



**HYDRON**  
Protective Coatings Ltd

# Nu-Guard® NRG Range

Innovative Technology For The 21st Century



Interior & Exterior  
Energy Efficient Coating Systems  
with superior performance

Domestic / Commercial / Industrial

...applied excellence



**HYDRON**  
**Protective Coatings Ltd**

## Welcome to Hydron

With over 35 years experience, Hydron are the UK' and Ireland's leading specialists in the development of high performance, innovative protective coatings designed to protect and maintain a diverse range of substrates in accordance with expectations and technical specifications.

Hydron supply protective coatings and ancillary products to many major companies. We service all types of industries as well as provide best in class materials to local and central governments throughout the UK and Europe.

Hydron's track record of success is a direct result of listening to their customers needs and satisfying their requirements by utilising our knowledge base.

Over the years, Hydron's extensive range of developments include anti-graffiti coatings, graffiti removers, fire protection coatings, flame retardant paints, floor coatings, chemical resistant coatings, steel protection coatings, stone protection sealers and water repellents.

Hydron have introduced some of the most recognisable brands into the protective coatings industry such as **Nu-Cryl®**, **Nu-Sil®**, **Nu-Flame®** and **Nu-Base®** to name a just a few.

To continue our efforts the energy efficient Nu-Guard® NRG product range focuses upon providing tomorrows solutions to the challenges we face today.

### ***Nu-Guard® NRG products***

- ***SAVE ENERGY***
- ***SAVE MONEY***
- ***SAVE OUR ENVIRONMENT***



# Quality, Standards & Specifications

For peace of mind, Hydron's Nu-Guard® NRG range has been externally tested by certified laboratories to all the required standards and where possible European standards ensuring the Nu-Guard® NRG range outperforms the competition and is fully fit for purpose.

Hydron are an ISO 9001 certified company which ensures the quality of our products and the level of customer service provided are to the highest standards.

The sustainability of our environment is of paramount importance and is a top priority for Hydron. We ensure our business has an effective Environmental Management System in place and we strive to continually improve our commitments.

Hydron are registered with the NBS Plus and you can download all of our specifications from our user friendly, comprehensive website...



NBSPlus

[www.hydronpc.co.uk](http://www.hydronpc.co.uk)

The screenshot shows the Hydron website homepage with a dark green header. The header includes the Hydron logo (HPC HYDRON Protective Coatings Ltd) and several product categories: Energy Saving (Thermal Improvement products), Fire Protection (Fire Resistant Products), Anti Graffiti (Graffiti Proof Products), Graffiti Removers (Graffiti Removal Supplies), Stone Protection (Clear Protection), and Floor Coatings (Floor Coating Systems). Below the header is a large image of a building facade with a sign for 'BIBIC COVENTRY & WARWICKSHIRE'. To the right of this image is a 'PDF DOWNLOADS' section listing: Hydron Protection (2.7mb Download), Coatings From Hydron (1.5mb Download), Solutions From Hydron (2.5mb Download), and Nu-Flame Fire Protection (1.2mb Download). The main content area has a dark green background. On the left is a 'NAVIGATION' menu with links: Home, Company Overview, Hydron Company News, Contact Details, and Enquiries. Below that is a 'LATEST HYDRON NEWS...' section with a date '12/07/2011' and a headline 'Fire Protection at Whittemoor Lakes'. The main text area features the headline 'Hydron are the UK and Ireland's leading specialists in the development and application of High Performance Coatings' and a sub-headline 'These include anti graffiti coatings, fire protection coatings, flame retardant paints, stone protection coatings, graffiti removers, floor coatings, chemical resistant coatings, steel protection and water repellents.' Below this is a paragraph: 'We supply protective coatings and products to many major companies and service all types of industry as well as local and central government throughout the UK.' Another paragraph follows: 'Hydron's track record of success is a direct result of listening to our customers and satisfying their requirements from our industry leading range of protective coatings, products and services. Our UK range of protective coatings and products include: Anti graffiti coatings, flame-retardant paint, chemical resistant coatings, weatherproofing, fire protection coatings, steel protection and anti-corrosion systems.' The final paragraph reads: 'Specialist Protective Coatings, Anti Graffiti, Flame Retardant Paint, Chemical Resistant Coatings, UK'. On the right side of the main content area are logos for 'FeRFA', 'NBS PLUS', and 'Link-up'. At the bottom right of the main content area are the ISO 9001 Registered and UKAS Quality Management 015 certification logos.

...applied excellence

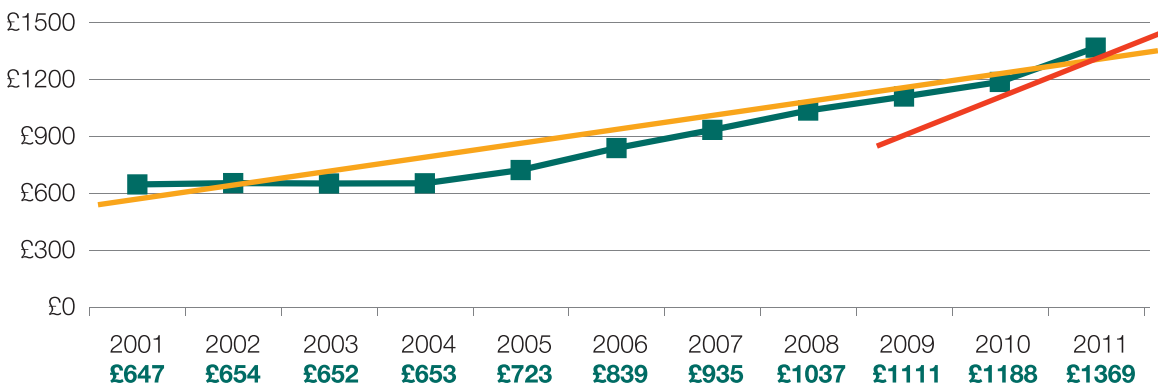
The challenges we face

# Energy - the rising cost

## What has happened in the past?

In previous times, the average cost of the energy that we consumed in our homes and within businesses remained stable. We can see from the department of energy and climate change statistics, the cost of energy has been rising at an alarming rate. The cost of energy, on average, has risen 47% from 2001 to 2011.

