



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS C 2812 : 1998

Mounting rails for devices

ICS 29.120.260

Descriptors : rails, fitting, electrical equipment, switchgear

Reference number : JIS C 2812 : 1998 (E)

C 2812:1998

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS C 2812:1988** is replaced with **JIS C 2812:1998**.

In this revision, conformance of provisions between **JIS C 2812** and **IEC 60715** was taken into consideration.

Date of Establishment: 1988-12-01

Date of Revision: 1998-03-20

Date of Public Notice in Official Gazette: 1998-03-20

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Electricity

JIS C 2812:1998, First English edition published in 1999-03

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Printed in Japan

Mounting rails for devices

Introduction This Japanese Industrial Standard has been prepared based on **IEC 60715** *Dimensions of low-voltage switchgear and controlgear—Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations* published in 1981 as the first edition and **Amendment 1** (1995), without any modification in technical contents.

The portions underlined with dotted lines show the matters not given in the corresponding International Standard.

1 Scope This Japanese Industrial Standard specifies mounting rails for such electrical devices as relays, contactors, switches and industrial terminal blocks to be used at voltages not exceeding 1 000 V a.c. or 1 500 V d.c. (hereafter referred to as “rails”).

The rails dealt with here are mainly used for mechanical support of electrical devices inside switchgear, controlgear, etc., and are not applicable to the use intended for current carrying.

Remarks : The standard given below is the International Standard corresponding to this Standard.

IEC 60715 : 1981	<i>Dimensions of low-voltage switchgear and</i>
Amendment 1 : 1995	<i>controlgear—Standardized mounting on rails for</i>
	<i>mechanical support of electrical devices in</i>
	<i>switchgear and controlgear installations</i>

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated below shall be applied.

JIS B 7502 Micrometer callipers

JIS B 7503 Dial gauges

JIS B 7507 Vernier, dial and digital callipers

JIS B 7524 Feeler gauges

JIS G 3141 Cold-reduced carbon steel sheets and strip

JIS H 0401 Methods of test for hot dip galvanized coatings

JIS H 4100 Aluminium and aluminium alloy extruded shapes

JIS Z 2371 Methods of neutral salt spray testing

3 Classification and symbolization The rails are classified according to the shapes of section, and the classes and symbols shall be as given in Table 1. Further, dimensional classification by width and height of Table 2 and classification by material of Table 3 are provided.

The type designation shall be formed by arranging the appropriate symbols in Tables 1 to 3.

Example : TH 35-7.5 Fe

Table 1 Class and symbol

Classification	Symbol	Shape of section
Top hat section rail	TH	
C section rail	C	
G section rail	G	

Table 2 Classification by width and height

Classification by shape of section	Classification symbol by width and height
Top hat section	15-5.5
	35-7.5
	35-15
	75-25
C section	20
	30
	40
	50
G section	32

Remarks : For C section and G section rail classification by width is employed.

Table 3 Classification by material

Classification by material	Symbol
Steel	Fe
Aluminium	Al

4 Performances

4.1 Resistance to corrosion The resistance to corrosion shall comply with the following requirement.

- a) **Galvanization** For the resistance to corrosion of galvanized metal (excluding electrically galvanized and then chromated ones), the reaction on the surface shall not reach the end point when the test is carried out in accordance with 8.3 a).

- b) **Chromate treatment** For the resistance to corrosion of metals electrically galvanized and then chromated, no white corrosion product shall be produced on the surface when the test is carried out in accordance with 8.3 b).
- c) **Rust preventive treatment other than galvanization** For the resistance to corrosion of metals treated deterrent to rusting other than galvanized one, no blister, peeling nor rust shall appear on the surface when the test is carried out in accordance with 8.3 c).

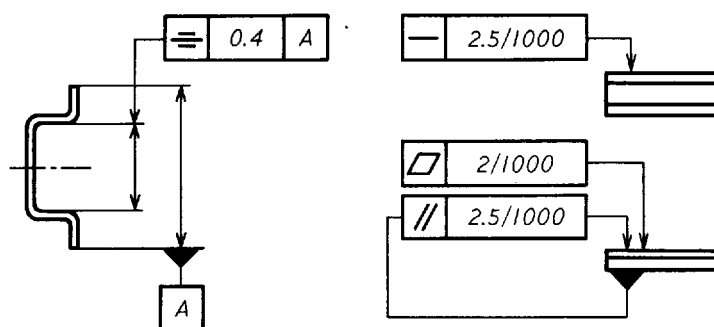
4.2 Resistance to loading When the test for resistance to loading is carried out as specified in 8.4, the amount of deformation due to deflection shall not exceed 3 mm and no deformation detrimental to service shall appear.

This sub-clause is not applicable to resistance to loading of aluminum rails and rails of TH75-25, C40, C50 and G sections.

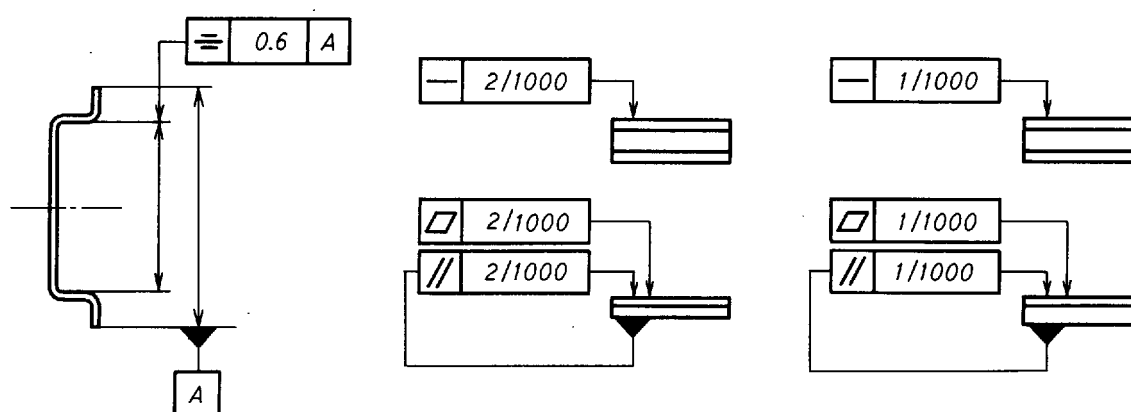
5 Appearance The appearance shall comply with the following requirements:

