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Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 6: Engineering requirements for harmonized racks and cabinets with extended features

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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**Environmental Engineering (EE);
European telecommunication standard
for equipment practice;
Part 6: Engineering requirements for
harmonized racks and cabinets with extended features**

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Environmental Engineering (EE).

The present document is part 6 of a multi-part deliverable aimed at setting out, on a common basis, the installation engineering requirements for telecommunication practice, for housing equipment forming part of a public telecommunications network.

ETSI EN 300 119-1 [i.1] is a general introduction and explains the terminology used. ETSI EN 300 119-2 [i.2] specifies the engineering requirements for racks and cabinets. ETSI EN 300 119-3 [i.3] specifies the engineering requirements for miscellaneous racks and cabinets. ETSI EN 300 119-4 [i.4] covers engineering requirements for subracks in miscellaneous racks and cabinets. ETSI EN 300 119-5 [i.5] covers the preferred thermal management solutions for subracks, racks/cabinets and miscellaneous racks/cabinets installed indoors in restricted access locations, for the removal of heat dissipated by one or more subracks in a rack complying to the requirements of this multi-part standard.

The present document, ETSI EN 300 119-6, is defining extension to the existing parts of the standard to harmonize dimensions and to extend rack installation capabilities.

These extended features are:

- mounting bracket depth adjustment only on subrack level (as normally done on many other standardized equipment practices; e.g. 19 inches)
- full installation compatibility for installing rack line-ups with 300 mm and 600 mm depth (see ETSI EN 300 119-3 [i.3])
- common position of mounting brackets for both 300 mm and 600 mm depth
- recessed subrack mounting plane compared to ETSI EN 300 119-3 [i.3] and ETSI EN 300 119-4 [i.4] to allow more room for cable management and better cable access from front/rear aisle
- modular design for 300 mm/600 mm racks to improve installation and thermal management (e.g. back-to-back with 200 mm off-set)
- split up of 600 mm deep footprint into 2x300 mm so that both rack types allow the same subrack fixation plane
- 300 mm and 600 mm deep racks with back-to-back installation compatibility for subracks (option to mount two 280 mm deep subracks back to back in a 600x600 mm footprint)
- 300 mm and 600 mm deep racks with detachable side/rear covers to allow full cable duct access from the side
- common 10 mm thick door design for both 300 mm and 600 mm rack to improve commonality
- design subrack mounting plane in a manner so that not only 600 mm deep rack is a earthquake proof design but also the 300 mm rack (600 mm: ~7 inches deep upright; 300 mm ~3,5 inches deep upright; commonality with EIA rack standard for SNBF)

- option for rack side extensions to create enhanced cabling space and thermal management options (e.g. heat exchangers for water cooling to gain best energy efficiency for IT infrastructure) for both rack types (300 mm and 600 mm depth)
- keep the rack side structure open with optional side plates to increase cabling space and reduce costs in rack line-ups (only first and last rack would need a side plate)
- make ETSI mounting principle similar to SNBF (5 inches deep upright) which is used in USA telecommunication offices to gain more commonality for international markets
- Seismic Proof Design (target: IEC 61587-2 [i.6]) for both 300 mm and 600 mm deep rack
- Define extra front side cabling space for accommodating optical and electrical I/O cables
- 300 mm/600 mm commonalities (e.g. doors, feet, rack alarm indicator strip, etc.) provide various options for cost reduction due to higher volume and cost reduction, lower CAPEX due to less complexity and simplified logistics for deployment

The present document applies to all telecommunication equipment forming part of the public telecommunications network.

The present document is part 6 of a multi-part deliverable. Full details of the entire series can be found in part 1 [i.1].

National transposition dates	
Date of adoption of this EN:	19 February 2015
Date of latest announcement of this EN (doa):	31 May 2015
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 November 2015
Date of withdrawal of any conflicting National Standard (dow):	30 November 2015

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document details requirements for racks and cabinets with extended features supplied unequipped. The racks/cabinets with extended features can be used for housing telecommunication equipment forming part of a public telecommunication network installed either on the public telecommunication operators' sites or in the premises of operator's customers. The racks/cabinets with extended features allow to accommodate various equipment, e.g. subracks (see ETSI EN 300 119-4 [i.4]) and have provisions for doors or covers.

ETSI EN 300 119-1 [i.1] defines the meaning of rack or cabinet in the context of the present document.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

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The following referenced documents are necessary for the application of the present document.

- [1] IEC 60917-2-1: "Modular order for the development of mechanical structures for electronic equipment practices - Part 2: Sectional specification - Interface co-ordination dimensions for the 25 mm equipment practice - Section 1: Detail specification - Dimensions for cabinets and racks".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EN 300 119-1: "Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 1: Introduction and terminology".
- [i.2] ETSI EN 300 119-2: "Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 2: Engineering requirements for racks and cabinets".
- [i.3] ETSI EN 300 119-3: "Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 3: Engineering requirements for miscellaneous racks and cabinets".
- [i.4] ETSI EN 300 119-4: "Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 4: Engineering requirements for subracks in miscellaneous racks and cabinets".
- [i.5] ETSI EN 300 119-5: "Environmental Engineering (EE); European telecommunication standard for equipment practice; Part 5: Thermal management".

- [i.6] IEC 61587-2: "Mechanical structures for electronic equipment - Tests for IEC 60917 and 60297 - Part 2: Seismic tests for cabinets and racks".
- [i.7] ECIA EIA/ECA-310-E: "Cabinets, Racks, Panels, and Associated Equipment".
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