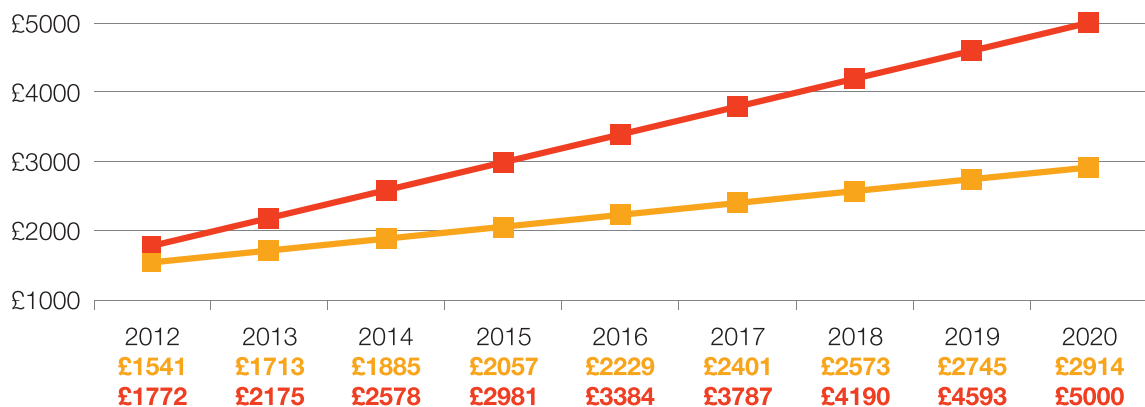
### Average Energy Cost 2001 - 2011



### What can we expect our fuel bills to cost by 2020?

In 2011, homes and business have received unprecedented rises in fuel bills with the majority of households and businesses experiencing sharp energy price rises of more than 20% on gas and 15% on electricity. With this in mind, and the fact that given energy costs have doubled in the last 5 years, forecasters have predicted a strong potential for the average household bill to touch £5000 per annum by 2020.

### Forecasted Energy Costs 2012 - 2020



Forecast based on previous 10 year average price rises

Forecast based on 2011 price rises

**Save energy and make savings with Nu-Guard® NRG range.**



The challenges we face

## Our Environment - Climate Change

Today we are having difficulties keeping the correct balance!

We influence our climate to change by releasing greenhouse gases and aerosols into the atmosphere, by changing land surfaces, and by depleting the stratospheric ozone layer.

A few centuries ago, the concentrations levels of greenhouse gases being released have begun to increase due to the increasing demand for energy caused by industrialization, rising populations, changing land use and human settlement patterns.

As we burn fossil fuels to heat our homes, run our cars, produce electricity and manufacture all types of products for us to use. We are simply adding more greenhouse gases to the atmosphere. By increasing and changing the amount of these gases, we've enhanced the warming capability of the natural **Greenhouse Effect**.

Carbon dioxide is the most significant greenhouse gas caused by human activities mostly through the burning of fossil fuels. It is the main contributor to climate change.

The UK's Government has set a target of an **60% REDUCTION** in carbon emissions by 2050.

By planning our own adaptive responses, we may help to lessen some of the environmental, economical and social costs of climate change. It has been identified, by the department of energy and climate change, housing and business premises in the UK are:-

**Throwing away up to £3 billion of energy every year!**

Many homes and business premises are poorly insulated, appliances are left on standby when not in use, and thermostats are used inefficiently. This means most families and businesses are spending more on gas and electric than they need to.

Hydron's proactive response is the Nu-Guard® NRG range of energy efficient coatings for interior and exterior application, designed specifically to improve a building's thermal properties, enhance durability and reduce service costs.

***Reduce your Carbon footprint with Nu-Guard® NRG products.***

Energy efficiency starts with the building

## Heat escape routes

Escape routes for heat in a building



Source: Dena, German Energy Agency

The statistics provided are based on an average 3 bed semi-detached house, which shows most of the heat loss is escaping through the roof and facade. According to Dena as much as 80% of this heat loss could be prevented by utilising modern construction technologies.

For domestic, commercial and industrial buildings, the ratio of heat loss differs depending upon the type of construction, building materials used and to their surface area coverage.

***Sizeable savings can be made by simply minimising the heat loss from domestic, commercial and industrial dwelling's.***

# The current situation

Still today, over a third of the UK's housing stock and a vast proportion of commercial and industrial buildings are built with a solid wall construction method using bricks and stones.

One of the greatest challenges in the UK is our housing stock. It is the most energy in-efficient in Europe, and responsible for 60% of emissions from the built environment here.

## ***In short, it's the size of the UK's housing stock and the "leakiness" of the UK's existing housing stock.***

According to the BRE, the UK has the oldest housing stock in the developed world with one in five homes built before 1918 !

Since the 1930's the majority of the UK's building's have been built with cavity wall construction methods using cavity wall insulation, bricks, stones and concrete blocks.

Solid walls are difficult to insulate, to provide further solutions and to improve solid wall construction, additional insulation is now being applied to the exterior and interior to improve the thermal properties.

Interior insulation takes up valuable floor space, external insulation may cause an unwanted visual change to the building and cavity wall construction can be improved upon.



## The influences

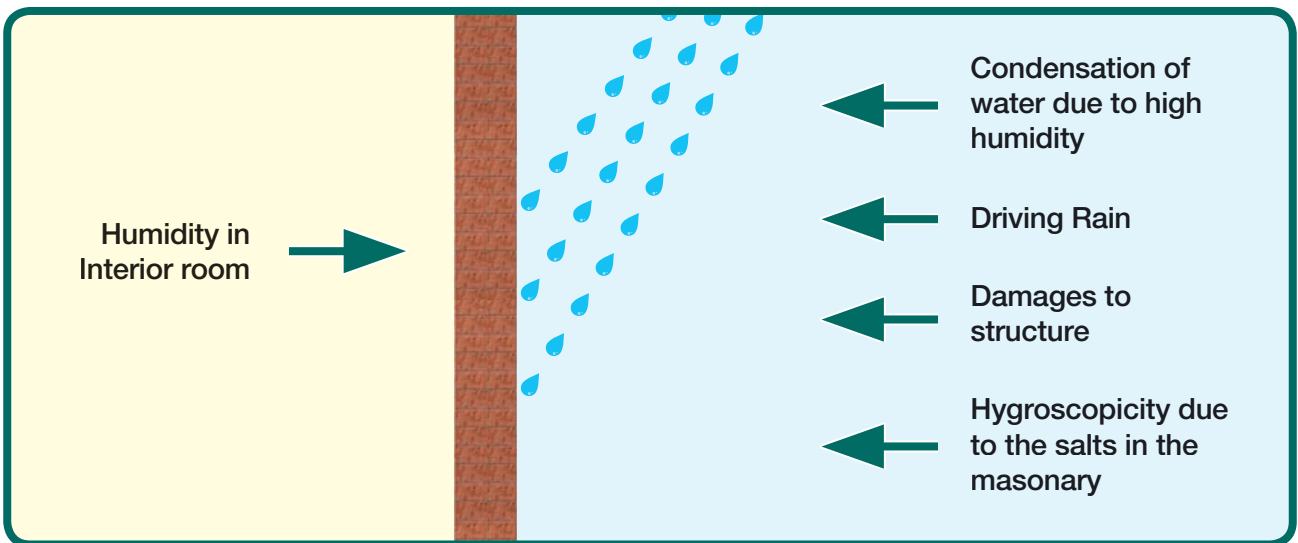
# Adverse weathering

## Durability and thermal properties of building materials

Buildings are open to the elements and are subjected to a number of adverse weathering influences that force them to deteriorate physically, visually and lose heat faster.

