

# **SLOVENSKI STANDARD**

## **SIST EN 60715:2002**

**01-februar-2002**

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**Dimenzije - nizkonapetostnih stikalnih in krmilnih naprav – Standardizirana vgradnja električnih naprav na nosilne natične letve za mehansko podporo v inštalacijah stikalnih in krmilnih naprav**

Dimensions of low-voltage switchgear and controlgear - Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations

Abmessungen von Niederspannungsschaltgeräten - Genormte Tragschienen für die mechanische Befestigung von elektrischen Geräten in Schaltanlagen

Dimensions de l'appareillage à basse tension - Montage normalisé sur profilés-supports pour le support mécanique des appareils électriques dans les installations d'appareillage à basse tension

**Ta slovenski standard je istoveten z: EN 60715:2001**

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**ICS:**

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear
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**SIST EN 60715:2002**

**en**

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EUROPEAN STANDARD

EN 60715

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2001

ICS 29.120.60

English version

**Dimensions of low-voltage switchgear and controlgear -  
Standardized mounting on rails for mechanical support  
of electrical devices in switchgear and controlgear installations  
(IEC 60715:1981 + A1:1995)**

Dimensions de l'appareillage à  
basse tension -  
Montage normalisé sur profilés-supports  
pour le support mécanique des appareils  
électriques dans les installations  
d'appareillage à basse tension  
(CEI 60715:1981 + A1:1995)

Abmessungen von  
Niederspannungsschaltgeräten -  
Genormte Tragschienen für die  
mechanische Befestigung von  
elektrischen Geräten in Schaltanlagen  
(IEC 60715:1981 + A1:1995)

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- This European Standard was approved by CENELEC on 2000-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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## CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

**EN 60715:2001****Foreword**

The text of the International Standard IEC 60715:1981 and its amendment 1:1995, prepared by SC 17B, Low-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, was submitted to the formal vote and was approved by CENELEC as EN 60715 on 2000-04-01 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2001-10-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2003-04-01

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**Endorsement notice**

The text of the International Standard IEC 60715:1981 and its amendment 1:1995 was approved by CENELEC as a European Standard without any modification.

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EN 60715:2001

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**DIMENSIONS OF LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR  
STANDARDIZED MOUNTING ON RAILS FOR MECHANICAL SUPPORT  
OF ELECTRICAL DEVICES IN SWITCHGEAR  
AND CONTROLGEAR INSTALLATIONS**

**PREFACE**

This standard has been prepared by Sub-Committee 17B: Low-voltage Switchgear and Controlgear, of IEC Technical Committee No. 17: Switchgear and Controlgear.

As a result of the decision taken at the meeting held in The Hague in September 1975, a first draft was circulated in December 1976 and discussed at the meeting held in Moscow in June 1977. A second draft was circulated in March 1978 and discussed at the meeting held in Sofia in October 1978.

The third draft, Document 17B(Central Office)108, was submitted to the National Committees for approval under the Six Months' Rule in December 1979.

The National Committees of the following countries voted explicitly in favour of publication:

<u>SIST EN 60715:2002</u>	
Australia	Netherlands
Austria	Poland
Belgium	Romania
Bulgaria	South Africa (Republic of)
Canada	Spain
Denmark	Sweden
France	Switzerland
Germany	Turkey
Hungary	Union of Soviet
Italy	Socialist Republics
Japan	United Kingdom

# DIMENSIONS OF LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR STANDARDIZED MOUNTING ON RAILS FOR MECHANICAL SUPPORT OF ELECTRICAL DEVICES IN SWITCHGEAR AND CONTROLGEAR INSTALLATIONS

## INTRODUCTION

The problem of mounting devices, that is switches, circuit-breakers, relays, contactors, terminal blocks, etc., within an assembly in such a manner that they may be easily initially fixed, removed or rearranged, has been studied during the last few years by an increasing number of groups of manufacturers and users.

