



ATIS-0600336.2020

**Design Requirements for Universal
Cabinets and Framework**

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ATIS-0600336.2020, *Design Requirements for Universal Cabinets and Framework*

Is an American National Standard developed by the ATIS **Network Physical Protection (NPP)** Subcommittee under the **ATIS Sustainability in Telecom: Energy and Protection Committee (STEP)**.

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American National Standard for Telecommunications

Design Requirements for Universal Cabinets and Framework

Alliance for Telecommunications Industry Solutions

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American National Standards Institute, Inc.

Abstract

This standard, when used with established sheet metal manufacturing practices, sets forth the dimensional parameters, performance requirements, and acceptance criteria for the manufacture and availability of equipment frames for housing electronic equipment as used in communications networks. These frames are intended to be installed in communication carrier spaces. The cabinets and framework described will be designed to common dimensional footprints, have greater performance for handling larger, heavier equipment and dimensional parameters that may be used for designing future communications equipment. The cabinets and framework described are to be available as general-purpose products for use by those electronic equipment manufacturers and service providers that do not design and manufacture their own proprietary cabinets and framework.

Foreword

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between providers, customers, and manufacturers. The Sustainability in Telecom: Energy and Protection (STEP) Committee – formerly the Network Interface, Power, and Protection Committee (NIPP) -- engages industry expertise to develop standards and technical reports for telecommunications equipment and environments in the areas of energy efficiency, environmental impacts, power and protection. The work products of STEP enable vendors, operators and their customers to deploy and operate reliable, environmentally sustainable, energy efficient communications technologies. STEP is committed to proactive engagement with national, regional and international standards development organizations and forums that share its scope of work.

This standard, when used with established sheet metal manufacturing practices, sets forth dimensional parameters, performance requirements, and acceptance criteria for the manufacture and availability of equipment frames used to house new heavier and deeper telecommunications equipment. These frames are intended for installation in telecommunications and data equipment buildings and facilities. The purpose of this standard is to establish common dimensional footprint for Universal Cabinets and Framework (UCF), provide a stronger frame for handling larger, heavier equipment and to establish design parameters for developing future telecommunications equipment. The UCF should be available as a general-purpose product for use by those electronic equipment manufacturers that do not design and manufacture their own proprietary framework. The UCF should be available to service providers that require a common dimensioned UCF for housing electronic equipment from a variety of manufacturers.

This standard contains two annexes that are informative and not considered part of this standard.

ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word SHALL and recommendations by the word SHOULD. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, STEP 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, STEP, which was responsible for its development, had the following roster:

- E. Gallo, STEP Chair (Ericsson)
- J. Fuller, STEP Vice-Chair (AT&T)
- C. Von Hagel, NPP Chair (Intertek)
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The Network Physical Protection [NPP] Subcommittee was responsible for the development of this document.

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American National Standard
for Telecommunications –

Design Requirements for Universal Cabinets and Framework

1 Scope, Purpose, Application, & Intent

1.1 Scope

This standard sets forth the dimensional parameters, performance, and the application criteria for the UCF when used to house electronics and optical equipment in communication carrier spaces. The requirements shall be used in the design, construction, and provisioning of UCF supplied to the communications industry to house electronics equipment.

1.2 Purpose

The purpose of this document is to establish requirements for general-purpose equipment UCF with industry compatible dimensions and minimum performance capabilities. The UCF shall provide consistent external dimensions for planning and engineering equipment areas in the communications carrier space.

UCF manufacturers will utilize the requirements for designing and providing communications providers and suppliers with industry-compatible UCF. Electronic equipment manufacturers will utilize dimensional parameters in the development of products to be housed in the UCF. Integrators will utilize the framework to supply systems composed of either their own equipment or third-party equipment to service providers. Service providers may plan telecom facility equipment areas based on the UCF dimensions. Minimum performance parameters have been developed for the UCF to assure consistent load carrying capabilities and resistance to external loads. The UCF provides protection for equipment and front/rear cabling from aisle traffic by establishing consistent external dimensions. Minimum safety parameters are established to reduce overturning risks of loaded frames. Equipment cooling airflow patterns are discussed in the design and construction of the UCF. Other details covered by these requirements include internal cable management and support requirements, cable entry, junctioning details to adjacent UCF, and securing of UCF.

These requirements will:

- Be used with present and future network equipment.
- Provide improved compatibility between equipment suppliers' products.
- Provide cable management guidelines.
- Establish minimum physical performance parameters.
- Improve the hardware installation accessibility.
- Establish cooling air path protocol.
- Establish dimensional design parameters for housed equipment.