

# Duralite

## Insulating Glass Spacer System



**TREMCO**

# Duralite – the art of efficiency



## Imagine

Imagine insulating glass technology that reaches new heights of efficiency, in every sense.

In particular, imagine an insulated glass (IG) spacer system that makes an extra, positive difference to every unit in which it is used. For the benefit of everyone.

Now – imagination has become reality with Duralite – from Tremco illbruck.

## What is the ideal 'warm edge spacer system'?

### Duralite: all-in-one edge sealant for IG units

This is revolutionary composite laminating technology.

Duralite actually combines five components into an integrated, flexible 'warm edge' system.

Duralite has been rigorously tested and proven effective in use to EN 1279 Part 2,3,4 & 6.

### Duralite: benefiting everyone's interest

The reality of Duralite technology is that it works for the benefit of everyone concerned:

#### For IG Manufacturers

A system that makes manufacturing faster and less costly, while also improving commercial opportunities.

#### For Window Fabricators

A system that helps make IG units more thermally efficient with improved performance ratings.

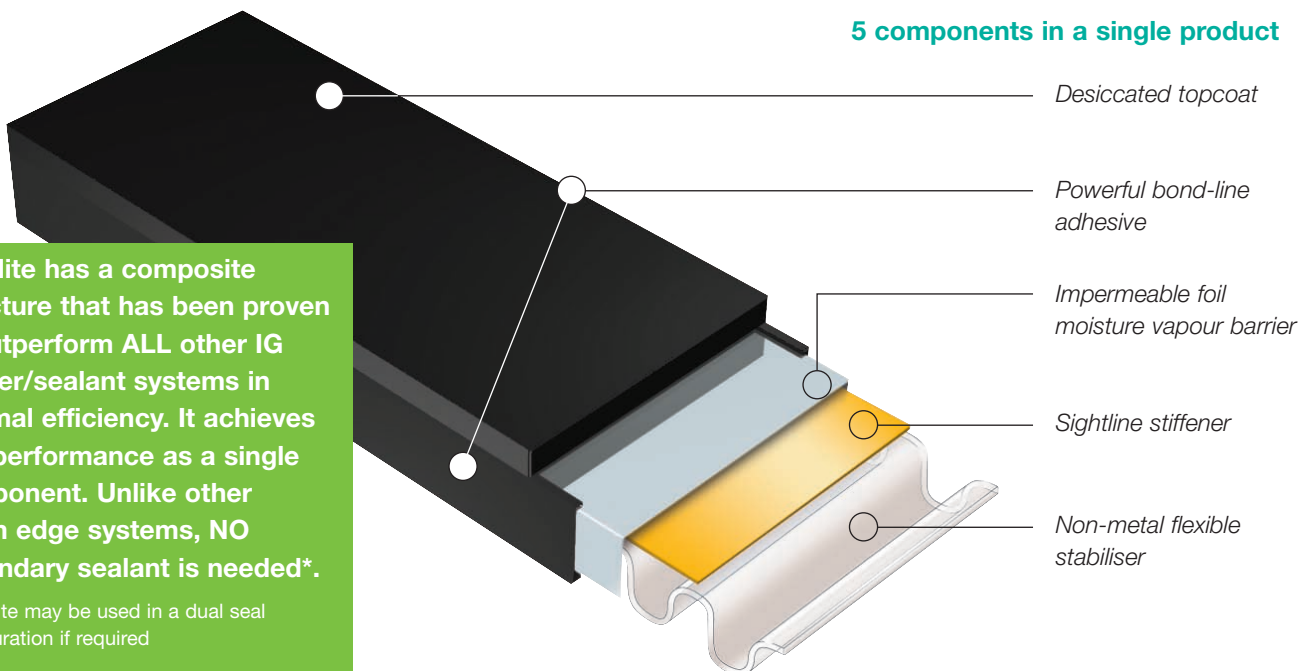
#### For Property/Home Owners

A system that helps maximise visual quality and durability of their windows and reduces their energy costs – making a positive environmental contribution.