A solution which has already found a degree of "natural standardization" in a number of highly industrialized countries is rail mounting, for example steel or aluminium sections onto which is attached any device of any group within a certain physical size.

Using the rail method, initial fixing, removal or rearrangement of components within an assembly is readily carried out.

Two methods are used for fixing a device on a rail:

- either directly by clipping on the rail (this method is particularly suitable for "Top hat" rails or "G" rails);
- or by means of a variety of accessories such as sliding nuts and hooked or "T" headed bolts (this method is particularly suitable for "C" rails).

In the case of "G" rails, the first of these methods has been mainly used for mounting terminal blocks which snap in and out of position and are clamped in rows by adjustable end stops.

One or more rails can be used as necessary for fixing devices.

The rail may take the form of a standard section as an integral part of the enclosure.

Rails are also available of composite sections which combine, for example, "Top hat" and "C" section sizes thus accepting devices with various arrangements for mounting.

Since rail mounting may affect the performance of equipment, it may be advisable for equipment manufacturers to give guidance in their literature on the suitability for this form of mounting.

## 1. Scope

This standard specifies dimensional and functional requirements for the compatible mounting of varied electrical devices on some types of rails in switchgear and controlgear assemblies.

Appendices deal with specific steel mounting rails satisfying the requirements of this standard, and give additional dimensional data and loading requirements applicable to such rails.

## EN 60715:2001

### 2. Object

The object of this standard is to specify those dimensions which are critical for the correct design of rails and equipment. The following sections are covered by this standard:

- “Top hat” section;
- “C” section;
- “G” section.

*Notes 1.* — The detailed design and material of specific steel rails is given in the appendices.

*2.* — Mounting compatibility does not imply functional interchangeability.

*3.* — Other types of rails and relevant mountings which are not covered by this standard can be used.

### 3. Functional requirements

The basic functional requirement of mounting rails is that they shall adequately support the electrical equipment.

The rail itself, in combination with the distance between the points of support and the nature of these supports, shall be of sufficient mechanical strength and stiffness to endure the static and dynamic load of the equipment.

*Note.* — The performance of the equipment mounted on rail should be verified to ensure correct operation.

Because of the great variety of equipment, and of combinations of equipment, and the spatial distribution of such equipment, it is not possible to state specific requirements that ensure proper performance under all conditions; however the detailed dimensions and the strength requirements given in Appendix A and Appendix B have been shown by experience to be suitable for use with a variety of equipment such as contactors, fuses, switches, terminal blocks and circuit-breakers.

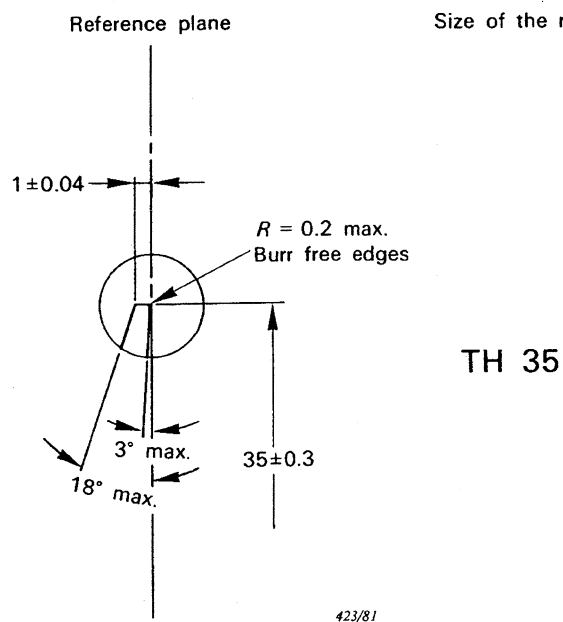
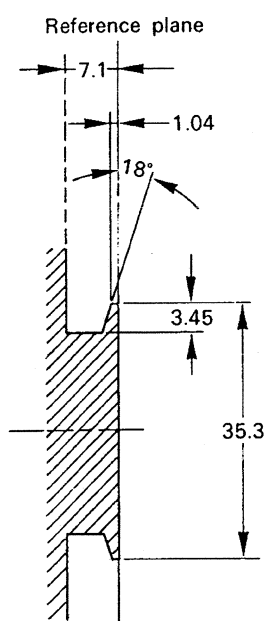
The responsibility for the correct construction and choice of materials lies with the manufacturer of the complete assembly.

