

Standards for Types of Steel Wire Reinforcing Components in Optical Cables



Article Overview

The standard for steel wire used as tension members in optical fiber cables is GB/T 24202-2021, specifying technical requirements, classifications, and testing methods for galvanized and phosphated carbon steel wires.

Scope and Application

GB/T 24202-2021 governs carbon steel wires used as tension members in optical fiber cables, including both galvanized and phosphated round wires. It defines terms, classification, labeling, dimensions, allowable deviations, technical requirements, inspection methods, packaging, marking, transportation, storage, warranty, and quality certification. While primarily for optical fiber cables, the standard can also serve as a reference for other cable tension applications .

Classification and Strength Grades

Steel wires are classified by nominal tensile strength into seven grades: 1370, 1570, 1770, 1960, 2160, 2350, and 2550 MPa. Surface treatments include phosphating or zinc coating, with galvanized wires further divided into three levels: AB, C, and E, based on coating weight . Marking examples:

- Phosphated wire, 1.40 mm diameter, 1960 MPa: Phosphated steel wire for optical fiber cable 1.40-1960-GB/T 24202-2021
- Galvanized wire, 1.60 mm diameter, 1570 MPa, Grade E zinc: Galvanized steel wire for optical cable 1.60-1570-E-GB/T 24202-2021 .

Technical Requirements

Article Content

Standards for reinforcement

BS 4449: 2005+A3: 2016 Steel for the reinforcement of concrete weldable reinforcing steel, bar, coil and decoiled product This

Wire and Cable Application Guide

A guide to determining the suitability of UL Certified, Listed, Classified and Verified wire and cable for use in a specific installation.

THE BAR GUIDE TO STEEL REINFORCEMENT STANDARDS AND CODES

Provides designations based on the grade of steel, the product form and dimensions. The standard is used to specify all normal

Design and Critical Process Requirements for Optical Fiber, Optical ...

The design and workmanship of COTS items should be evaluated and modified as required to ensure that the use of COTS in wiring

Understanding and Selecting Optical Fibre and Cable

In this document, the relationship between the cable features, followed standards, test parameters, and acceptance criteria are

Overview of optical fibres standardization

Readers of this document are encouraged to seek information on specific matters regarding Optical cables and components from the

Cable 101 | Wire Rope & Cable | Bergen Cable Technology

Explore wire rope and cable assemblies tailored for diverse applications, ensuring strength, abrasion resistance, and corrosion

Steel Standards

The steels can be of the carbon, structural, stainless, ferritic, austenitic, and alloy types. These steel standards are helpful in guiding

ISO/TC 17/SC 17

Standardization of grades and properties of wire rod (excluded are those for special purposes, e. g. qualities standardized by ISO/TC

Basics of Fiber Optics

Lower loss: Optical fiber has lower attenuation (loss of signal intensity) than copper conductors, allowing longer cable runs and fewer

Optical ground wire

An optical ground wire (also known as an OPGW or, in the IEEE standard, an optical fiber composite overhead ground wire) is a type

Steel Standards

ASTM's steel standards are instrumental in classifying, evaluating, and specifying the material, chemical, mechanical, and

Recommendation ITU-T L.100 (01/2024)

It includes specific criteria for attenuation, tensile strength, bending, crush, impact, freezing, and material compatibility tests. The

WWR-600-DDG 2021

Material and manufacture requirements for WWR are defined in ASTM A1064 Standard Specification for Carbon-Steel Wire and

The FOA Reference For Fiber Optics

The core of step index multimode fiber is made completely of one type of optical material and the cladding is another type with

FOA Standards

FOA's Standards are concise standards created by FOA with the participation of experts in the field for the most common issues

E27-TS-OPGW

Overhead Fibre Optic Cables shall be 24 core OPGW (Optical Ground Wire). The OPGW cable is proposed to be installed on the

Handbook Optical fibres, cables and systems

The ITU-T has published a complete set of Recommendations dealing with the above subjects: Recommendations of the ITU-T G

Fiber-optic cable

Different types of cable are used for fiber-optic communication in different applications, for example long-distance

Recommendation ITU-T G Suppl. 47 (03/2025)

Supplement 47 to ITU-T G-series Recommendations provides information on the general transmission characteristics of single-mode

The Fiber Optic Association

Other groups may have fiber optic standards also: ANSI is the governing bodies for standards in the US, NIST provides primary

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://yachtchartercapetown.co.za>

Email: info@yachtchartercapetown.co.za

Phone: +27 21 863 4927

Address: 1st Floor, The Towers, 1 St George's Mall, Cape Town, 8001, South Africa

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