



RETROFIT LEDtubes

# Product compliance considerations and CE marking for significant modifications



At Signify, we're proud to take a leading role in sustainability. Not just in terms of the products, systems and services we provide, but also in the way we conduct our business. So, in addition to delivering light that is energy efficient, saves resources, and improves lives, we are 100% carbon neutral in our operations and recycle up to 91% of our manufacturing waste. We also uphold the highest product compliance standards in all the markets in which we operate.

As the global leader in lighting, Signify is also committed to the LEDification of the lighting market to support our sustainability commitments – and deliver on the promises of our Brighter Lives, Better World 2025 program.

### Our policy is 100% product compliance

We are committed to manufacturing and supplying lighting products that comply with all applicable laws and regulations imposed by relevant government bodies.

It's a promise that we do not take lightly. In order to verify the safety and performance of our products, we adhere to internationally-recognized guidelines, such as those defined by the International Electrotechnical Commission (IEC).

### The importance of the CE mark

For all products sold within the European Economic Area (EEA), it is mandatory to display the CE mark. This is a visible sign that the manufacturer of the product **declares conformity with all relevant essential requirements when it is operated as stipulated in specification and design-in guides.**

In terms of Signify's lighting products, these relevant requirements include the following Directives:

- Low Voltage Directive (LVD) – for safety
- Energy Related Products Directive (ErP) – for eco-design requirements
- Restriction of Hazardous Substances Directive (RoHS) – to restrict hazardous materials

#### Blue Guide: CE marking

According to the Blue Guide, the CE mark indicates, but does not prove, that a product complies with EU product rules and conforms with harmonization legislation when placed on the EU market until it has reached the end user.

The aim of this legislation is to ensure the free movement of products and a high level of protection throughout the EEA and Turkish markets. This is irrespective of whether the product has been manufactured in the EEA, Turkey or another country altogether.

### What about retrofit LEDtubes?

The responsibility for compliance is relatively straight-forward when it comes to the safety and performance of new products that are placed on the market. But what about retrofit solutions? What are your liabilities if you simply replace a conventional lamp with a LED lamp?

A good example of this is Signify's range of Retrofit LEDtubes. These plug and play replacements enable existing luminaires to be retrofitted with a LED alternative in order to create a more energy-efficient, longer-lasting and less costly solution. Furthermore, less waste is generated as the existing luminaire will still be in use.

As you would expect from the global leader in lighting, we ensure that our retrofit solutions comply with the ErP and RoHS Directives. In addition, they also satisfy other important considerations, such as safety requirements. **Our Retrofit LEDtubes have been tested and approved by an independent third-party test house against EN/IEC 62776:2015 – Double-capped LED lamps designed to retrofit linear fluorescent lamps – Safety specifications.**

This harmonized standard specifies the safety and interchangeability requirements, together with the test methods and conditions required to demonstrate compliance. It is applicable for double-capped LED lamps (with GS and G13 caps) such as LEDtubes that are intended as replacements for fluorescent alternatives (with the same caps).

It is important to note that **this safety standard also covers the replacement conditions, as well as the information and marking requirements for any additional steps in the process.** For example, if a starter needs replacing, or if a safety check needs to be carried out to determine whether the wrong combination of lamp and starter has been used.

## Retrofit LEDtubes and modified luminaires

There is also another scenario to consider. In some cases, double-capped LEDtubes may be used as a replacement for conventional lamps in existing luminaires that have been modified in some way. For example by being rewired to improve energy efficiency. We have assessed this proposition carefully to see if it still meets the requirements of the safety standards of the modified luminaire.

Our assessment indicates that **modified products fitted with Retrofit LEDtubes do not significantly impact compliance with the safety standards and therefore no new conformity assessment is required. But with the condition that installation and rewiring must be done in accordance with the instructions supplied by Signify.**

**Please note:** the execution of the rewiring is the responsibility of the customer, not Signify, and should always be carried out by a qualified professional, as stipulated in our instruction guidelines.

## Responsibility for compliance

It is clear from the Blue Guide that the manufacturer or importer is responsible for ensuring a product complies with relevant EU regulations before placing it on the market. When this is confirmed, the CE mark can be affixed, and the Declaration of Conformity (DOC) set up. Once that product reaches the end user, it is no longer considered a new product and the legislation no longer applies.

Maintenance activities, such as changing a light source or starter, or carrying out repairs, are not considered to alter the original function of the luminaire and therefore responsibilities and liabilities remain the same. Even if original spare parts are no longer available and have to be replaced by upgraded parts, this is still considered maintenance.

## Significant modifications

However, **if a product undergoes significant modifications, it might be considered as a new product.** In this case, the installer can be considered as the manufacturer since the new parts they install will, in effect, create a new LED luminaire. This responsibility only comes into effect when the installer – after the significant modification – transfers the new LED luminaire to the new owner.

If that is the case, when a significantly-modified luminaire is made available again, it would therefore require re-assessment to confirm compliance with legislation. Depending on the risk level, this is best done via conformity verification testing of the modified product by a third-party test house. Although it is not necessary to execute the full conformity assessment, attention must be given to what impact the modification has on the product.