## Duralite – all-in-one warm edge IG system with non-metal spacer

### 5 components in a single product



Duralite has a composite structure that has been proven to outperform ALL other IG spacer/sealant systems in thermal efficiency. It achieves this performance as a single component. Unlike other warm edge systems, NO secondary sealant is needed\*.

\* Duralite may be used in a dual seal configuration if required

# Duralite – the art of efficiency

## The Duralite difference

This is remarkable technology. Duralite offers genuine, valuable efficiency in more ways than any other IG spacer system:

- It incorporates a **non-metal spacer** with minimal conductivity
- Its bond-line adhesive has the **lowest Moisture Vapour Transmission Rate** of all IG sealants
- It provides the **best thermal efficiency** of all IG edge seal systems
- Its technology means **extra versatility** for all unit shapes/sizes
- It gives you **extra productivity**
- It requires **no secondary sealant\***, saving labour time/costs
- It helps deliver **extra profits**
- It contributes **extra environmental benefits**

## What is special about Duralite?

**Thermal efficiency**

**Best**

maximising window energy ratings

**Manufacturing productivity**

**Higher**

simple system, fewer steps, less labour

**Commercial profitability**

**Extra**

lower costs, added value, better margins

**Environmental contribution**

**Optimum**

reduced energy and no waste

\* Duralite may be used in a dual seal configuration if required. A secondary sealant is required if the unit area is greater than 3m<sup>2</sup>





## Duralite: raising the window energy rating

If Duralite is selected for IG unit manufacture, its technology immediately increases the rating of the window in which it is installed.

The BFRS Domestic Window Energy Rating Scheme now provides a recognised basis for comparing energy efficiency in window units. Assessment is based on three criteria:

- **Solar gain** factor – ability to admit solar warmth
- **Thermal transmittance** factor – ability to prevent heat loss (U-value)
- **Air leakage** factor – ability to prevent heat loss associated with air leakage from the window

Duralite technology helps a window achieve a higher BFRS Rating than for an identical window specification using an alternative spacer system. The increased performance is achieved by a reduction in thermal transmittance at the intersection of the glass and window frame. This can be the crucial difference needed to achieve a higher energy rating band.

All windows with a C rating or higher are entitled to carry the “Energy Saving Recommended” tag.



<b>Energy Window</b>	
Energy Windows Ltd. XYZ 68/abc	
	<b>A</b>
Energy Index (kWh/m <sup>2</sup> /year) <small>(Energy Index certified by BFRS and based on UK standard window. The actual energy consumption for a specific application will depend on the building, the local climate and the indoor temperature)</small>	<b>&gt;0</b>
The climate zone is:	<b>UK</b>
Thermal Transmittance (U <sub>window</sub> ) Solar Factor (g <sub>window</sub> ) Effective Air Leakage (L <sub>factor</sub> )	1.5 W/m <sup>2</sup> .K 0.41 W/m <sup>2</sup> .K 0.02 W/m <sup>2</sup> .K
	Reg. No.: XXX www.bfrs.org 
<small>This label is not a statutory requirement. It is a voluntary label provided as a customer service to allow consumers to make informed decisions on the energy performance of competing products.</small>	

## Get the most from Duralite technology

### Helping you take advantage

Tremco is ready to give you every assistance so that you and your customers enjoy the benefits of Duralite efficiency.

The Dura platform is proven technology that's already circled the world six times. Over 300 million metres are already in service.

Duralite will give you the edge you need.

### Free Support

#### Free planning

- Audit of current production plant
- Analyses of production costs
- Line planning/layout design

#### Manufacturing plant advice

- Guidance on plant specification
- Machinery recommendations – updatable as you grow
- Financial support deal for plant

#### Operational assistance

- Technical conversion support
- Operator training/quality audits
- Assistance with certification

#### Full warranty

- For your complete peace of mind

# Duralite – the art of efficiency in service

## Ultimate thermal efficiency

This is superior technology. Duralite is simply the best-performing IG sealant system available.

