

Density of PVC material for optical cables



Article Overview

The density of PVC used in optical cables typically ranges from 1.30 to 1.45 g/cm³, depending on additives and fillers.

Typical Density Range

PVC for wire and cable applications, including optical fiber insulation and sheathing, is a thermoplastic polymer whose density depends on formulation. Pure PVC resin has a density of approximately 1.40 g/cm³, but the addition of plasticizers (to increase flexibility) can lower the density to around 1.30–1.35 g/cm³, while fillers like calcium carbonate can increase it toward 1.45 g/cm³. Cable-grade PVC is often optimized for flame retardancy, UV resistance, and mechanical flexibility, which slightly modifies the density compared to rigid PVC.

Factors Affecting Density

- Plasticizers: Commonly used to make PVC flexible for cable jackets; lower the overall density because they are less dense than PVC resin (typically 0.97–1.10 g/cm³).
- Fillers: Materials like calcium carbonate (density ~2.71 g/cm³) increase the density and improve mechanical properties.
- Additives: Flame retardants, stabilizers, and UV inhibitors can slightly alter density but are generally minor compared to plasticizers and fillers.
- Processing: Extrusion and compounding methods can influence the final density due to voids or porosity in the material.

Measurement Methods...

Article Content

Nov 16, 2025

Overview of materials for PVC, Wire and Cable Grade

Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the

Aug 10, 2025

Density of PVC Plastics Material: Technical Properties Table

Industrial Significance of Density Data Density data is used to aid in the choice of material to use in pipes and profiles,

Apr 30, 2026

Density of Plastics Material: Technical Properties Table

Get detailed information about polymer density, how it can be converted to specific gravity and usual test method to

Jul 04, 2026

Cable Sheath Materials

PE (Polyethylene) – is usually categorized under three different densities – 1) Low density (0.91 – 0.925 g/cm³), 2) Medium density

Apr 20, 2026

Reference Tables

Our website's reference table page is a comprehensive resource for essential information on plastic materials and injection molding.

Apr 25, 2026

Properties of Plastic Materials

Plastics Engineering and Design Engineering Materials and Design Typical Engineering Properties of Plastics Materials ... a To

Aug 20, 2025

Polyvinyl Chloride (PVC)

Polyvinyl chloride (PVC) is a widely used thermoplastic polymer derived from vinyl chloride monomers. Known for its strength,

May 12, 2026

PVC Wire and Cable Compound Grades

This document summarizes the properties and specifications of different grades of PVC wire and cable insulation and sheathing

Mar 31, 2026

PVC Wire and Cable Compound Grades

Each grade lists properties like density, hardness, thermal stability, tensile strength, aging requirements and test values. The

Jul 05, 2026

Technical data sheet PVC

You can find additional information on our material qualities on the internet at s our current

Nov 16, 2025

PVC Insulated Cable Guide: Technical Data, Standards

This comprehensive analysis examines the material properties, performance

Apr 09, 2026

An Overview Of Optical Fiber Cable Structure And

An optical fiber cable is a complex structure designed to protect fragile glass fibers that transmit digital data

Nov 24, 2025

PVC Plastic Explained

PVC is a thermoplastic, which means it can be heated and cooled to transform into different

Jun 06, 2026

PVC Compounds for Wires and Cables

PVC Compounds for Wires and Cables ... *Giza Plastics Company can provide the products in the list with any required color

Oct 19, 2025

6 Fiber Cable Outer Sheath Materials and How To Choose?

PVC PVC is the most widely used fiber optic cable outer sheath material. It has good performances, good chemical

Feb 22, 2026

Fabrication, structural, optical, and dielectric properties of PVC-PbO ...

Replacement of the low Z material (PVC) with a higher Z material (PbO) leads to increase densities of the fabricated

Jan 19, 2026

Recommendation ITU-T G.652 (08/2024)

This document outlines the specifications for a single-mode optical fiber and cable designed for use around the 1310 nm zero

Oct 07, 2025

PVC THERMOPLASTIC FOR CABLES

PVC THERMOPLASTIC FOR CABLES based compounds for cables. On request for high or very low operating temperatures, oil and

Aug 01, 2025

Density of Plastics and Polymers | g/cm³ & lbm/in³ | AmesWeb

Room-temperature density of plastics and polymers in g/cm³ and lbm/in³. Includes ABS, nylon, PVC, PTFE, PEEK, PC, PP, PE,

Dec 18, 2025

Polyvinyl Chloride (PVC) | Materials and Products Database

Polyvinyl Chloride (PVC) Polyvinyl chloride is a high strength engineered thermoplastic used in a variety of applications. Source:

Apr 19, 2026

LSZH vs PVC vs PE Fiber Cable Jacket: Complete Guide | AIMIFIBER

Compare LSZH, PVC, and PE fiber optic cable jacket materials: fire safety ratings, smoke toxicity, temperature range,

Jul 15, 2026

Overview of materials for PVC, Wire and Cable Grade

Material Notes: This property data is a summary of similar materials in the MatWeb database for the category "PVC, Wire and Cable

Sep 14, 2025

PVC Compounds for Wires and Cables

Giza Plastics Company can provide the products in the list with any required color according to Customer's requirements and

May 06, 2026

PRODUCT DATA SHEET (PVC WIRE AND CABLE COMPOUNDS)

PRODUCT DATA SHEET (PVC WIRE AND CABLE COMPOUNDS) ... PACKING : 25 kg sacks palletized, net weight 500 kg and

Aug 31, 2025

Density of PVC Material: Comprehensive Guide to Values & Testing

The density of rigid PVC is usually between 1.30 and 1.45 g/cm³, whereas that of flexible PVC, because of the

Nov 03, 2025

PVC Cables and Wires | Mechanical & Chemical Characteristics

Polyvinylchloride (PVC) - thermoplastic material PVC stands for "Polyvinylchloride" (VDE designation "Y"). The areas of application

Dec 20, 2025

Fiber Optic Cable Buying Guide

Fiber Optic Cable Buying Guide Understand how to choose fiber optic cable by comparing single-mode vs. multimode, network

Jul 26, 2025

FIBRE OPTIC CABLES

Acid gas evolved from materials such as PVC can be dangerous to people and equipment's. This is why Low Smoke Zero Halogen

Contact Us

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