

What is IEC 61549?

The IEC 61549 Standard for fragment retention lamps (FRLs) has been in effect since April 2013.

Why is IEC 61549 required?

It is designed to assist electrical contractors, distributors, end users and certification bodies in identifying glass fragment retention, in applications where risk of contamination from accidental breakage requires control.

How do I produce IEC 61549 compliant products?

Below are the main key points for a coated lamp to be compliant to the IEC 61549 Standard:

- Mark of compliance is demonstrated by a single or twin band lamp marking at one end of the lamp. (Single or twin band determines the level of performance and suitability for the application).
- The coated lamp must pass a 4 metre drop test onto a solid flat surface (concrete/wood etc).
- Material must have more than 8,000 hours service life.
- Good quality coating materials are used (Example: FEP is the best material for this application). Examples of poor-quality material are:
 1. Material Splitting upon impact caused by the plastic being too thin and becoming brittle.
 2. Split coating and ejection cap upon impact caused by the material being unable to withstand higher temperatures experienced at the lamp end caps.
 3. Poor thermal stability causing discoloured (brown/black) material, caused by the plastic being unable to withstand the temperatures experienced at the end caps.
 4. Lamp coating becomes discoloured and embrittled due to the absorption of UV.
- Material must be correctly applied to the lamp. If the material is applied incorrectly, it can lead to premature failure and potential Health and Safety issues for the user. These can include:
 1. Ineffective glass fragment retention on impact.
 2. Contamination issues through the shedding of particles.
 3. Fire Risk.

Adtech FEP lamp coatings have a maximum continuous operating temperature of 200°C and do not embrittle or discolour over time. The integrity of the fluoropolymer coating will long outlast the manufacturers specified lifespan of the lamp and all our lamp coating material has passed the mandatory 4 metre drop test. FEP is the best solution for use with UVA and UVC lamps as the transmission rate is not dramatically reduced by the coating. On average with a 0.25mm thick coating you will see an overall loss of approximately 4% for UVA and 13% for UVC, this ensures the lamps remain effective.

Therefore, providing the FEP heat shrink has been applied correctly and to the criteria outlined in the IEC 61549 specification, all lamps coated with our ADTEX-S material would be compliant, for use in glass free environments.

For more information about our Shatterproof Lamp Coatings, please visit adtech.co.uk

For other custom sizes or technical assistance, contact our customer service team:

+44 (0)1285 762000 - sales@adtech.co.uk