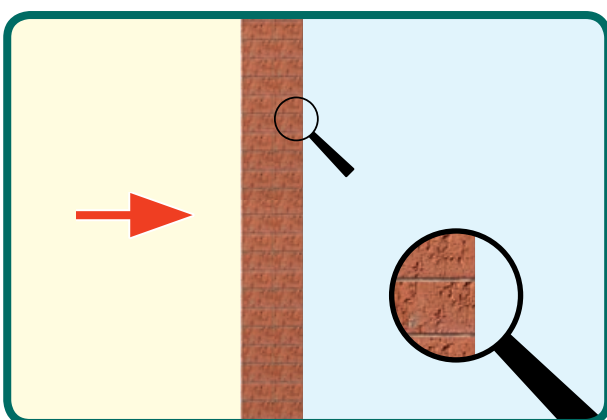
This instigates higher energy bills for the buildings owner or manager and also produces a building that loses it's visual appearance rapidly, value faster and creates high costs to restore the affected structures.

## Open to the elements

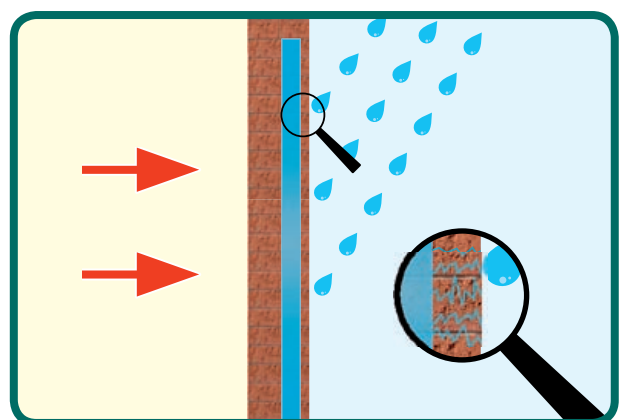


Dry insulation materials have a huge number of air filled cavities which reduce heat loss to a minimum, however the insulation properties of building materials decrease massively when water ingresses and remains in the cavities i.e. a moisture content of 5% in a plain brick wall can lower insulation performance by 50%! Therefore more energy is required to obtain an ambient room temperature of 20°C.

## Heat Transfer - Dry Wall



## Heat Transfer - Wet Wall



**Scientifically proven - wet walls transfer heat twice as quickly as dry walls!**





Irrespective of whether the building industry is restoring, modernising or constructing new building's, we continually battle against building deterioration and strive to create energy efficient buildings.

Water ingress and the mechanisms surrounding water ingressions into building materials, remains to be the most common contributing factor to create serious damage to old and modern buildings, as well as affecting the energy efficiency of the building materials.

## ***80% of all damages to masonry is caused from water ingress!***

Water transports harmful substances and creates a breeding ground for microorganisms to develop in the very core of our buildings, where they can cause the most damage.

When water is absorbed within cavities and is exposed to freeze thaw conditions, water expands as it freezes causing the building material to crack and spall. Salt Efflorescence and erosion created by water ingress also contribute to a buildings deterioration, resulting in high costs to restore visual and structural integrity.



Efflorescence



Efflorescence



Cracks



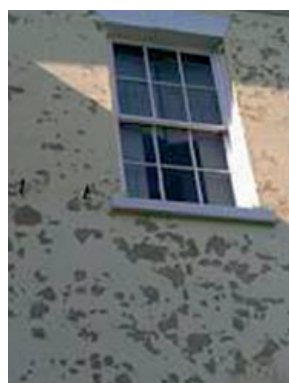
Cracks



Cracks -  
Painted Surface



Efflorescence -  
Painted Surface



Peeling & Flaking -  
Painted Surface



Spalling

***Protect your building and insulate with Nu-Guard® NRG products.***

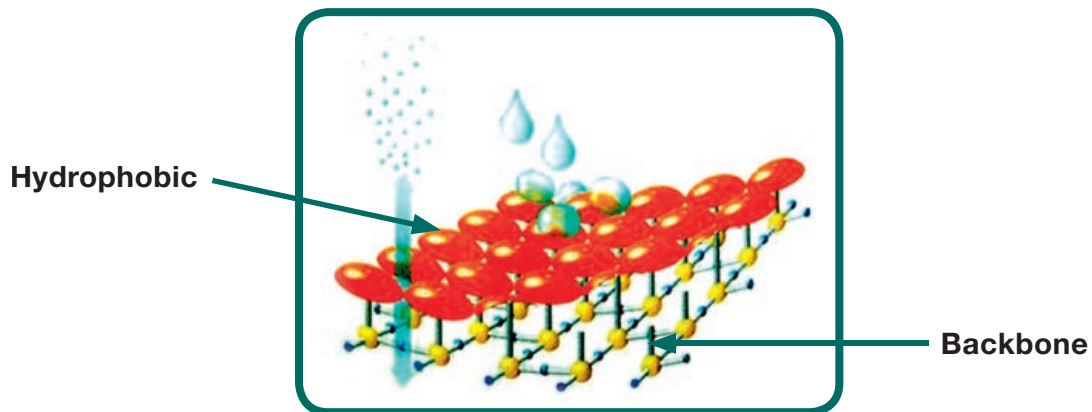
The Nu-Guard® NRG range

# Nu-Guard® NRG Clear and NRG Colour

## The technology

Wet building materials are thermal bridges and buildings are continually open to the elements which cause rapid deterioration, generate higher energy bills and high costs to maintain structural and visual integrity.

Both Nu-Guard® NRG Clear and NRG Colour not only provide the desired aesthetic finish for your building but are designed to provide multi-functional benefits by using the most technological hybrid chemistry available that can effectively deal with the elements and the disruptive influences of even the harshest climates, creating endless value to those who benefit from the technology.



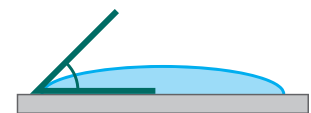
The innovative three dimensional cross linked molecules within Nu-Guard® NRG Clear and Nu-Guard® NRG Colour system function effectively to provide superior protection and energy saving properties.