In service, it outperforms all other systems and it does so on all the key industry-accepted measures of thermal efficiency.

If your IG unit production lines are still using typical metal spacers, the figures on this page should be of particular interest. The comparisons are dramatic.

Whichever glass, spacer and fill specification you use, your typical IG unit will achieve more window energy points if you use the Duralite spacer system.

That can move the completed window up to a higher rating band and give your products a real competitive advantage.

## What's special about Duralite performance?

**Lowest conductivity**

**22x** better than typical aluminium spacer bar systems

**Moisture vapour transmission rate**

**75%** lower than typical hot melt systems, 60% lower than PIB

**Less condensation**

**80%** less than non warm edge systems

**Window energy ratings points**

**18** more than same specification IG units with aluminium spacers

Figures based on internal and external data up to the value shown.





## Duralite performance: proven in multiple tests

The impressive thermal efficiency of Duralite IG units – and its effect on window energy ratings (see page 5) – has been fully confirmed in independent testing.

6 windows with identical sizing and glass specification were assessed using a BRFC test house simulation. Three of these were filled with air, and three with 90% argon gas. Each group of three included one unit with each of the three spacer systems being assessed:

- Aluminium spacer  
*including butyl secondary seal*
- Foam spacer  
*including butyl secondary seal*
- Duralite spacer  
*with NO secondary seal*

In each group, Duralite achieved a higher score and rating than the other two systems.

Spacer System Used	AIR-filled		GAS-filled	
	WER Index*	BFRC Band	WER Index*	BFRC Band
<b>Aluminium</b>	<b>-24</b>	<b>D</b>	<b>-15</b>	<b>C</b>
<b>Foam</b>	<b>-11</b>	<b>C</b>	<b>-2</b>	<b>B</b>
<b>Duralite</b>	<b>-10</b>	<b>B</b>	<b>0</b>	<b>A</b>

\* (kWh/m<sup>2</sup>/year)

Unit specification: all tested units were 4-20-4 double glazed IG units with Pilkington K Glass and Pilkington Optiwhite Low-iron glass in standard (GGF Datasheet 2.2) window configuration 1230x1480 side hung casement next to fixed light with central mullion and minimum reinforcement. Profile 22 PVC-U window system.



# Duralite – the art of manufacturing efficiency

## Extra productivity

This is outstanding technology. Duralite is *the efficient* way to maximise IG unit manufacturing productivity.

The practical truths about using Duralite are clear. If you use the Duralite spacer system, output is faster and less complex.

There are fewer production steps, and, apart from the glass, only one other essential component is involved. Contrast that with the complexity of other systems.

You can achieve the same output with fewer operators than are needed for other systems, or a substantially higher output with the same line-manning.

## How good is Duralite manufacturing efficiency?

**Manpower requirement**

**60%** saving  
to achieve same daily output

**Output per operator**

**50%** more  
per standard shift

**Production steps**

**3-step**  
others: up to 9 steps

**Spacer & sealant components**

**1 only**  
others: 3 or more components

**Completion time per IG unit**

**23 seconds**  
others: 36 seconds or more

Manpower, output and completion time figures are based on collaborative work with UK IG producers up to the value shown.

## Duralite units: instantly ready for action

Unlike many systems using older IG technology, there's no time needed for sealant to cure.

If you use the Duralite system, your IG units will be ready for shipping or glazing as soon as they come off the production line.

## Duralite versatility: the shape of things to come

The flexible all-in-one technology of Duralite gives you total freedom to produce IG units of any shape or size.

Round, triangular, or other configurations are equally easy to achieve and equally superior in service performance.

## Duralite plant: growing with you

Duralite easily adapts to whatever production system suits you best. Plant can be tailored precisely to your current needs without compromising your future flexibility. Cost effective and manageable upgrades can follow as and when your business growth demands.



# Duralite – the art of commercial efficiency

## Extra Profitability

This is value-adding technology. Duralite efficiency is the effective way to maximise profits from IG unit production.