### 4. Standard dimensions

The dimensions given in millimetres are those which are critical for the correct design of the rail and the equipment to be mounted thereon.



## 4.1 Top hat section



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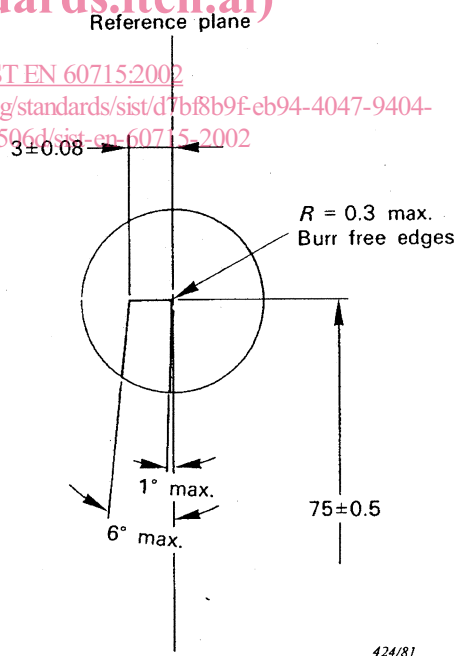
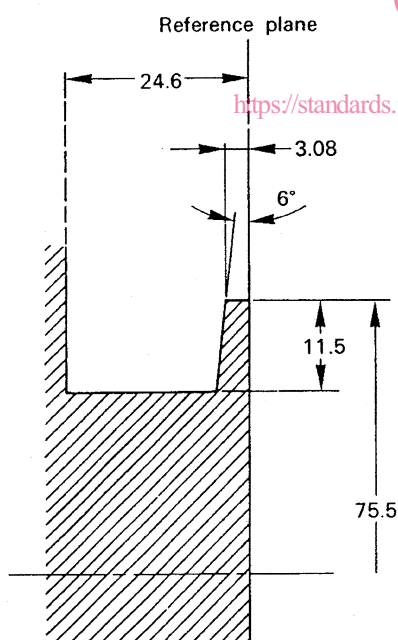
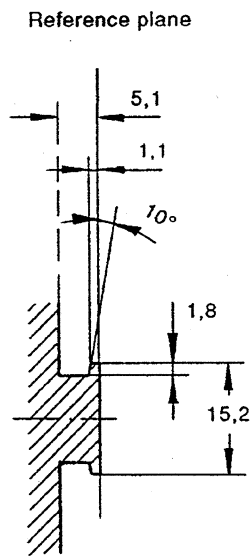


FIGURE 1

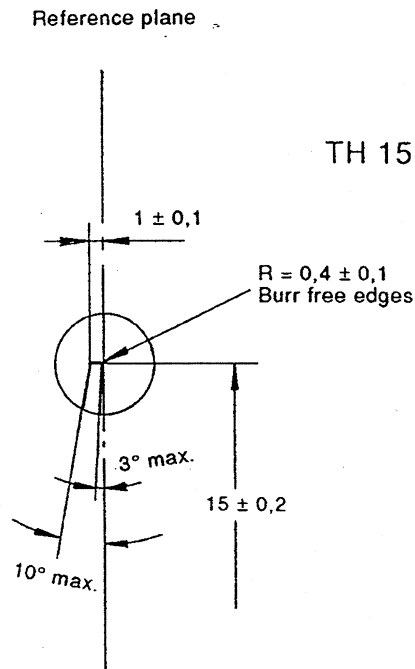
FIGURE 2

The reference plane is a plane touching the front of the rail.