The molecular structure provides a super hydrophobic, breathable, energy saving coatings for a natural finish and coloured facades.

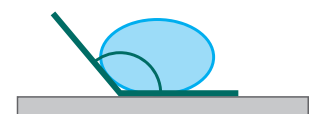
## Self cleaning - Super hydrophobic properties - modelled on nature

The degree of hydrophobicity that a surface exhibits is determined by the contact angle. The contact angle is a measurement of a liquid when in contact with a solid, within a gaseous phase.

Angle of contact	Classification	Interaction
> 0 Degrees	Hydrophillic	Strong interaction
> 90 Degrees	Hydrophobic	Medium - low interaction
> 140 Degrees	Super Hydrophobic	Minimal to no interaction



**Hydrophillic**  
< 90°



**Super Hydrophobic**  
> 140°



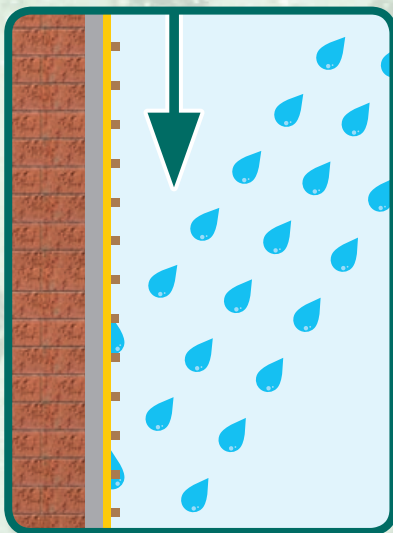
Some plants display a self cleaning mechanism, such as the Lotus leaf which is super-hydrophobic, The lotus leaf has a structured surface which displays contact angles  $> 140^\circ$ , thus enabling water to reach the characteristic round droplet form.

Nu-Guard® NRG Clear and NRG Colour are super hydrophobic coatings that provide a self cleaning mechanism which maintains your building's aesthetic and provides the solution for a traditional unwanted occurrence - Soiled facades.

Dirt particles are picked up by water droplets formed by rainfall and simply washed off the surface. Due to the complex micro-nanosopic architecture of the coatings surfaces, adhesion is minimised and therefore microbes are deprived of their medium, pollutants, fungal spores and algae are also washed off by rain fall.

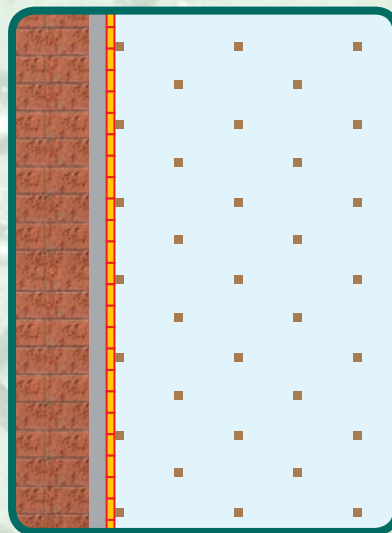
## Nu-Guard® NRG Colour - self cleaning function

### Conventional facade coatings

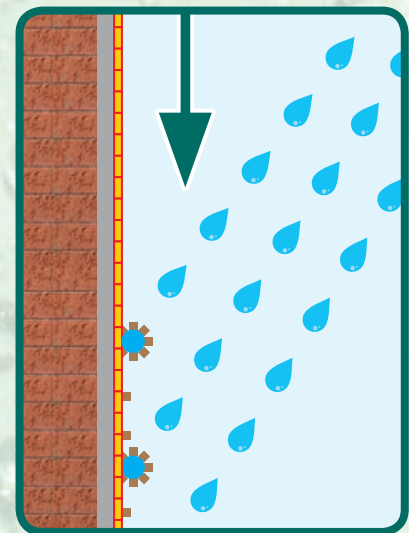


Conventional coatings:  
Dirt particles find it easier to adhere to the substrate. The surface is not hydrophobic/marginally hydrophobic. This makes the surface more prone to moisture ingressing and wetting the substrate as the substrate is having more contact with the water.

### How Nu-Guard NRG Colour Self cleaning mechanism functions



Nu-Guard® NRG - Colour system' interlocks the molecular comb structure throughout each applicational layer, its the coatings surface structure which minimizes adhesion and reduces the available contact area for dirt, atmospheric pollution and water to bind or wet the surface of the substrate.



When coated with Nu-Guard® NRG Colour, the substrate is super hydrophobic. Rain drops roll off the surface instantly, taking the minimal loosely deposited dirt and pollution particles with them. This phenomena reduces the contact area for moisture to ingress and reduces the potential for the substrate to become wet, drastically improving thermal properties.

***Nu-Guard® NRG Clear self cleaning mechanism functions in exactly the same way.***

The Nu-Guard® NRG range

# Nu-Guard® NRG Clear and NRG Colour

## The only difference

Nu-Guard® NRG Clear is a natural finish clear impregnator which deeply impregnates into the porous building material and chemically bonds within the capillary pores and to the surface of the substrate.

Nu-Guard® NRG Colour is a coloured coating system which chemically renders within the capillary pores and to the surface of the substrate.

## Superior Weatherproof Energy Efficient Technology

Both Nu-Guard® NRG Clear and NRG Colour function to form dry hydrophobic zone within the capillary's and upon the surface of the substrate. In doing so, the dry hydrophobic zone reduces the substrates water absorption to such an extent that no water can penetrate the substrate even under extreme weathering conditions.

