
AÇÃOSUAVE
Heat Glaze Systems

Transform your space with our heated glazing designs and experience an endless array of benefits.

At Ação Suave we supply electrically heated glass products to commercial and domestic properties in London and across the UK.

Our team of expert engineers guarantee an optimal heated glass solution, assuring maximum comfort to your premises. Trust us to bring about a revolutionary transformation to your property.

Our experts will collaborate with architects, engineers, prime construction contractors, all of whom reap the rewards of our active and wide-ranging project experience and mastery in glass.

By engaging our services, customers can be assured that the entire process from procurement to delivery will be smooth and stress free.

Furthermore, you can trust that you will receive a premium quality product, within budget and to a strict schedule.



Enjoy your very own naturally warm space, making every room inviting and comfortable.

And of course, you can't forget about the energy savings, as you won't need to use any other sources of heat!

Heated glazing can be incorporated into insulating units designed to provide **noise reduction**, solar control and **UV filtering**.

Helping to keep a property **warmer** in the winter and **cooler** in the summer. This can help **reduce energy costs** and make the property more comfortable.

Heated glass can also **reduce the risk** of condensation, keeping the windows **clear** and allowing for an unobstructed view of the outdoors.

Eradicated visual and maintenance problems associated with **condensation**.

Warm windows allow more effective use of the floorspace: no more radiators required to stop those chilly-down draughts.

It allows a **better design** of living or working space internally resulting in more comfort, which is better for your well-being.

Energy saving and lower power consumptions make heated glass the ideal sustainable solution to your **heating** needs.



Overall specifying heated glass in building designs can provide many benefits including:

- energy efficiency
- comfort
- design versatility
- aesthetics
- safety

Energy Efficiency

By specifying heated glass, you can help to reduce the amount of energy needed to heat a building and lower the buildings carbon footprint.

Design Versatility

Heated glass can also be used in a variety of design elements such as sky lights, canopies and other architectural features. It can also be used in all glass facades to provide continuous, uninterrupted views whilst maintaining thermal comfort.

Durability

Heated glass can also help to increase the durability of a building, preventing the formation of ice on the exterior of the building. which could lead to damage from freezing and thawing.

Cost Saving

The use of heated glass can save on energy costs by reducing the amount of energy required to heat a building. By also reducing the amount of wear and tear on the building's HVAC system.

Comfort

Heated glass can provide a comfortable environment for the occupants, by preventing condensation and frost from forming on the window surface. As a result of this, this could make the space damp and uncomfortable.

Aesthetics

Heated glass can also enhance the appearance of a building by keeping windows clear and free of frost which can be visually appealing.

Safety

Heated glass can also help to prevent the formation of ice on the exterior surfaces of the building, which could be a safety hazard for pedestrians and vehicles.

Convenience

Some heated glass systems can also be controlled through smart home devices (Remote control) or with a smartphone app, which allows you to monitor and adjust the system as and when required.