IEC 874/95

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 Figure 1 (standards.iteh.ai)



IEC 875/95

Figure 2

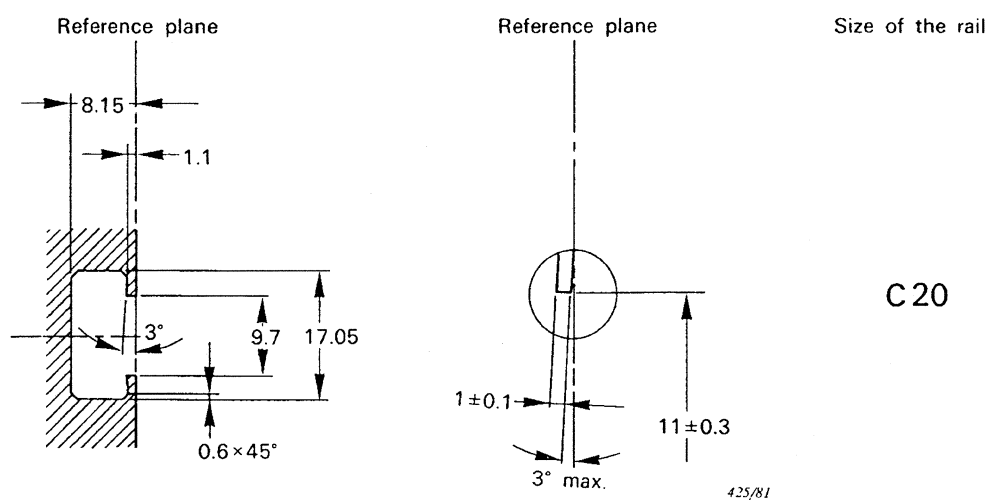
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In Figure 1, page 11, the cross-hatched area shows the maximum space available for the rail, its supporting structure and fixing means. The remaining space is the maximum space which can be counted on as available for the equipment to be mounted on the rails.

Figure 2, page 11, shows magnified details of the edge of the rails, including the manufacturing tolerances. The rails are symmetrical within the given tolerances. The angular tolerances indicated are one-sided and shall remain between zero and the values indicated. They include design tolerances.

## 4.2 "C" section



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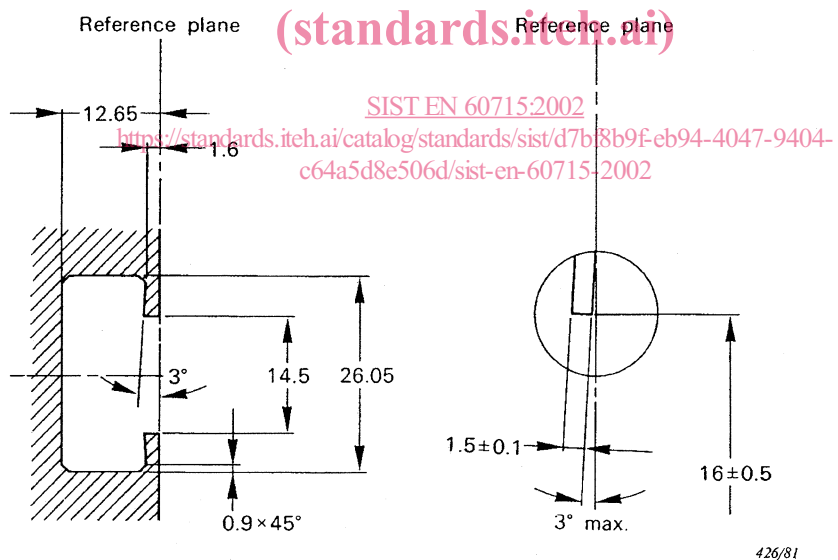


FIGURE 3

FIGURE 4