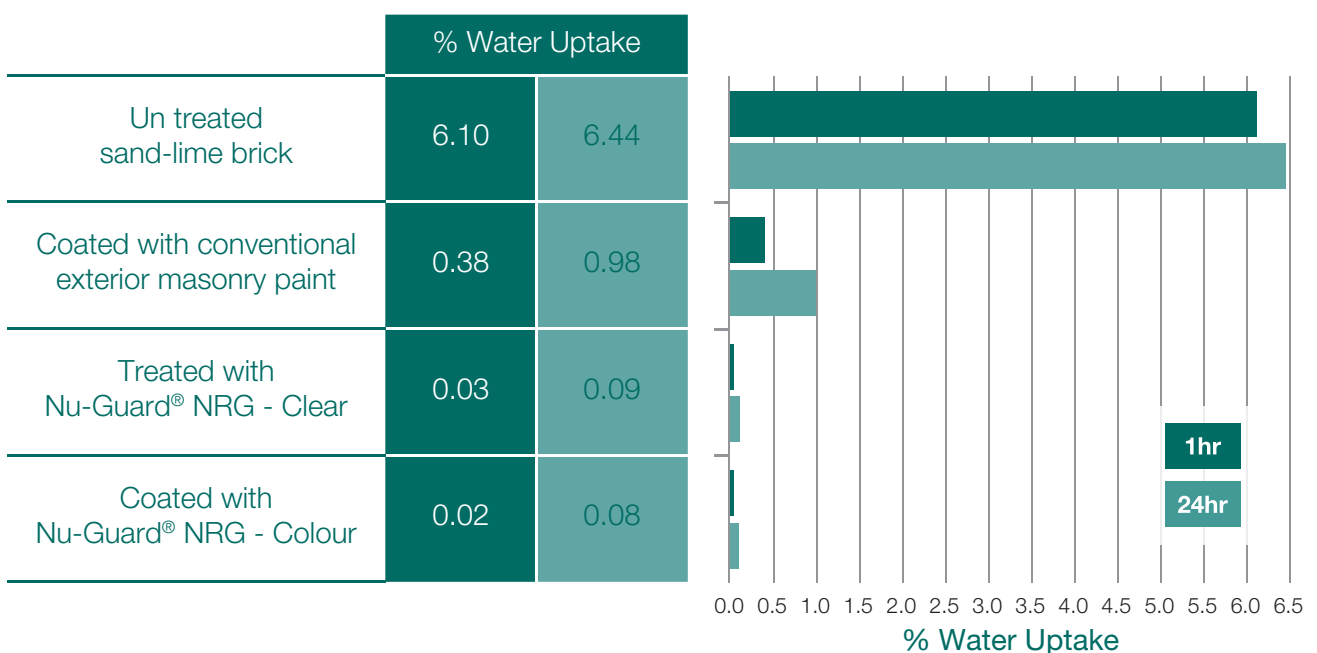
The hydrophobic zone prevents the transportation of liquid water and salts from the masonry substrate into the buildings interior, protecting the buildings structural integrity, ensuring interior comfort and dismisses the need for buildings to undergo expensive restoration and maintenance cost.

The super hydrophobic characteristics and low water permeability effect is shown by the water transmission rate, measured according to EN 1062.

## Classification according to EN 1062

Classification	Requirements
Class III (high)	> 0.5
Class II (medium)	> 0.1 - < 0.5
Class I (low)	< 0.1

## W-Values of uncoated sand/lime brick and coated sand/lime brick in [kg/m<sup>2</sup>h<sup>0.5</sup>]



## The creative balance

Building materials must remain by their very nature diffusion permeable (breathable) to ensure correct room humidity levels and a comfortable living environment is provided.

A breathable building material can absorb excessive air moisture or emit water vapor diffusion when the air dries. In the same instance they enable damp within exterior walls to breath out, creating an effective moisture management system which in turn, allows for the energy efficient heating / cooling of the building to take place.

It is crucial that any form of coating applied to building materials remain permeable to water vapor. A coating that is impermeable to water vapor can become damp very quickly even at low W-Values thus reducing the thermal efficiency of the building material.

As liquid water passes through a coating and into the building materials pores, it displaces the air. If a coating is not breathable the water cannot escape and it lifts the coating off the substrate. This phenomena is more commonly known as peeling or flaking.

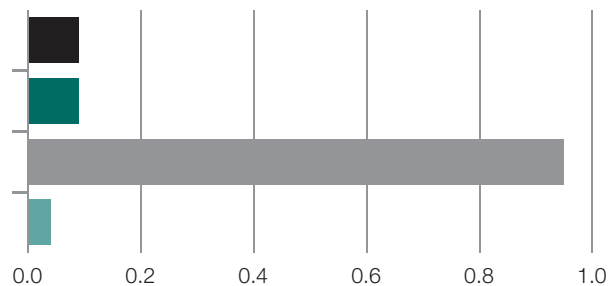
### Classification according to EN ISO 7783 - 2

Due to the water being trapped behind the coating and in direct contact with the building material for periods of time, a number of unwanted, expensive problems can arise such as mould, cracking, spalling, erosion and other common forms of aesthetic and structural damage.

Classification	Requirements
Class I (high)	< 0.14
Class II (medium)	0.14 - 1.4
Class III (low)	> 1.4

## SD-Values - Water Vapor Diffusion

Coating type	Water vapor diffusion
NRG Clear	0.09
NRG Colour	0.09
Conventional Paint	0.95
Silicate Paint	0.04



Water Vapor Diffusion and Water Permeability - characteristics of different systems.

Coating type	Nu-Guard® NRG Clear	Nu-Guard® NRG Colour	Conventional exterior paint	Silicate paint
Water Vapour Diffusion	High	High	Low	High
Water Permeability	Low	Low	Low	High

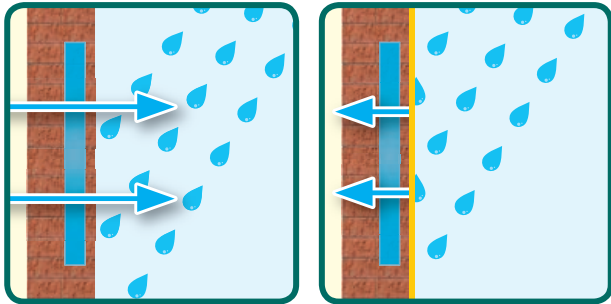
***Nu-Guard® NRG Clear and NRG Colour provide the perfect balance!***

The Nu-Guard® NRG range

# Nu-Guard® NRG Clear and NRG Colour

## Breathable function

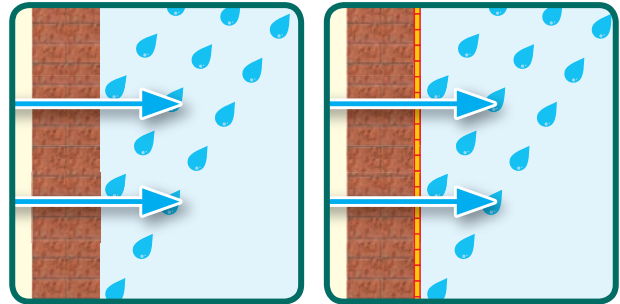
### Un-coated brick substrate & brick substrate coated with conventional facade coating



Un-coated brick substrate - Water is readily adsorbed deeply into capillary pores, as masonry dries out, damp and capillary water migrate from deep within substrate to the surface. At the same time harmful salts are carried to the surface - efflorescence. In high concentrations can destroy building material due to their hygroscopic properties.

Brick substrate coated with conventional facade coating - Water is readily adsorbed into capillary pores, due to poor water vapor permeability, water is not allowed to migrate out from within the masonry, Under freeze thaw conditions, the liquid water trapped within the capillaries, freeze's, expands and causes spalling to masonry and coating.

