

European Requirements for Upgrading Fiber Optic Cables

Article Overview

Upgrading fiber optic cables in Europe requires compliance with EU directives on building readiness, fire safety, and network infrastructure, including the Gigabit Infrastructure Act and Construction Products Regulation.

Building and Network Infrastructure Requirements

Under the Gigabit Infrastructure Act (GIA), which entered into force on 11 May 2024 and became fully applicable on 12 November 2025, new buildings and major renovations must be equipped with passive infrastructure (mini ducts) and in-building fiber wiring up to the network termination point in each unit . Apartment buildings must also provide an access point to the passive infrastructure, typically in the basement. Exemptions exist for historic buildings or cases where installation is disproportionate. Member states define specific implementation rules, and certification for "fiber-ready" buildings is planned .

Fire Safety and Cable Standards

Fiber optic cables must comply with the Construction Products Regulation (CPR), which ensures safety and harmonization across the EU . Cables are classified based on reaction to fire, including parameters such as flame spread, total heat release, smoke production, and droplet formation. Manufacturers must obtain a Declaration of Conformity from a notified body and apply the CE marking to indicate compliance. National standards, such as DIN in Germany, may still apply alongside CPR.

Technical and Installation Standards

Fiber optic cables are subject to harmonized European standards depending on their type and installation environment . Examples include:

- o EN 50441-2: Indoor residential telecommunication installations, screened cables
 - o EN 50406-1: End-user multi-pair cables for high bit rate networks
 - o EN 50288-1: Multi-element metallic cables for analogue and digital communication
- These standards ensure proper electrical, mechanical, and fire performance for both new installations and upgrades.

Sustainability and EU Taxonomy Alignment

The EU emphasizes energy efficiency and sustainability in telecommunications infrastructure. Europacable advocates for including optical fiber networks in the EU Taxonomy Regulation, recognizing their role in reducing emissions, enabling energy-efficient digitalization, and supporting future-proof networks . Fiber

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optic upgrades should consider low energy consumption, long lifespan, and compatibility with emerging technologies like 5G, IoT, and edge computing.

Summary

Upgrading fiber optic cables in Europe involves:

- o Compliance with the Gigabit Infrastructure Act for building readiness and network access.
 - o Adherence to CPR fire safety standards and CE marking requirements.
 - o Implementation according to harmonized European technical standards for cable performance.
 - o Alignment with sustainability goals under the EU Taxonomy to support energy-efficient, resilient networks.
- These requirements ensure that fiber optic upgrades are safe, interoperable, and future-proof, supporting the EU's 2030 Digital Decade connectivity targets.

The act updates the rules to ensure faster, cheaper, and simpler rollout of Gigabit networks installation, addressing

Discover how the fibre network in Europe is evolving. Explore key trends, challenges, and

The Diverse Situation of FTTH in Europe FTTH deployment adoption in Europe has been on the rise since 2017 due to

In summary, quality optical fiber and fiber optic cable have no known expiration date. Fiber scalability and longevity are intensely

Our key policy priorities The FTTH Council Europe considers that fibre networks are fundamental to the digital

Safety is top of the agenda With further classification published in 2016 on how products such as communications

Learn about the vital role of FTTH networks in Europe, their complex deployment, and the impact of policy and

This morning, European Commission imposed anti-dumping duties ranging between 19.7% and 44% on imports of

In this context, it discusses the current state of full fibre and 5G mobile technology in the EU, including the challenges

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The fibre optics market is dynamic and in constant expansion driven by the growing demand for high data

The Fiber Optic Cable Standards "Big Two": IEC 60793 vs IEC 60794 This is the most common confusion we see in RFQs. Buyers

Including optical fibre cables in the EU Taxonomy is essential for fostering energy efficiency, reducing emissions, and ensuring the

Skilled labor shortages and global supply chain disruptions for fiber-optic cables, 5G equipment, and other materials

Other countries with a fast-growing fiber optic cable installation sector include Canada,

The EU Commission's draft Gigabit Infrastructure Act published on February 23, 2023 is designed to implement goals

On 17 May 2024, the Commission announced, by a notice published in the Official Journal of the European Union (2),

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