- a) The rails shall be free from scratch, rust, burr, crack and other defects detrimental to service.
- b) The symmetry ($\equiv$), straightness ($-$), flatness ($\square$) and parallelism ($//$) of top hat section, C section and G section shall be as shown in Fig. 1, Fig. 2 and Fig. 3 respectively.

4
C 2812 : 1998

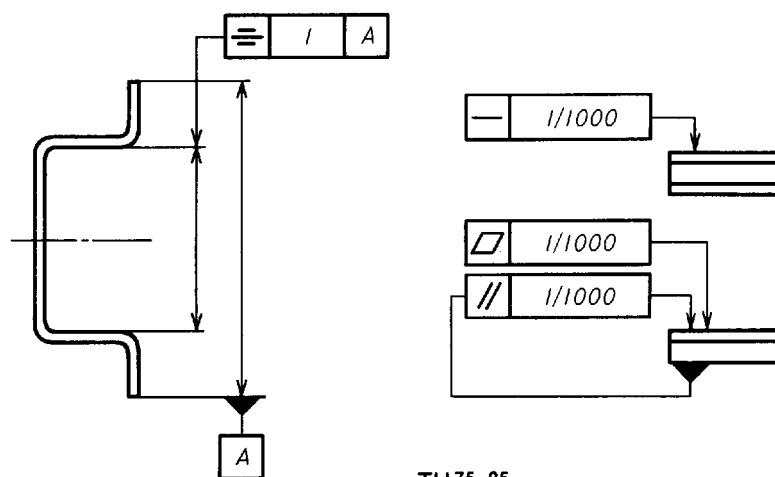


TH15-5.5



TH35-7.5

TH35-15



TH75-25

Fig. 1 Symmetry, straightness, flatness and parallelism of top hat section

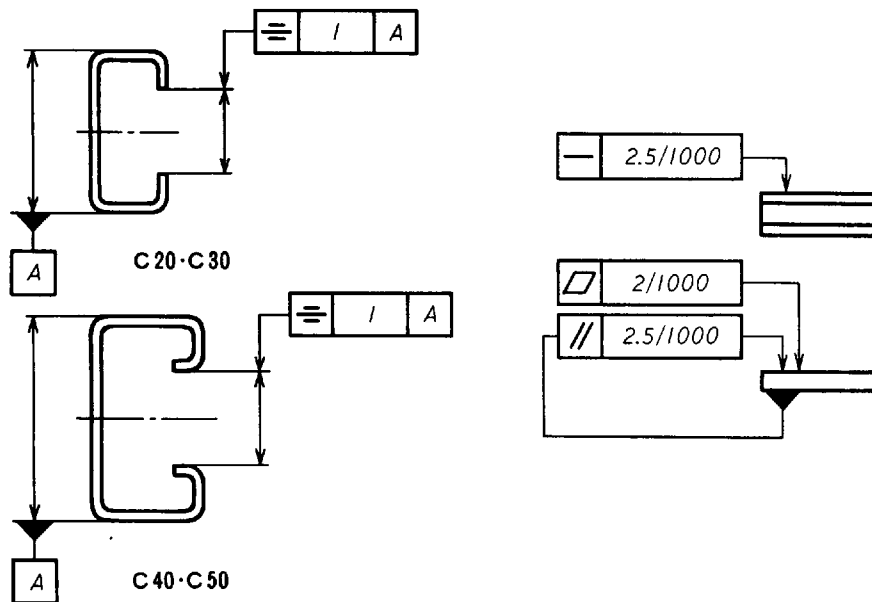


Fig. 2 Symmetry, straightness, flatness and parallelism of C section

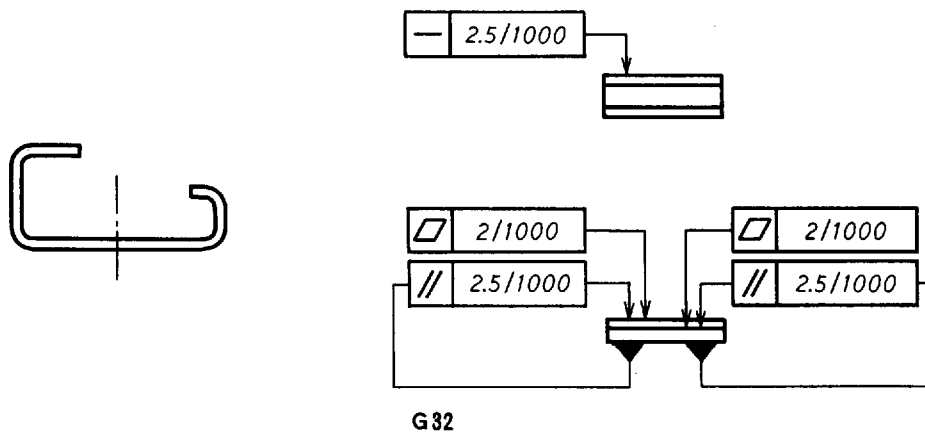


Fig. 3 Straightness, flatness and parallelism of G section

6 Dimensions

6.1 Top hat section rail The dimensions of top hat section rails shall be as given in Table 4.