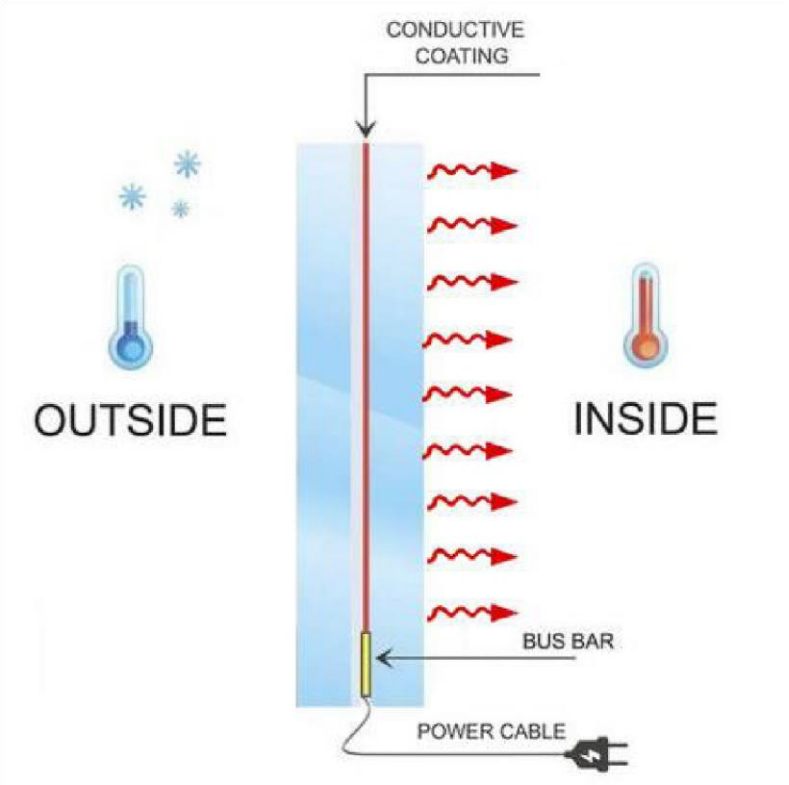
Heat Glaze

Heat Glaze is an innovative, integrated, invisible, electrically heated glass solution. Allowing for an enhanced visual and thermal indoor comfort.

Manufactured using a special type of glass, it features a glass surface to which a transparent electrically conductive coating has been applied. An electric current passes through cables and bus bars on this coating, thus generating heat and causing the glass to begin to radiate heat.

Heat Glaze resolves structural problems of maintenance and visibility linked to condensation or snow. It is available as double or triple glazing, as well as laminated safety glass (for indoor applications).

The intensity of the heat can differ, depending on the final application.





APPLICATIONS

Internal applications:
Interior partition walls, doors, security glazing, towel dryers, radiators, glass floors, mirrors, wine cellars, refrigerator doors, etc.

External applications:
Facades, roof glazing, walk on glass, corridors, staircases, glass floors, etc.

Benefits of Heat Glaze

Heat Glaze offers you better comfort thanks to stable and radiant heating, which does not dry out the air.

With an increased provision of natural light this makes the environment brighter and better for wellbeing, meaning you can optimize on space as a room can be furnished effectively right up to the glass.

Making the glass is easy to clean with very low maintenance, it can even be designed to enable the incorporation of sand blasting or digital printing for example.

Due to the low power consumption and radiant technology, this solution can save energy and have a positive impact on the environment.



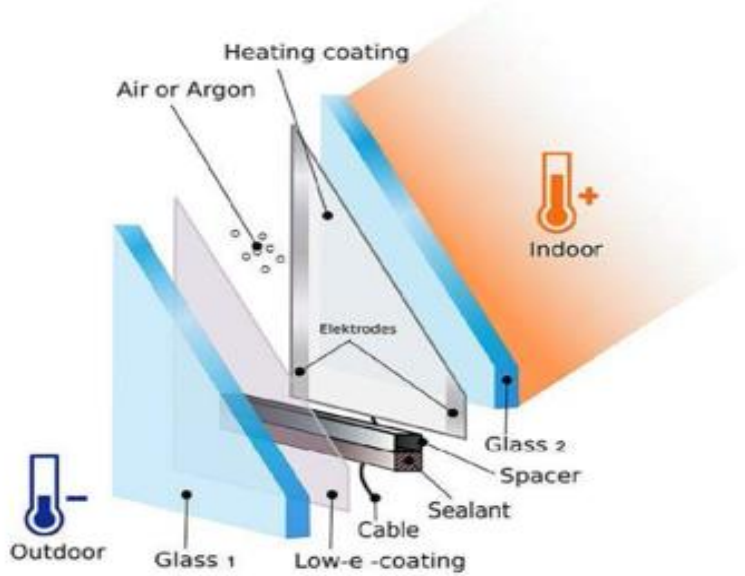


In the diagram below we have two tempered glass panes, each with a low-E coating.

The low-E coating acts as a uniform resistance element, warming glass evenly across the entirety of the pane. The second low-E coating on the exterior glass reflects any escaping heat back internally.

Technical research has concluded that over 90% of heat can be directed indoors, minimizing heat loss and reducing carbon footprint.

This makes electrically heated glass superior in energy efficiency when being compared to all other comparable technology.



