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Twinax cables for digital communications – Part 1: Generic specification

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TWINAX CABLES FOR DIGITAL COMMUNICATIONS –

Part 1: Generic specification

FOREWORD

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IEC 62783-1 has been prepared by subcommittee 46C: Wires and symmetric cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes compared with the previous edition:

– 4.1: single pair twinax cable is permitted;
– 5.2.1: addition of length requirement for electrical tests;
– 5.3.1, 5.3.2: addition of test equipment, fixtures and length requirements of cable under test for transmission tests;
– 5.3.3.2: introduction of characteristic impedance in time domain;
– 5.4.11: addition of vibration test of the cable;

– 5.5.8, 5.5.9 and 5.5.12: addition of environmental tests: damp heat steady state, salt mist, halogen-free compounds;
– 5.5.11: updating the test method of flame propagation characteristics of bunched cables.

The text of this International Standard is based on the following documents:

Draft	Report on voting
46C/1257/FDIS	46C/1261/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 62783 series, published under the general title *Twinax cables for digital communications*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This document specifies the generic characteristics of twinax cables for the transmission of digital signals, which use single or multiple twinax cable element(s).

Twinax cables are intended for use in high-performance information technology systems and data interface interconnection systems. These cables are generally used in short-reach data communication links, which reach about 0,3 m to 10 m. Information technology interconnection standards that use twinax cables include Ethernet, Fibre channel, SAS, SATA, SFP, PCIE and others.

IEC 62783 (all parts) includes separate family specifications, which provide the requirements for each specific twinax cable used in information technology interconnection systems.