### Brick substrate treated with Nu-Guard NRG Clear & Nu-Guard NRG Colour



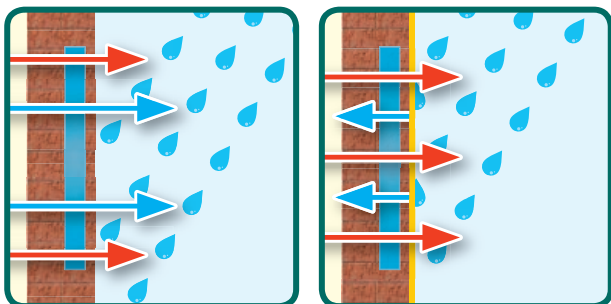
Brick substrate coated with Nu-Guard® NRG Clear - Keeps liquid water out of the masonry substrate whilst maintaining the water vapor permeability properties of the substrate which ensures prevention against efflorescence and spalling of substrate under freeze thaw mechanism.

Brick substrate coated with Nu-Guard® NRG Colour - Keeps liquid water out of the masonry substrate whilst maintaining the water vapor permeability properties of the substrate which ensures prevention against efflorescence and spalling of substrate and coating system under freeze thaw mechanism.

## The superior energy efficient system with added value

Provides a protected building with energy efficient improvements.

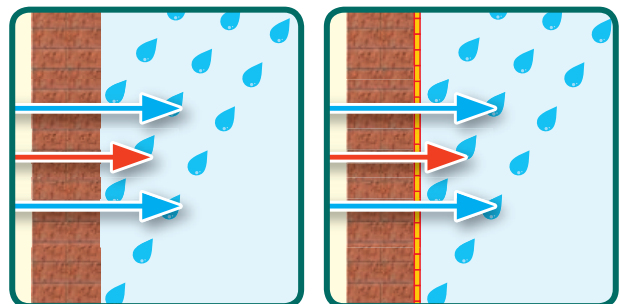
### Un-coated brick substrate & brick substrate coated with conventional facade coating



Un-coated brick substrate- During and after rain fall due to substrate being porous, liquid water is readily absorbed, the liquid water remains within capillaries for a long time, during this time the wet facade will transfer heat twice as quickly than if it remained dry.

Coated brick substrate with conventional facade coating - Can be very detrimental and transfer more heat over an extended period of time due to the masonry substrate remaining wetter for longer.

### Brick substrate treated with Nu-Guard NRG Clear & Nu-Guard NRG exterior Colour

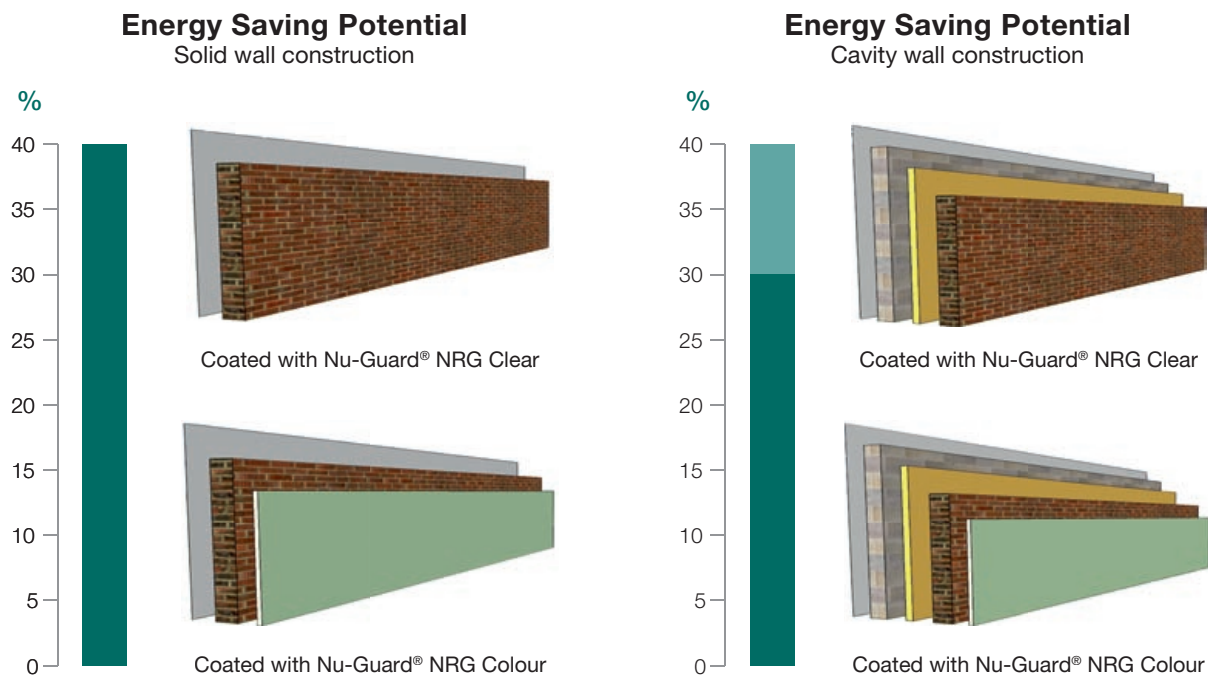


Brick substrate treated with Nu-Guard® NRG Clear - During and after rainfall, retains all thermal properties of building material, providing sizeable savings in terms of energy and protection against all influences of weathering. Retains the building materials natural look.

Brick substrate coated with Nu-Guard® NRG Colour - During and after rainfall, retains all thermal properties of building material, providing sizeable savings in terms of energy and protection against all influences of weathering. Provides a splash of colour to the building materials.

Simply treat or coat the facade with Nu-Guard® NRG Clear or Nu-Guard® NRG Colour system to delivery energy savings and create a more cost-effective, environmentally friendly, energy balance for your building.

Research supports the innovative thermal improving developments. The research involved calculating the effect of water up take and diffusion resistance within a STD - one family house i.e. the ratio of heat loss to moisture content of the masonry. The results concluded potential reductions in heat loss against an un-protected facade by as much as 45%.



## How long will it last?

### Long term performance and benefits

The unique chemistry used to formulate and produce Nu-Guard® NRG Clear and NRG Colour exhibits excellent chemical resistance (acids, alkalis, UV and Infra-red), super hydrophobic properties which bind firmly to the substrate by the chemistry's backbones for a very long period of time.

Test samples coated with Nu-Guard® NRG Clear and Nu-Guard® NRG Colour system were put within an accelerated weathering chamber for 1500 hrs using QUV-B to assess any UV depolymerisation of the materials or influence of long term weathering.

