

## EDGETHERM 3500 HOT MELT BUTYL INSULATING GLASS SEALANT

Edgetherm 3500 is a premium hot melt butyl sealant developed using over 30 years' experience of hot melt technology in IGU manufacturing. It fully complies with both the US/Canadian standard ASTM E 2190, Higs and the European standard EN 1279 Parts 2, 3, 4 & 6.

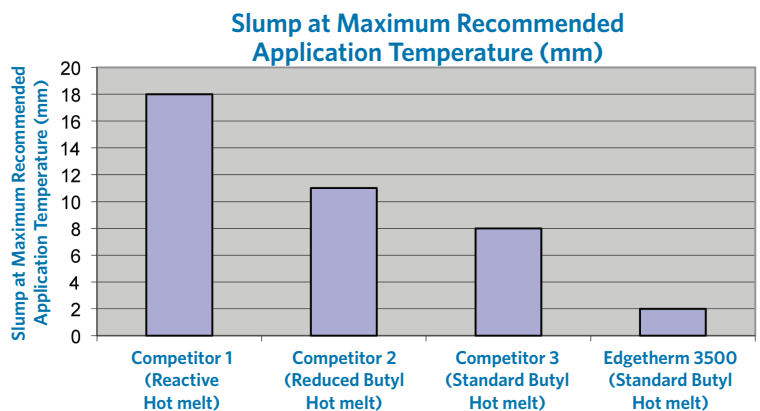
### Application Characteristics:

The application characteristics of Edgetherm 3500 have been designed to be versatile and meet the typical requirements of hand gunning, robotic application and automated lines. These include:

- No stringing
- Minimal Odor
- Fast Set up
- No Aeration
- Low Tack
- No Slumping

### SLUMP RESISTANCE

To ensure no slumping on application in the field, **Edgetherm 3500 is developed to resist slumping** in an extreme test using a fully heated 25mm wide channel at maximum application temperature. As illustrated, Edgetherm 3500 clearly outperforms other products regardless of hot melt technology. This ensures sealant depth is retained after application without additional intervention (e.g. padding).



### IN-SERVICE PERFORMANCE

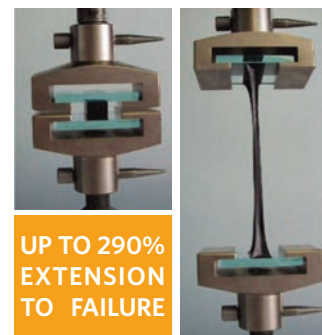
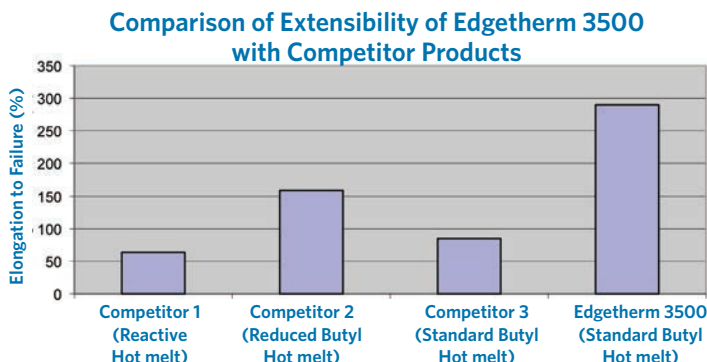
The in-service performance of a sealant has a significant effect on the longevity of an IGU. Edgetherm 3500 has been formulated to meet the key requirements of an IG Sealant, ensuring outstanding performance in the field. Key characteristics include:

#### Low MVTR (Moisture Vapor Transmission Rate)

A sealant's ability to repel water is key to the lifetime of an IGU. **Edgetherm 3500 has been specifically formulated to ensure a low MVTR** and significantly outperforms other hot melt IG sealants, particularly reactive competitor products.

#### Excellent Movement Accommodation

All IGUs expand and contract across a wide temperature range. It is important a sealant can accommodate this movement otherwise significant stress is put on the glass/sealant interface, resulting in a gradual deterioration of the adhesive bond. Unlike competitor products, **Edgetherm 3500 is designed to extend up to 290% before failure**, ensuring the seal is maintained during expansion/contraction of the unit.



## IN-SERVICE PERFORMANCE, *continued*

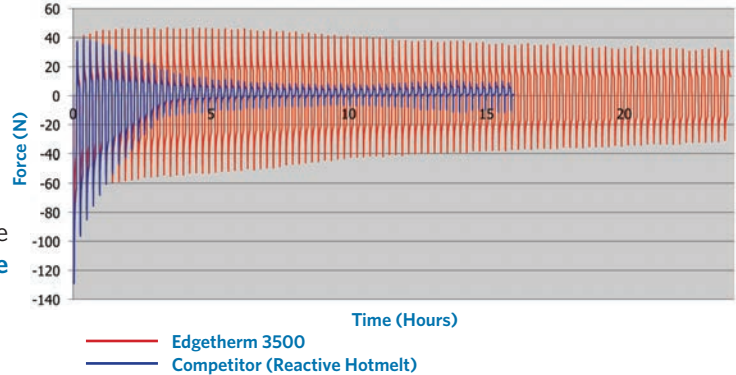
### Excellent Movement Accommodation, *continued*

Because curable hot melt systems are significantly less effective at flexing than Edgetherm 3500, they can be more prone to deterioration over time as a result of natural cycling of the IGU.

In 24hr cycling tests where a sealant bond is extended and compressed 2mm every 5 minutes, **Edgetherm 3500 maintains the seal with no sign of breakdown**. In comparison, some competitor reactive hot melts, unable to accommodate the movement, tend to weaken until the seal eventually fails over a number of cycles.

This is illustrated by the tensile graph comparing the cohesive strength of Edgetherm 3500 with a typical reactive hot melt over 24hrs cycling. **Edgetherm 3500 maintains the seal over that period**, where the reactive hot melt breaks down and fails.

**Comparison of Edgetherm 3500 with a Reactive Hot melt Sealant in 24hr Cycling Test (2mm Extension & Compression)**



### Low Temperature Flexibility

In colder climates IGUs will be exposed to particularly low temperatures, and it is critical the sealant maintains a degree of flexibility under these conditions. In cold bend tests, **Edgetherm 3500 remains flexible down to -31°F/-35°C**, outperforming competitor products. In addition to flexibility at low temperatures it is equally important the adhesive bond remains intact in the cold. Edgetherm 3500 demonstrates excellent performance in cold slam tests of IGUs, designed to induce delamination of glass panes at low temperatures. **Edgetherm 3500 maintains the adhesive bond down to -98°F/-72°C** even when it has gone rigid and compares well with competitor products, including reactive hot melts.

### Low Gas Permeability

With the demand for increasingly thermal efficient IGUs, gas filled units are becoming more prevalent. To meet these requirements, **Edgetherm 3500 has been developed with an extremely low gas permeation rate through the sealant**. In addition, the excellent movement accommodation ensures that the seal is maintained during the lifetime of the unit, further preventing gas loss. This retention of the gas during the lifetime of the IGU ensures the high thermal performance of an IGU far longer.

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