• Minimum/maximum size -	300 mm x 500 mm - min 3.200 mm x 8.000 mm - max
• Colour -	Wide range of colour laminating films, colored glass PVB, Sentry Glass, Saflex DG 41, PU, PDLC privacy film.
• Interlayer -	
• Shape -	Rectangle, square, trapezoid, round, oval, triangle holes, notches, possible HST. Other processing screen printing, sandblasting, enamelling.
• Safety -	Composed of tempered and laminated glass in accordance with CE, EN 12150, EN 12543

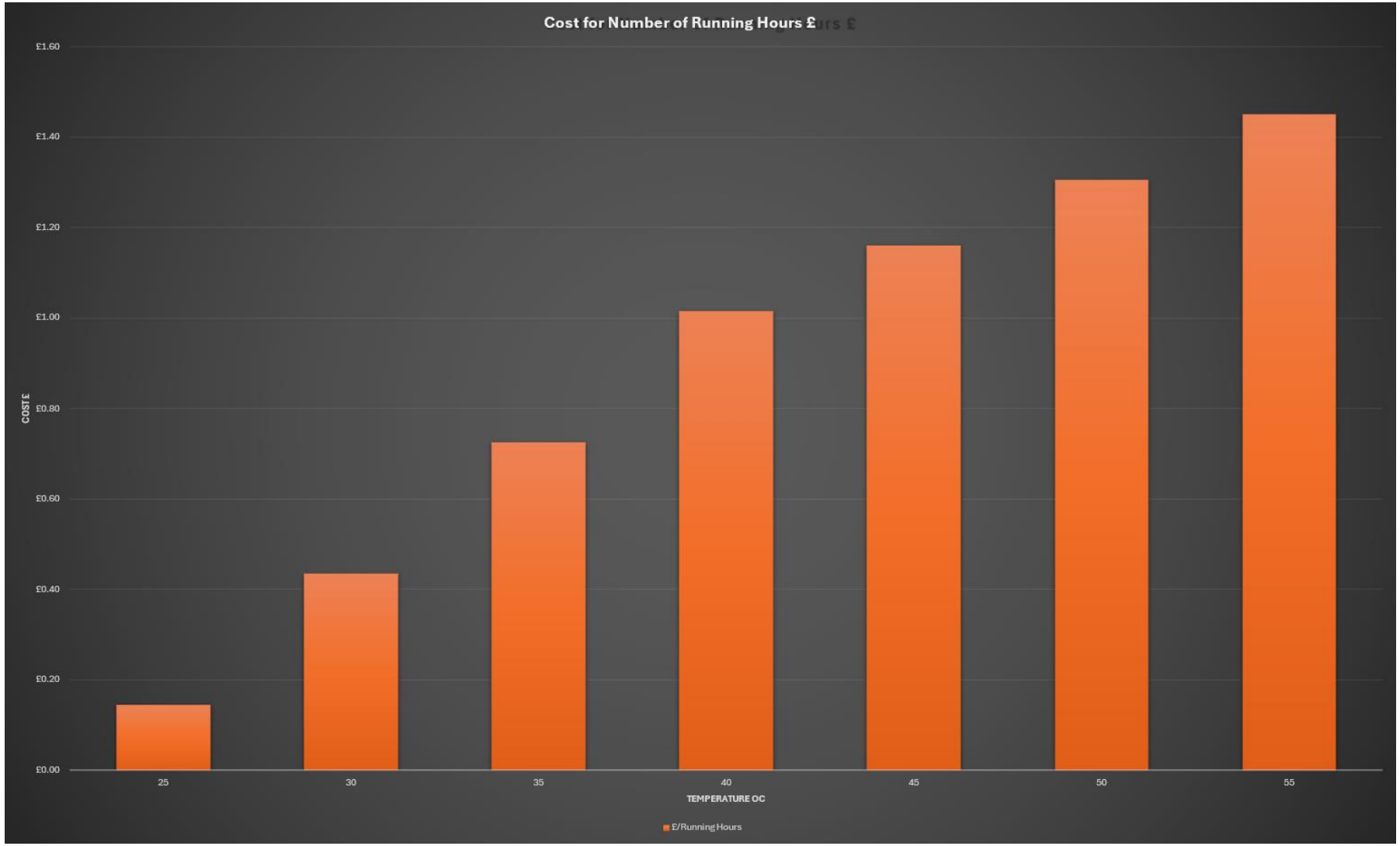
Conformity

Heat Glaze comply with the following standards:

- CE MARK
- EN 1279 - Double Glazing Unit • EN 1096 - Laminated Glass
- EN 12150 - Safety glazing, heat strengthened glass
- EN 14449 - Safety glazing, laminated glass and structural glazing
- EN 12600 - Pendular test
- UL certificate - file no. E531629

Window Size

KW/h £	Height (mm)	Width (mm)	m2	Running Hours
0.29	1000	1000	1	10



Comfort Heating

Electrically Heated Glass prevents the feeling of cold drafts when close to traditional windows or glass façades - a phenomenon referred to as the cold wall effect. This is what makes us reach for the room thermostat and turn up the air temperature, sometimes to unhealthy levels above 24°C.