Test results concluded the coatings remained hydrophobically fully functional, with no chalking or discolouration present; thus ensuring permanent protection and with sizable long term energy savings to made.

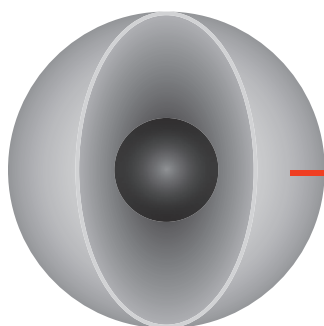
**+15 years product performance**

The Nu-Guard® NRG range

## Nu-Guard® NRG Interior

### The technology

Nano technology is changing the world. Nu-Guard® NRG interior utilizes the latest generation of special insulating nano fillers, Ceramic hollow microsphere's to create a multi-functional, energy efficient interior coating system. The proven innovative technology is used in a number of industries such as the space industry for heat proof, insulating coatings.



**Nano Particle -  
Ceramic hollow microsphere**

It's the unique scientific process that the Ceramic hollow microsphere undergoes that improves the energy balance of the building. The process removes all gas from the inside of each individual microsphere, creating a vacuum. Due to this process, the hollow core of the microsphere now represents an absence of matter which nothing can move through by conduction.

Interior walls coated with Nu-Guard® NRG interior therefore resists thermal conductivity and reduce the transfer of sound to create an energy efficient, peaceful living or working environment.

In winter, retaining the heat in your home or business, by reducing valuable heat that transfers through the facades and roof and delivers the benefit of reduced energy costs.

In the summer time, Nu-Guard® NRG interior will reflect any unwanted heat that may transfer through the building materials to ensure a pleasant ambient living climate is achieved. Air conditioning is required within buildings such as offices to cool the building down due to unwanted heat creating an unpleasant hot living or working climate.

***Save on your heating / cooling bills with  
one full application of Nu-Guard® NRG Interior.***



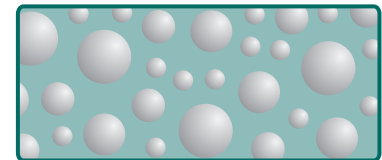
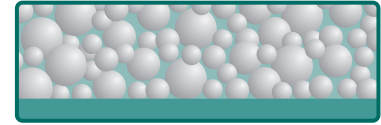
# Heat reflectivity - preventing heat transfer

Modelled on space age technology

As a coat of Nu-Guard® NRG interior dries out through the evaporation process, the hollow ceramic microspheres consolidate to form a tight dense, vacuum structure. The dense molecular structured, breathable film of Nu-Guard® NRG interior reflects heat by minimizing the path for heat transfer. The hollow ceramic microspheres block heat radiation, loss or gain by reflecting and refracting which dissipates heat very quickly, preventing heat transfer through the coating system.

Tests have shown as much as 85% of ultra violet rays and 90% of solar infrared rays are radiated back into the atmosphere.

**Dry coating structure**  
Nu-Guard® NRG Interior system



**Wet coating structure**  
Nu-Guard® NRG Interior system



**Create a comfortable living or working environment  
at home or business with Nu-Guard® NRG interior.**

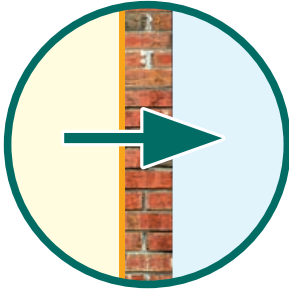
...applied excellence

The Nu-Guard® NRG range

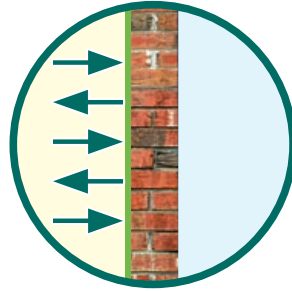
# Nu-Guard® NRG Interior

Nu-Guard® NRG Interior - Energy efficient function

## Function during Winter time

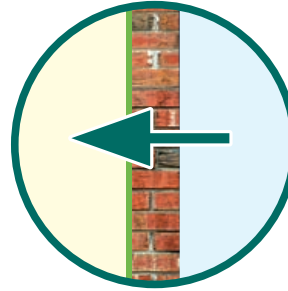


Heat transfer through dry masonry substrate with STD interior coating

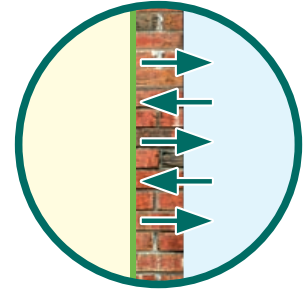


Heat transfer through dry masonry substrate coated with Nu-Guard® NRG interior coating system

## Function during Summer time



Heat transfer through dry masonry substrate with STD interior coating



Heat transfer through dry masonry substrate coated with Nu-Guard® NRG interior coating system

Superior energy efficient system for the interior of your building adding further value - durability and long term performance

It is just as crucial for any coating used upon building materials situated internally to remain breathable, as it is externally, to ensure correct room humidity levels and a comfortable living environment is provided and an effective energy efficient system can be created.

### ***Breathability is maintained with Nu-Guard® NRG Interior.***

Nu-Guard® NRG interior colour displays exceptional wet scrub resistance and has been tested to EN 11998 and classified according to EN 13300.

Classification	Wet abrasion (microns)
Class I	< 5
Class II	5 - 20
Class III	20 - 70

### **Results**

Nu-Guard® NRG Interior  
Class 1 < 5 microns

***Best possible EN Classification for wet scrub resistance.***

The Nu-Guard® NRG range

## Nu-Guard® NRG Interior

### Features

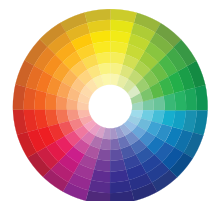
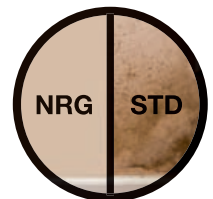
The unique ceramic hollow microspheres used within the Nu-Guard® NRG interior coating system, have a softening point of approx. 1800°C. thus the fire resistant properties when compared against a STD interior emulsion paint are vastly improved.

They also poses compressive strengths up to 6000 psi and are chemically inert. This enhances Nu-Guard® NRG Interior durability which ensure our product is longer lasting than traditional interior coatings, thus reducing the need to coat the interior of your house or business as often.

Nu-Guard® NRG interior is designed to be fully functional in any room of the building, Hydron protective coatings completely understand the detrimental effects moisture can have upon a coating and the underlying substrate.

