

FleXbus System

Why doesn't the CPR apply to FleXbus?



FleXbus Conductors

The European CPR Cable Regulation

INTRODUCTION

Most cables designed for permanent installation within domestic, residential and commercial buildings are subject to the **Construction Products Regulation (CPR)**, covered by EN 50575.

The cable characteristics included under the CPR are:

- **Reaction to fire:** this refers to cables of all types used in construction works with requirements for reaction to fire - meaning flame spread/propagation, heat release, smoke production and emission of acid/corrosive gases, and restriction on flaming droplets.
- **Release of dangerous substances:** both European (see EU Regulation n° 1907/2006 REACH) and National Regulations on substances will apply.

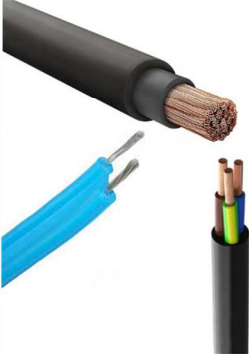



However, the CPR and the corresponding EN 50575 standard, as well as the various tests to be carried out, have been drawn up for cables - such as traditional cables, with a **circular cross-section** and a **diameter** dimensional characteristic (the “ ca ‘ index after the class letter means ‘ cable ’ - e.g. Dca).

The CPR, the related EN 50575 standard and test sequence not been developed to test and qualify some other type of flat electric conductors, like insulated/coated copper or aluminum rigid busbar, busduct (Sandwich, cast resin or non-segregated type) or Flexible insulated flat busbar like FleXbus conductors. Also, flat conductors may have traditionally much bigger cross section than traditional cables, for example above 1000mm². In addition, The CPR does not apply to cable assemblies - for example patch cord, switch cord... In other words, if it has a termination on one or both ends, it is not covered by the CPR.

Consequently, the CPR does not apply to FleXbus.

This has been confirmed by EU sector group SG22. (Sectoral group “Cables” of notified bodies for the Construction Products Regulation).

Note: The decisions of the SG22 group have authority over the interpretation of the CPR throughout the EU. All notified bodies are required to follow the interpretations put forward by SG22.

| CPR apply to | CPR does not apply to Flat conductors | | |
|---|---|--|---|
| Circular cable | Insulated / Coated busbar rigid or flexible with copper laminate sheets | Busduct Sandwich, cast resin or non-segregated | Flexible insulated flat busbar/conductor like FleXbus and ready to use palm |
|  |  |  |  |

What about FleXbus in case of fire ?

- **FleXbus is a flame retardant & self-extinguishable conductor** according to :
 - o UL94 V0 – Flame retardant
 - o IEC 60695-2-12 - Glow Wire Test 960°C

- **FleXbus is an halogen free conductor** according to :
 - o IEC 60754-1 (Test on gases evolved during combustion of materials from cables – Part 1: Determination of the halogen acid gas content).
 - o IEC 62821-2 (Electric cables – Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V).
 - o UL 2885 (Outline of Investigation for Acid Gas, Acidity and Conductivity of Combusted Materials).

- **FleXbus is a low smoke conductor** according to :
 - o IEC 61034-2 (Measurement of smoke density of cables burning under defined conditions).
 - o IEC 60695-6-2 (Fire hazard testing – Part 6-2: Smoke obscuration – Summary and relevance of test methods).
 - o ISO 5659-2 (Determination of the optical density of smoke produced from a horizontally positioned test specimen subjected to a specific thermal radiation in a sealed chamber).
 - o UL 2885 (Outline of Investigation for Acid Gas, Acidity and Conductivity of Combusted Materials).

- **FleXbus is RoHS 2002/95/EC Compliant – and REACH**

FleXbus Beyond the CPR :

The CPR does not cover the use of cables that emit excessive quantities of certain toxic gases in the event of fire, or cables containing halogen.

- FleXbus is a halogen-free conductor
- CPR does not measure the toxic gases quantity and toxicity of : CO, CO2, HF, HCl, HBr, HCN, SO2, NO, NOx, NO2. This has been tested for FleXbus, according to the EN 45545-2 (European union standard fire testing to railway components)
- CPR does not measure the minimum oxygen rate needed to burn the product. This has been tested for FleXbus, according to EN 45545-2 : ISO 4589-2 : %LOI (Limiting Oxygen Index measurement)

In addition to its ease of installation and numerous technical advantages, the FleXbus high-power electrical connection system offers exemplary reliability and fire-resistance characteristics that exceed the Construction Products Regulations (CPR) for cables.



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