The cold wall effect is caused by two factors:

1 - Air close to the glass is cooler than the ambient air in the room. Although heat loss can be reduced by double or triple glazing with high performance coatings, it is still noticeable. Cold air descends, moves across the floor and causes a sensation of cold drafts.

2 - Human skin temperature is between 33°C and 37°C (c92-98F). The body radiates heat to any surface below this temperature so standing close to these surfaces can make your skin feel cold.



Glazing unit performance:

This will depend on client requirements, but typical Centre-pane U values are:

Ug Factor W/m2 K
For double glazed walls 1.0-11
For triple glazed walls 0.6-0.8
For double glazed roofs 1.2-1.4
For triple glazed roofs 1.0-1.1

>90% of heat directed to the interior.

Panels can be up to 8.0 x 3.2 metres.

Heating the internal pane of window glass can eliminate these effects. Recommended air temperatures in rooms vary according to activity and purpose. To some extent-culture; but in sedentary domestic and office environments they are generally in the range of 17°C-22°C. Air temperatures much below 17°C/ above 24°C are not considered healthy in these areas.

Glass heated to just two degrees higher than the desired room temperature stops convection down-draughts as well as heat loss from the room through the glass. This in turn eliminates the sensation of cold drafts and making it possible to turn down the thermostat without loss of comfort.

When window glass is heated further - to above body temperature - the skin no longer radiates heat to the façade but, rather, is directly warmed by the radiant heat from the glass.

The radiation also warms other surfaces within the room, so the whole volume of air is warmed without an area being specifically directly heated. The warming effect is therefore felt more rapidly, resulting in the general air temperature being kept at the lower end of the comfort range-reducing ventilation heat loss. It can also provide the opportunity to reduce the cost and embedded carbon footprint- other installed space-heating plant, sometimes eliminating it altogether.

The recommended safe glass temperature range of 21°C-55°C can be constantly monitored and rapidly adjusted to provide optimal comfort conditions for minimum energy input.

Our experts can supply the power consumption calculations to help you understand how your heated glass will form. Control boxes can be used to monitor performance and our engineers will set up an AI system to monitor and record product performances also. Monitoring such technology will ensure the product will not allow the room to overheat and can have learning capabilities to allow maximum efficiency of the glass.

The heat power will vary by product function, the location of the installation site, and the glass insulation, etc. Our team will help you choose the best solution for your needs.

The cost to run heated glass will depend on several factor: including the size of the glass surface, the type of heating system being used, the cost of electricity in your area and the amount of time the heating system is in use.

In general, the cost to run heated glass is relatively low compared to other heating systems on the market. It’s important to note that the cost to run heated glass can also vary depending on how the system is controlled. For example: if the system is controlled with a thermostat, the cost to run the heating system will be lower because the system will only be in use when it is needed. Additionally, some systems can be controlled through smart home devices or with a smartphone app, which allows you to monitor and adjust the system as required.

It is always a good idea to consult a professional for a detailed estimate for your specific case and to evaluate if it is cost effective for your individual circumstances.



Heated glass is ideal for removing condensation from the surface of glass in cold or humid conditions.

The trick is to warm the surface of the glass to just a degree or two above dew point. Heating is usually installed on the external glass in hot and humid climates. This can also be installed on the internal glass if humidity is on the inside, such as: swimming pools and spas.





Experience

We have supplied electrically heated glass solutions throughout the UK and worldwide. Here is an example of a project installed in France at the Monteur Véranda, Paris.

160 m2 of heated double glazing to a spectacular traditional conservatory.

Heat Glaze has been incorporated within a variety of projects including:

Tropical Court (Texas, USA)	40m2 heated glass
Oxford residence (Oxford, UK)	120m2 heated glass
Hampstead residence (London, UK)	180m2 heated glass
Turpin Longville (Paris, France)	160m2 heated glass
Swiss Alps Ski Resort (Switzerland)	190m2 heated glass
Val Sar Ski Resort (France)	70m2 heated glass

Plus many more projects in Germany, Spain Lithuania, Portugal and France.



Heat Glaze Systems
Unit 3a
Beechcroft farm Ind Estate
Chapel Wood Road
Sevenoaks
TN15 7HX

Info@acaosuave.co.uk

TEL: 0203 478 65 92