Compared with IG manufacturing operations, using typical metal spacer systems, there are several factors to help boost your margins and increase your profits – if you use Duralite.

The simple facts about Duralite cost efficiency have exciting implications for any IG manufacturer and window fabricator. In short, it can mean a boost for your commercial results, with significant potential for your bottom line, year after year.

## How beneficial is Duralite cost efficiency?

**Material stockholding**

**lower**

single component system

**Material wastage**

**eliminated**

use only what you need

**Machinery space requirement**

**reduced**

release space for other uses

**Labour factor in cost per unit**

**only 5%**

others: typically 10%\*

**Added value per unit**

**higher**

through higher performance

\* Multi-component spacer bar systems. Subject to IG manufacturing system.

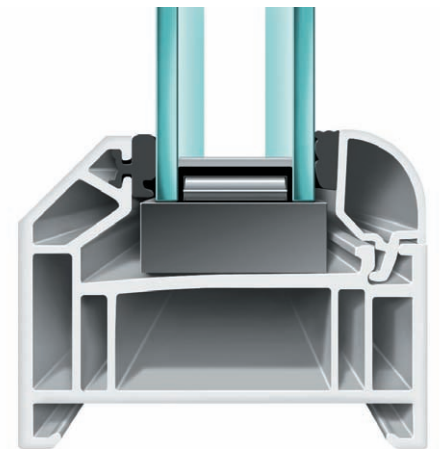
## Duralite visual appeal: lower sightline

The Duralite system can also give windows extra aesthetic appeal. Where other spacer systems can intrude into the sightline above the window frame, Duralite sits lower, below the frame edge.

This can add extra commercial appeal and perceived value to your IG units.



**Metal spacer bar – higher sightline**



**Duralite – lower sightline**

# Duralite – the art of **environmental** efficiency

## Extra benefits for the environment

This is technology to feel good about. Underlying the system's outstanding thermal, manufacturing and financial benefits, lies an important bonus. Duralite can help optimise your environmental contribution.

Its energy-saving performance means less waste, better energy ratings and reduced power consumption.

For your customers, that also means smaller fuel bills, and the increasingly important satisfaction of contributing to saving the planet.

*How could Duralite efficiency help the environment?*

**Material  
wastage**

**eliminated**  
use only what you need

**Higher  
window energy  
ratings points**

**18** more  
than same specification IG  
units with aluminium spacers

**Lowest  
conductivity**

**96%** better  
than typical aluminium  
spacer systems

**Household  
energy  
consumption**

**reduced**  
lower fuel bills

Figures based on internal and external data up to the value shown.



## Duralite: helping create a greener world

Up to 20% of heating energy can be lost by a typical house that still has thermally inefficient windows. Halting this waste could save around 750kg of annual CO<sub>2</sub> emissions – and, in the UK, that implies a potential saving of almost 5 million tonnes.

Now the world's green conscience is growing, and so is consumer and institutional awareness of where a difference can be made. This is encouraging a strong demand for the most energy-efficient answers.

At every stage, from the manufacture of IG units through to in-service window performance, Duralite is delivering those savings. Helping reduce energy consumed by reducing energy wasted – helping provide for a greener future.



Tremco illbruck Limited  
Coupland Road, Hindley Green  
Wigan WN2 4HT

Tel: 01942 251400  
Fax: 01942 251410  
email: [info@tremco-illbruck.co.uk](mailto:info@tremco-illbruck.co.uk)

For other European offices,  
please visit our website.  
[www.tremco-illbruck.com](http://www.tremco-illbruck.com)

## Tremco illbruck

Tremco illbruck is part of the Tremco International group of companies with manufacturing, sales and distribution facilities throughout Europe.

The company is dedicated to securing greater durability, increased reliability and longer life for buildings, and has been at the forefront of weatherproofing technology for over 80 years.

Tremco illbruck serves the glass and glazing market by providing innovative system based products and solutions.

The extensive product range includes sealants for PVC, aluminium and timber windows, architectural and structural glazing, and for the production of high quality insulating glass units.

