A GUIDE TO GLASS SPECIFICATION AND BREEAM

How to achieve added BREEAM credits for the use of glass in building
BREEAM is one of the world’s leading environmental and sustainable assessment methods for building.

It takes into consideration many factors which assess the impact of building and credit good design.

The BREEAM assessment can be chosen to review a building project through many categories and provides a final score which rates the building from a basic Pass to Outstanding.

Today, BREEAM has become the key assessment tool to identify the eco and sustainable credentials for many modern developments.

Glass used in building helps to achieve additional BREEAM credits for any project on many levels, however choosing the right type of glass is imperative.

The specification of highly energy efficient glass such as Guardian SunGuard SuperNeutral or SunGuard eXtra Selective coated glass ranges and Guardian LamiGlass (laminated safety and security glass) help to achieve added BREEAM credits in many of the assessment categories.

**Energy Category**

In the ‘Energy’ category, the use of SunGuard SuperNeutral and eXtra Selective glass provides exceptionally low centre pane U value as low as 1.0 W/m²K, this ensures optimal thermal insulation, whilst low solar heat gain levels (as low as 18%) ensure excellent solar control and help reduce the chance of the building overheating. This type of tailored performance combination means the demands on heating and air conditioning may be greatly reduced, as the high selective glass helps to control the temperate environment inside the building.

Additionally, these SunGuard ranges have optimum selectivity between solar factor and light transmission offering exceptionally low solar factors in combination with exceptionally high light transmissions (as high as 70%) this helps to reduce the need for artificial lighting during daylight hours, in turn helping to reduce the energy consumption inside the building. All of these factors can help your project score higher in the BREEAM ‘Energy’ category.

**Health & Well Being Category**

Large areas of glazing help to achieve credits in the ‘Health and Well Being’ category, for instance curtain walling, structural glazing and large areas of floor to ceiling glass provide a connection between the building’s users and the outside, this promotes a healthy environment inside the building.

Moreover, the use of SunGuard SuperNeutral or eXtra Selective glass provides a super neutral appearance, a high light transmission and low colour distortion which ensures more natural levels of daylight inside the building.

This helps the office workers to refocus their eyes when working and adds towards achieving BREEAM credits in the ‘Health and Well Being’ category.
The material category aims to encourage the use of products which reduce carbon emissions and encourage local energy generation, this can be done through many means, such as photovoltaic’s, environmentally sound materials, etc.

ClimaGuard A+ Low E glass offers good thermal insulation combined with high solar heat gain, which can help heat the building by bringing in passive heat gains due to short wave heat energy from the sun passing through the glazing before converting to long wave heat energy which is retained by the Low E glass.

However, this application for beneficial solar heat gain is only recommended in areas where direct solar radiation can be controlled, for example: where deciduous tree’s shelter the glazing from the sun during the summer but allow optimum use of the solar gain during the winter when the leaves have dropped, or specifying high solar gain glazing on small windows where beneficial heat gains can be utilised without danger of overheating.

Elevations such the south face or larger glazed facades would always be better specified with solar controlling glass. For more information on the right glass for the right Elevation visit the Guardian Elevations web page www.guardianglass.co.uk/home/elevations

Our glass products can also help to meet the requirement of BREEAM in the material category as they are sourced and manufactured in accordance with ISO 14001 – Environmental Management System.

The use of glass on any project can help achieve BREEAM credits under the waste management category. Due to the bespoke transport system used to deliver flat glass, there is little-to-no waste packaging. In addition to this, any waste glass from cut sizes used on a project are either returned to the glass manufacturer or to a cullet supplier. The waste glass is then recycled back into the float glass manufacturing process and used to produce new float glass. Where large areas of glass are used, the potential reduction in construction waste can help a project meet its target under the waste management category of BREEAM.

Material Category

Waste Category
Supporting Documents

There are many supporting documents which can help to verify the performance, environmental position and sustainability of the glass used in your project.

Some examples are:

- ISO 9001 - Quality Management System
- ISO 14001 - Environment Management System
- OHSAS 18001 - Occupational Health & Safety Management System
- EPD - Environmental Product Declaration
- LCA - Life Cycle Analysis of float glass
- Acoustic calculations and certificates

These and other documents are available for download from our Guardian Plus Technical Centre, if you require access simply register online at [www.guardianglass.co.uk/login](http://www.guardianglass.co.uk/login) and a user name and password will be emailed to you.

For more information on BREEAM and how to get your project assessed please visit [www.breeam.org](http://www.breeam.org)