The modification instructions should ensure that no new hazardous risks, such as safety or EMI, are introduced unintentionally. The instructions should also cover all reasonable aspects related to the modification. Examples of this include, but are not limited to:

- Modifications (in-field) carried out by qualified professionals
- Risks that may occur due to the modification and the method of mitigation
- Any restrictions that should prevent modification being carried out
- Verification checks after modification to confirm to safety standards

Product change	Is it a new product?	New conformity assessment?	Real life example
Exchanging faulty components or components that reach end of life.	No.	No.	-
Exchanging a tubular fluorescent lamp with a LEDtube, which complies to EN IEC 62776.	No. This is considered product maintenance .	No. EN IEC 62776 defines all necessary requirements to ensure the safe retrofit of TLED lamps.	Installer or building owner buys (retrofit) LEDtubes and change them without any modification in luminaire.
Owner changes the product to significantly improve performance e.g. higher lumen output, or to add functionality e.g. wireless control gear.	Yes. If the owner places the product on the market again.	Yes. By the party executing the change.	Installer or building owner change the luminaires significantly and placed the luminaire back on the market again.
	No. If the product is modified for the owner's use (and there is no change of ownership).	No. Product safety is the responsibility of the owner and installer. The original manufacturer is no longer liable.	Installer or building owner buys LEDtubes. Wiring change is made by installer. Luminaire does not change from owner.
Product is removed from market, is changed significantly (refurbished) and placed back on the market. This means a change of ownership.	Yes.	Yes.	Installer removes luminaires and changes them significantly in workshop. If the installer places the luminaire back into the ceiling, it means placing back on the market.

Table 1

## Conclusion

LEDification plays a vital role in improving the sustainability of lighting products, systems and services. Our assessment indicates that **modified luminaires fitted with retrofit LEDtubes do not significantly impact compliance with the safety standards and therefore no new conformity assessment is required. But with the condition that installation and rewiring must be done in accordance with the instructions supplied by Signify.**

If you have any more questions regarding product declarations, or the performance and compliance of our products, please contact your sales representative. We will be happy to help you.

## Frequently asked questions

**Q:** What is the impact of plug and play retrofit LEDs on safety and performance?

**A:** The electrical safety of the TLED is tested against the applicable standard. In the case of a plug and play retrofit, the performance impact is limited. It may be necessary to check the weight and thermal management of the retrofit TLED. When re-lamping with modification (rewiring), the installation instructions should be followed. In both cases, that is plug and play or rewiring, the energy efficiency of the LED solution will be better than that of a conventional light source.

**Q:** Is CE still valid?

**A:** The CE marking is voided after re-lamping with a TLED where previously used components (e.g. control gear) are removed. The CE mark is an indicator (but not proof) of a product's compliance with EU legislation and enables the free movement of products within the EEA and Turkish market. It is the visible marking resulting from a conformity assessment when placing on the EU market until it reaches the end user. Note that 'placing on the market' is an important criteria here. Together with the CE mark, the European Declaration of Conformity (DoC) indicates that the product is compliant with the applicable directives. The EU DoC of retrofit LED lamps is available on request.

**Q:** What do I need to consider when replacing a lamp for one with a higher lumen output e.g. switching aT5 HE for a T5 HO or T5 UO?

**A:** When replacing a lamp in an existing luminaire, several aspects must be checked, amongst them quality of light. This is also the case when using TLED retrofits. The amount of light and the light distribution may differ, and you should therefore verify that they are still in line with the original light plan.

**Q:** Who is liable?

**A:** In case of re-lamping the liability is very clear: the manufacturer of the light source is responsible for the light source and the manufacturer of the luminaires remains responsible for the luminaire. When replacing with an upgraded product, for example when old products are no longer available, the liability remains the same. It is still considered to be a maintenance activity.

When re-lamping with modification, the liability is on the owner of the lighting system that instructs the installer to do the re-lamping (unless liability is agreed with the installer company). The liability for the supplied parts is the responsibility of the supplier. There is no need to draw up a new conformity assessment and to (re)place a new CE marking since there is no transfer of the 'new' product to the owner.

If re-lamping a TLED with modification falls under the responsibility of the installer, the product will change ownership (after the job has been done). If this is the case – following the reasoning of the Blue Guide – it could be that a new conformity assessment is required, and a new CE mark should be added.

For a quick reference guide, please see Table 1.

**Q:** Is a warranty applicable?

**A:** When retrofitting a luminaire, in most cases, the warranty of the luminaire will expire. The warranty of the light source will still be valid if the installer has followed the installation instructions.

**Q:** How will an insurance company handle incidents (e.g. fire) after modification of the luminaire?

**A:** If there is an issue, an insurance company inspector will carry out an investigation on the status of the luminaire. For example if maintenance has been done regularly and in the correct way by qualified personnel. In the case of modified luminaires, the inspector will check whether the modification has led to new hazards. They will also verify whether the company requesting the modification had done the correct assessments and supplied proper guidelines to avoid any introduction of new hazards.



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