For superior protection in wet room environments we have incorporated the same three dimensional molecules used within Nu-Guard® NRG & NRG Colour which chemically bind to the surface of the substrate to protect against the influences of penetrating moisture. Nu-Guard® NRG interior is hydrophobic, low water permeability and high water vapor diffusion.

When interior walls and ceilings are coated with Nu-Guard® NRG interior, stains are easily washed off and the coatings surface provides resistance to erosion, corrosion, abrasion, mold and mildew build up.



Nu-Guard® NRG interior is available in a wide range of colours to cater to your building's Interior design with a 15 year product lifespan.

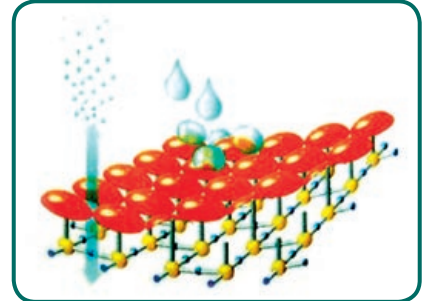
***Nu-Guard® NRG interior the heat reflective, insulating coating system***

The Nu-Guard® NRG range

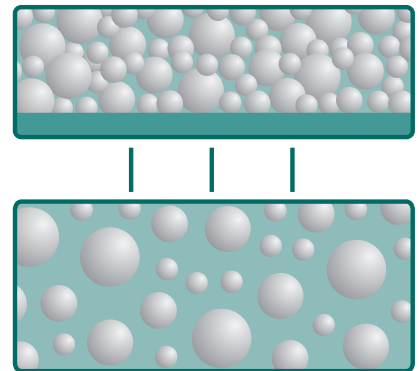
# Nu-Guard® NRG Colour plus

Revolutionary technology - dual chemical network

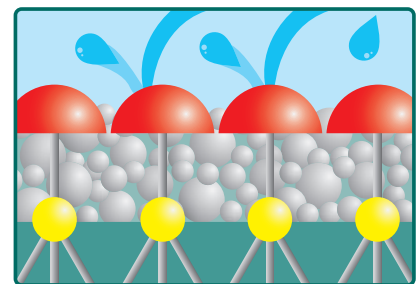
Nu-Guard® NRG Colour plus system uses the same three dimensional cross linked molecular structure exhibited by Nu-Guard® NRG Clear and Colour, modeled on nature to provide super hydrophobic properties, low water permeability and ensures the diffusion characteristics of the building materials are maintained. Providing the coating system with a self cleaning mechanism and superior protection against the element, ensuring thermal properties of building materials are improved.



Nu-Guard® NRG Colour plus system use the same level of hollow ceramic microspheres to achieve the heat proof, insulating properties of Nu-Guard® NRG interior Colour plus system. Significantly reducing the heat loss from the building by creating a heat radiant barrier which reflects, insulates and improves thermal properties. Additional benefits such as excellent wet abrasion resistant values are obtained, coupled with additional sound proofing properties and the same dry non film forming structure, which remains to completely breathable.



The unique and revolutionary chemical network of Nu-Guard® NRG exterior Colour Plus system combines both technology developments to provide outstanding performance!



## ***Nu-Guard® NRG products***

- ***SAVE ENERGY***
- ***SAVE MONEY***
- ***SAVE OUR ENVIRONMENT***

Nu-Guard® NRG exterior colour plus system combines both outstanding nano technologies to provide a revolutionary exterior coating system. Modelled on nature and utilizing technology used by the space industry, to provide the following advantages:

- Improve thermal properties - heat reflecting, insulating, influences of moisture penetration
- Lowers Thermal conductivity of building materials
- Protects against adverse common defects caused by weathering influences
- Super hydrophobic water repellency - self cleaning properties
- Water vapor permeable - maintains complete breathability of building materials
- UV stability - permanent
- Excellent resistance to dirt, pollution etc - stain resistant
- Reduces efflorescence
- Sound reducing properties
- Chemical and abrasion resistant
- Improved fire resistance
- Prevents moss, algae forming upon surface.
- Applied to any mineral based substrate and pre-existing coated surface
- Available in many colours to suit preferred taste of design
- +15 year fully function properties



# On-Site service and support

## Product Data

Hydron protective coatings product range are products with a very high technical capability and require a clear, concise product data and instructions for use. Hydron literature sets the industry benchmark in providing customers with clear instructions for successful application.

## First Class Technical Support

Hydron's technical service support to its customers is unrivalled. For users of all forms of protective coatings and specifiers alike, such back up is a direct route to supplier confidence and user success.

## Supporting Personnel Training

Dedicated technical field support is available to assist both first time users of our premium range of protective coatings and more experienced customers alike. Where needed we offer instructions in equipment operation, preparation of substrate, application level of products etc.

## Providing Assistance On Site

Hydron's technical expertise are available for on-site assistance / attendance. Hydron's attendance on site has ensured the success of many specified projects situated throughout the UK and contractual work alike.

## Raw Materials

The control and use of reliable raw materials and manufacturing techniques guarantees that all Hydron's products are produced to the very highest specification and to an excellent, consistent quality.

## Professional Application

Hydron's full range of protective coating systems can be applied by one of Hydron's approved applicators, giving the specifier or end beneficiary, the peace of mind that the proven products are applied professionally. All of Hydron's approved applicators have undergone extensive product training programs and are fully certified.





## Nu-Guard® NRG - Energy efficient coatings

### Innovative technology for the 21st Century

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## How to order

### Ordering is simple

With offices in both the UK and Ireland, no minimum order value and next day delivery from stock for all orders placed before noon, we make the process of ordering market leading protective coatings easy.

#### **UK OFFICE**

Telephone your order to:  
+44 (0)1902 450950

Fax your order to:  
+44 (0)1902 451050

Post your order to:  
Hydron Protective Coatings Ltd,  
Unit 7, Phoenix Road, Wednesfield,  
Wolverhampton. WV11 3PX

E-mail your order to:  
[enquiries@hydronpc.co.uk](mailto:enquiries@hydronpc.co.uk)

#### **IRELAND OFFICE**

Telephone your order to:  
+353 (0)46 943 8488

Post your order to:  
Hydron Protective Coatings (Ireland) Ltd,  
Unit 18, Eammon Duggan Industrial Estate,  
Athboy Road, Trim, Co. Meath

E-mail your order to:  
[enquiries@hydron.ie](mailto:enquiries@hydron.ie)



**HYDRON**  
Protective Coatings Ltd

# Nu-Guard® NRG Range

Innovative Technology For The 21st Century



Interior & Exterior  
Energy Efficient Coating Systems  
with superior performance

Domestic / Commercial / Industrial

...applied excellence