

ICS 29.035.01
CCS K 15



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5132.3-2024

**Industrial rigid round laminated tubes and rods based on
thermosetting resins for electrical purposes - Part 3: Round
laminated rolled tubes
(English Translation)**

Issued on: September 29, 2024

Implemented on: April 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Classification and naming	
4.1 Overview	
4.2 Naming	
4.3 Abbreviations	
4.4 Model	
5 Requirement	
Appendix A (Normative) EPGC20 performance requirements and test methods	
A.1 Performance requirements	
A.2 Test method	
Appendix B (Normative) PFCP20 performance requirements and test methods	
B.1 Performance requirements	
B.2 Test method	
Reference	

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 3 of GB/T 5132 "Industrial rigid circular laminated tubes and rods made of thermosetting resins for electrical purposes". GB/T 5132 has been the following parts have been published.

- Part 1: General requirements;
- Part 2: Test methods;
- Part 3: Round laminated rolled tubes;
- Part 4: Circular laminated moulded tubes;

--- Part 5: Circular laminated moulded bars.

This document is modified to adopt IEC 61212-3-1:2013 "Insulating materials - Industrial rigid round laminated tubes and rods of thermosetting resins for electrical use" Part 3: Specifications for individual materials Part 1: Round laminated rolled tubes.

This document has made the following structural adjustments compared to IEC 61212-3-1:2013.

--- Change the title of Chapter 4 to "Classification and Nomenclature", add 4.4 "Model", and list "Table 1 Round Laminated Rolled Tube Model" in;

--- Added Appendix A and Appendix B.

The technical differences between this document and IEC 61212-3-1:2013 and their reasons are as follows.

--- The content of "Scope" has been reorganized (see Chapter 1) to meet the needs of technical content;

--- Added two models, EPGC20 and PFCP20 (see Table 1) to meet the needs of actual production and application in my country;

--- Replaced IEC 60212-1 (see Chapter 5) with the normative reference GB/T 5132.1 to adapt to my country's technical conditions and added Operability;

--- Added the performance requirements and test methods of EPGC20 round rolled pipe (see Appendix A) to meet the actual production and the needs of the application;

--- Added the performance requirements and test methods of PFCP20 round rolled pipe (see Appendix B) to meet the actual production and the needs of the application;

--- Added normative references GB/T 1408.1-2016 (see A.2.6, B.2.11, B.2.12 and B.2.13) to adapt to my country technical conditions and increase operability.

The following editorial changes were made to this document.

--- Delete the remarks column in Table 7, and write the content of the requirement clauses in the form of table paragraphs;

--- In order to coordinate with the existing standards, the name of the standard is changed to "Industrial rigid circular laminated tubes and rods of thermosetting resins for electrical use Part 3 Divided into. round laminated rolled tube.

Introduction

Thermosetting resin industrial rigid round laminated tubes and rods for electrical use are widely used in the research and development, production, quality inspection, sales, the formulation of this series of standards can guide the industry to more effectively carry out

the development of industrial hard circular layers of thermosetting resins for electrical applications.

The inspection and evaluation of pressed tubes and rods can improve the quality and application reliability of industrial rigid round laminated tubes and rods made of thermosetting resins for electrical use.

GB/T 5132 specifies the general requirements, test methods, and material specifications of industrial rigid circular laminated tubes and rods made of thermosetting resins for electrical applications.

The material product standard is planned to consist of the following parts.

--- Part 1: General requirements. The purpose is to determine the definition, nomenclature, General requirements and delivery conditions.

--- Part 2: Test methods. The purpose is to determine the test methods for industrial rigid circular laminated tubes and rods made of thermosetting resins for electrical purposes.

--- Part 3: Round laminated rolled tubes. The purpose is to determine the electrical industrial rigid round tubes composed of different resins and reinforcement materials.

Classification, naming and requirements of shaped laminated rolled pipes.

--- Part 4: Circular laminated moulded tubes. The purpose is to determine the electrical industrial rigid circular tubes made of different resins and reinforcement materials.

Classification, naming and requirements of shaped laminated molded tubes.

--- Part 5: Round laminated moulded bars. The purpose is to determine the electrical industrial hard round bars made of different resins and reinforcement materials.

Classification and requirements of shaped laminated molded tubes.

Industrial rigid round laminated tubes made of thermosetting resin for electrical use Rods and pipes Part 3: Round laminated rolled tubes

1 Scope

This document specifies the classification, nomenclature and use of industrial rigid circular laminated rolled tubes for electrical applications composed of different resins and reinforcement materials.

Require.

This document applies to industrial rigid round laminated rolled tubes made of thermosetting resins for electrical purposes.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 1408.1-2016 Test methods for electrical strength of insulating materials Part 1: Tests at power frequency (GB/T 1408.1-2016, IEC 60243-1:2013, IDT) GB/T 5132.1 Industrial rigid circular laminated tubes and rods made of thermosetting resins for electrical use Part 1: General requirements (GB/T 5132.1-2009, IEC 61212-1:2006, IDT) GB/T 5132.2-2009 Industrial rigid circular laminated tubes and rods made of thermosetting resins for electrical use Part 2: Test methods (IEC 61212-2:2006, IDT)

3 Terms and definitions

The following terms and definitions apply to this document.

Thermosetting material is wound around the tube core between hot pressing rollers, the impregnated material layer is heated and cured, and then the tube core is removed to form a Planting tube.

[Source. GB/T 2035-2008, 2.532, modified]

4.1 Overview

Round laminated rolled tubes can be divided into different types according to the resin used, reinforcement materials, manufacturing methods and identification characteristics.

4.2 Naming

The naming is done as follows.

- Resins are indicated by the first two abbreviations;
- The next two abbreviations indicate the reinforcement material;