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GB/T 2951.509-2026

Test methods for non-metallic materials of electric and optical cables - Part 509: Mechanical tests - Test for resistance of insulations and sheaths to cracking (heat shock test)

电缆和光缆 非金属材料试验方法 第509部分：机械性能试验 绝缘和护套抗开裂试验（热冲击试验）

(English Translation)

Issued on: October 30, 2026 **Implemented on: May 1, 2027**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

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1 Foreword

GB/T 2951.509-2026 was issued by State Administration for Market Regulation; Standardization Administration of China on 30 October 2026 and takes effect on 1 May 2027.

It is one of 86 parts of the GB/T 2951 series.

The GB/T prefix marks a recommended standard. It is not law in itself: it becomes binding when a contract names it, when a regulation or a mandatory standard refers to it, or when a producer declares conformity with it.

2 Scope Preview

GB/T 2951.509-2026 carries no ICS number and no Chinese Standard Classification code.

This catalogue holds 76,457 other GB/T standards.

Of the 47,415 GB/T standards that do carry an ICS number, 3,437 (7%) fall under ICS 77, in the field of metallurgy.

3 About this standard

Issued by: State Administration for Market Regulation; Standardization Administration of China

4 Related standards

Other parts of this standard:

GB/T 2951.1-1994 - Test method for determining mechanical and physical properties of electric cables and wires. General

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GB/T 2951.1-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 1: Methods for general application. Section one: Measurement of thickness and overall dimensions--Tests for determining the mechanical properties

GB/T 2951.2-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Determination of insulation thicknesses

GB/T 2951.2-1997 - Common test methods for insulating and sheating materials of electric cables. Part 1: Methods for general application. Section two: Thermal ageing methods

GB/T 2951.3-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Determination of sheathing thicknesses

GB/T 2951.3-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 1: Methods for general application. Section three: Methods for determining the density--Water absorption tests--Shrinkage test

GB/T 2951.4-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Determination of diameters

GB/T 2951.4-1997 - Common test methods for insulating and sheating material of electric cables. Part 1: Methods for general application. Section four: Test at low temperature

GB/T 2951.5-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for determining mechanical properties of insulation compounds

GB/T 2951.5-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 2: Methods specific to elastomeric compounds. Section one: Ozone resistance test--Hot set test--Mineral oil immersion test

GB/T 2951.6-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for determining mechanical properties of sheathing compounds

GB/T 2951.6-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 3: Methods specific to PVC compounds. Section one: Pressure test at high temperature--Test for resistance to cracking

GB/T 2951.7-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for thermal ageing in air oven

GB/T 2951.7-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 3: Methods specific to PVC compounds. Section two: Loss of mass test--Thermal stability test

GB/T 2951.8-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for ageing in an air bomb

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GB/T 2951.8-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 4: Methods specific to polyethylene and polypropylene compounds. Section one: Resistance to environmental stress cracking--Wrapping test after thermal ageing i

GB/T 2951.9-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for ageing in an oxygen bomb

GB/T 2951.9-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 4: Methods specific to polyethylene and polypropylene compounds. Section two: Elongation at break after pre-conditioning--Wrapping test after pre-conditioning-

GB/T 2951.10-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for determining loss of mass for P. V. C. insulations

GB/T 2951.10-1997 - Common test methods for insulating and sheathing materials of electric cables. Part 5: Methods specific to filling compounds. Section one: Drop-point--Separation of oil--Lower temperature brittleness--Total acid number--Absence of corrosive co

GB/T 2951.11-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for determining loss of mass for P. V. C. sheaths

GB/T 2951.11-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 11: Methods for general application -- Measurement of thickness and overall dimensions -- Tests for determining the mechanical properties

GB/T 2951.12-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for bending at low temperature

GB/T 2951.12-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 12: Methods for general application -- Thermal ageing methods

GB/T 2951.13-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for elongation at low temperature

GB/T 2951.13-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 13: Methods for general application -- Measurement for determining the density -- Water absorption tests -- Shrinkage test

GB/T 2951.14-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for impact at low temperature

GB/T 2951.14-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 14: Methods for general application -- Test at low temperature

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GB/T 2951.21-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Flexing test for flexible cables and wires

GB/T 2951.21-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 21: Methods specific to elastomeric compounds -- Ozone resistance, hot set and mineral oil immersion tests

GB/T 2951.23-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Bending test

GB/T 2951.24-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for copper naphthenate content of protective coverings

GB/T 2951.25-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for anaerobe-corrosion of protective coverings

GB/T 2951.26-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Saline bath test

GB/T 2951.27-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Corrosion spread test

GB/T 2951.28-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for abrasion of extruded oversheaths

GB/T 2951.31-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for resistance of P. V. C. insulations to cracking

GB/T 2951.31-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 31: Methods specific to PVC compounds -- Pressure test at high temperature -- Test for resistance to cracking

GB/T 2951.32-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for resistance of P. V. C. sheaths to cracking

GB/T 2951.32-2008 - Common test methods for insulating and sheathing materials of electric and optical cables -- Part 32: Methods specific to PVC compounds -- Loss of mass test -- Thermal stability test

GB/T 2951.34-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Tear test

GB/T 2951.37-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Test for oxidative inductive time

GB/T 2951.38-1986 - Termite test mothods for wires and cables

GB/T 2951.41-1994 - Test method for determining mechanical and physical properties of electric cables and wires. Measurement of the melt flow index

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