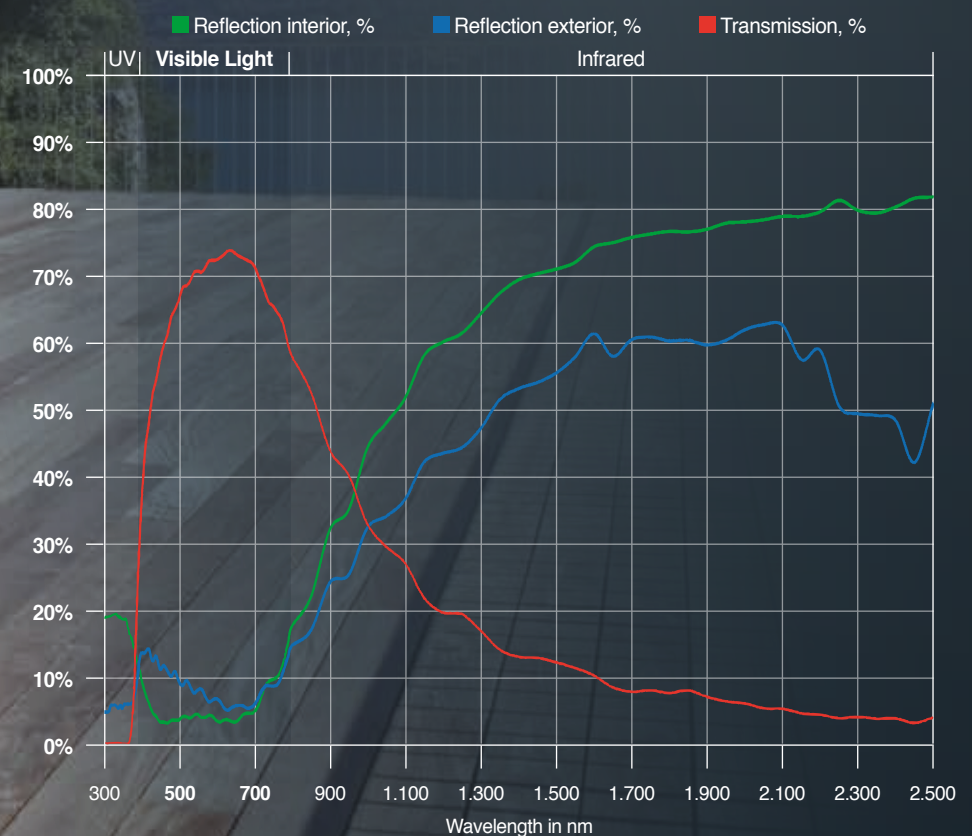
**EnerLogic®** from LLumar



# Impressive prospects.

**i** For each year of its lifetime 1m<sup>2</sup> of EnerLogic® film can save enough energy to **power 3 computers for a year.\***

Glass type	Single <sup>5</sup>	Double <sup>6</sup>
Solar Energy Transmission, $\tau_e$	47 %	40 %
Solar Energy Reflection, $\rho_e$	20 %	20 %
Solar Energy Absorption, $a_e$	33 %	39 %
Visible Light Transmission, $\tau_V$	70 %	62 %
Visible Light Reflection (External), $\rho_{Ve}$	8 %	14 %
Visible Light Reflection (Internal), $\rho_{Vi}$	4 %	8 %
Ultraviolet Transmission, $\tau_{UV}$	< 1 %	< 1 %
g Value (Coefficient of Total Energy Transmission)	0,52	0,54
Total Solar Energy Rejected	48 %	46 %
Glare Reduction	21 %	29 %
Emissivity, $\epsilon_n$	0,09	0,09
U-Value (EN 673 W/m <sup>2</sup> K)	3,5	2,1
Corrected emissivity of uncoated glass surface	0,837	0,837



All data determined according to EN 410 and EN 673. <sup>5</sup>4 mm clear single glazing.  
<sup>6</sup>4/16/4 mm clear double glazing, air filled.



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# All-season cost savings

 High VLT Illustration



**Patent-pending, combined super-Low E ( $\epsilon = 0,09$ ) & solar control coating** – directs solar and radiant heat back to its source for good energy savings.

- Spectrally selective coating provides **high visible light transmission with good solar energy rejection**.



**“Always on” technology** gives year round all-season energy savings and carbon emissions reductions.

- **Provides a perfect balance** of energy efficiency, comfort and cost savings - **all year long**.



**Can achieve significant savings** on year round commercial building energy costs<sup>4</sup>.

- **Upgrades the annual insulating performance** of single pane glazing to close to double pane glazing<sup>5</sup>.
- **Improved comfort and working conditions** due to reduced solar heat gain in the summer and reflection of energy back toward occupants in winter.
- **Ultra-low iridescence (rainbow)** makes it fully compatible with many types of lighting, including high efficiency lighting.
- More comfort: **Low interior visible light reflection - lower than glass**
- **Excellent anti-UV protection:** Reduces fading of textiles, furniture, and works of art.
- **Scratch resistant coating:** Increased longevity & easy cleaning.
- **15 years** manufacturer-backed **warranty**.

**Low reflectance... input from MTS?**



Window Upgrade Options	Replacement	Screens/Shades	EnerLogic
Winter energy savings	●	●	●
Summer energy savings	●	●	●
Payback less than 5 years possible	○	●	●
< 2 months to save more than the carbon embedded in the product	○	●	●
Adds comfort	●	●	●
Protects furnishings	●	●	●
Maintains the view outside	●	○	●
No mechanical parts to break	○	○	●
Less disruptive to install	○	●	●
Less expensive to install	○	●	●
Preserves environment	○	●	●
Lowest costs with highest return	○	○	●



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# A clear vision.

You have visions of modern life and work? LLumar window film help you to achieve them. They improve the performance of glazing systems in every respect, provide comfort, protect interior decoration and maintain an unrestricted view outside. All this you get for just a fraction of what window replacements would cost.

No matter which project you have in mind – LLumar window film enhance the energy efficiency, look, and functionality of windows of all kind of properties:

- Residential homes
- Historic buildings
- Commercial buildings where maintaining the look of existing glass is important
- Commercial offices
- Retail shops
- Schools and universities
- Government buildings
- Health care facilities

## Guaranteed durability.

Best materials, thorough manufacture and long experience – these are the ingredients for the unprecedented durability of our products.



We believe in the quality of our products, and therefore give you a **warranty of 15 years** on all products of the EnerLogic window film range.

## Good reasons for our warranty:

- Especially long-lasting materials like pure gold and real silver
- Exceptional quality in the manufacturing processes
- Installation through professionals with special tools and highly specialised techniques.

**i** Over its warranty lifetime 1m<sup>2</sup> of EnerLogic® film can save enough greenhouse gas emissions to drive a car up to 18,794 km.\*\*



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**EnerLogic®**



# High Performance on every level.

Benefits short form

Data sheet LEP 70 short form

Benefits short form

Data sheet LEP 70 short form

LLumar EnerLogic70

LLumar EnerLogic35

