BUREAU OF INDIAN STANDARDS
DRAFT FOR COMMENTS ONLY

Draft Indian Standard

High Voltage Direct Current (HVDC) Power Transmission – Cables with extruded insulation and their accessories for rated voltages up to 320 KV for land applications –Test Methods and Requirements

(ICS 29.060.20)

Power cables Sectional Committee, ETD 09	Last date for comments: 28.03.2024

NATIONAL FOREWORD

This Draft Indian Standard which is identical with IEC 62895:2017 'High voltage direct current (HVDC) power transmission – Cables with extruded insulation and their accessories for Rated voltages up to 320 kv for land applications –Test methods and requirements' issued by the International Electrotechnical Commission (IEC) is proposed to be adopted by the Bureau of Indian Standards on the recommendation of the Power Cables Sectional Committee and approval of the Electrotechnical Division Council.

The text of the IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exists. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
IEC 60060-2, High-voltage test techniques – Part 2: Measuring systems	IS/IEC 60060-2 : 2010, High - Voltage test techniques: Part 2 measuring systems	Identical with IEC 60060-2 : 2010
IEC 60228, Conductors of insulated cables	IS 8130 : 2013, conductors for insulated electric cables and flexible cords — specification (*Second Revision*)	Technically Equivalent

IEC 60502-2:2014, Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) – Part 2: Cables for rated voltages from 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)	IS 7098 (Part 2) : 2011, Crosslinked polyethylene insulated thermoplastic sheathed cables - Specification: Part 2 for working voltages from 3.3 kV up to and including 33 kV (*Second Revision*)	Technically Equivalent
IEC 60502-4, Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) – Part 4: Test requirements on accessories for cables with rated voltages from 6 kV (Um = 7,2 kV) up to 30 kV (Um = 36 kV)	IS 13573 (Part 2) : 2011, Cable accessories for extruded power cables - Specification: Part 2 for working voltages from 3.3 kV(Ue) up to and including 33 kV(E) - Test requirements (*First Revision*)	Technically Equivalent

The technical committee has reviewed the provision of the following International Standard referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard:

International Standard	*Title*
IEC 60229	Electric cables – Tests on extruded over sheaths with a special protective function
IEC 60230	Impulse tests on cables and their accessories
IEC 60287-1-1:2006	Electric cables – Calculation of the current rating – Part 1-1: Current rating equations (100 % load factor) and calculation of losses – General IEC 60287-1-1:2006/AMD1:2014
IEC 60332-1-2	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW premixed flame
IEC 60811-201	Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness
IEC 60811-202	Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath
IEC 60811-203	Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions
IEC 60811-401	Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven
IEC 60811-403	Electric and optical fibre cables – Test methods for non-metallic materials –Part 403: Miscellaneous tests – Ozone resistance test on cross-linked compounds
IEC 60811-409	Electric and optical fibre cables – Test methods for non-metallic materials – Part 409: Miscellaneous tests – Loss of mass test for thermoplastic insulations and sheaths
IEC 60811-412	Electric and optical fibre cables – Test methods for non-metallic materials

	– Part 412: Miscellaneous tests – Thermal ageing methods – Ageing in an air bomb
IEC 60811-501	Electric and optical fibre cables – Test methods for non-metallic materials – Part 501: Mechanical tests – Tests for determining the mechanical properties of insulating and sheathing compounds
IEC 60811-505	Electric and optical fibre cables – Test methods for non-metallic materials – Part 505: Mechanical tests – Elongation at low temperature for insulations and sheaths
IEC 60811-506	Electric and optical fibre cables – Test methods for non-metallic materials – Part 506: Mechanical tests – Impact test at low temperature for insulations and sheaths
IEC 60811-507	Electric and optical fibre cables – Test methods for non-metallic materials – Part 507: Mechanical tests – Hot set test for cross-linked materials
IEC 60811-508	Electric and optical fibre cables – Test methods for non-metallic materials –Part 508: Mechanical tests – Pressure test at high temperature for insulation and sheaths
IEC 60811-509	Electric and optical fibre cables – Test methods for non-metallic materials –Part 509: Mechanical tests – Test for resistance of insulations and sheaths to cracking (heat shock test)
IEC 60811-605	Electric and optical fibre cables – Test methods for non-metallic materials –Part 605: Physical tests – Measurement of carbon black and/or mineral filler in polyethylene compounds
IEC 60811-605	Electric and optical fibre cables – Test methods for non-metallic materials –Part 605: Physical tests – Measurement of carbon black and/or mineral filler in polyethylene compounds
IEC 60811-606	Electric and optical fibre cables – Test methods for non-metallic materials –Part 606: Physical tests – Methods for determining the density
IEC 62067	Power cables with extruded insulation and their accessories for rated voltages above 150 kV (Um = 170 kV) up to 500 kV (Um = 550 kV) – Test methods and requirements

Only English language text has been retained while adopting it in this Indian Standard, and as such the page numbers given here are not the same as in the International Standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note — The technical content of their document has not been enclosed as there are identical with the corresponding IEC standards for details, please refer the corresponding IEC 62895: 2017 or kindly contact:

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