Converting a standard luminaire into an emergency luminaire means integrating an emergency driver (e.g. EM converterLED) plus the associated batteries into the luminaire.
The below list is a summary of the most critical requirements that need to be fulfilled when doing so.

⚠ CAUTION!

This list is intended to give an overview of the most important requirements.
It does not claim to be complete and does not, by any means, release the luminaire manufacturer from the responsibility to design and approve the emergency luminaire against the full set of requirements of IEC EN 60598-2-22.

Glow wire tests

- The 650 °C glow wire test (GWT) is required for all the components of the luminaire plus all other parts that are in contact with these components. This also includes batteries and connectors.
- If batteries and battery wires touch the body (flammable materials) of the luminaire, the luminaire must fulfill GWT 850 °C.
- Wires are not required to fulfill the GWT.
- For France, all outside components of an emergency luminaire have to fulfill GWT 850 °C (IEC EN 60598-1).
- If the luminaire body is rated lower than GWT 850 °C, a separation between the battery and the luminaire body can be used. This can be, for example, a protection sleeve for wires and a battery mounting plate. The used separation must fulfill GWT 850 °C.

Impact rating

- Emergency luminaires have to fulfill IK 03. IK 02 is only sufficient for non-emergency luminaires

Electromagnetic compatibility

- Electromagnetic compatibility (EMC) has to be tested in all charging modes. The light has to be switched-on if the luminaire is a maintained luminaire and in emergency mode.

High temperature operation

- Emergency luminaires shall be capable of operating satisfactorily in the emergency mode at an ambient temperature of 70 °C for at least half of the rated duration.
- To check compliance with this requirement follow the guideline detailed in the luminaire standard IEC/EN 60598-2-22.

Marking

- The marking of the luminaire has to follow the requirements of the luminaire standard IEC/EN 60598-2-22.
- Among other requirements, self-contained emergency luminaires shall be clearly marked with the details of correct battery replacement including the battery technology (e.g. NiMH), rated voltage, capacity, temperature rating, temperature classification and charge regime.

Miscellaneous

- The status indication LED must be clearly visible in all operation modes (with the light switched on).