IS 11817 (1986): Classification of joints in buildings for accommodation of dimensional deviations during construction (ISO 7727-1984) [CED 13: Building Construction Practices including Painting, Varnishing and Allied Finishing]

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IS : 11817 - 1986
ISO 7727 - 1984

(Reaffirmed 2002)

Indian Standard

CLASSIFICATION OF JOINTS IN BUILDINGS FOR ACCOMMODATION OF DIMENSIONAL DEVIATIONS DURING CONSTRUCTION

(ISO Title : Joints in Building — Principles for Jointing of Building Components — Accommodation of Dimensional Deviations During Construction)

Building Construction Practices Sectional Committee, BDC 13 [Ref : Doc : BDC 13 (4301)]

National Foreword

This Indian Standard which is identical with ISO 7727-1984 'Joints in building — Principles for jointing of building components — Accommodation of dimensional deviations during construction' issued by the International Organization for Standardization (ISO), was adopted by the Indian Standards Institution on the recommendation of the Building Construction Practices Sectional Committee and approval of the Civil Engineering Division Council.

Wherever the words 'International Standard' appear, referring to this standard, they shall be read as 'Indian Standard'.

In clause **6** of this standard, please read IS : 11817 in place of ISO 7727.

Cross Reference

In this Indian Standard, the following International Standard is referred to. Read in place the following:

International Standard	*Corresponding Indian Standard*
ISO 2444-1974 Joints in building — Vocabulary	IS : 10957-1984 Glossary of terms applicable for joints in buildings (Identical)

In this standard, the following International Standards are also referred to for which there are no identical/equivalent Indian Standards:

ISO 1803 Tolerances for buildings — Vocabulary

ISO 2445 Joints in building — Fundamental principle for design

The technical committee responsible for the preparation of this standard has reviewed the provisions of the above ISO Standards and has decided that they are acceptable for use in conjunction with this standard.

Adopted 27 January 1986

Gr 3

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0 Introduction

This International Standard is one of a series dealing with general rules and principles for the jointing of building components.

1 Scope and field of application

This International Standard establishes a classification system for joints in building based on the ability of joints to accommodate dimensional deviations during construction.

Examples of types of joints are given in an annex, as an aid to the understanding of the principles involved.

2 References

ISO 1803, *Tolerances for building — Vocabulary.*

ISO 2444, *Joints in building — Vocabulary.*

ISO 2445, *Joints in building — Fundamental principles for design.*

3 Definitions

For the purpose of this International Standard, the definitions given in ISO 1803 and ISO 2444 apply.

4 Joints and dimensional deviations

As a general rule, the sizes of building components should not be adjusted during or after assembly. The dimensional deviations which are inherent in the components, the dimensional deviations which occur during manufacture or assembly, and the deviations which result from movement (for example, settlement or thermal movement) in the building, shall, therefore, be absorbed in the joints.

Given the scope, this International Standard takes into consideration only the dimensional deviations inherent in the components when they are assembled and those which occur during assembly.

5 Classification

Three types of joints are specified, grouped according to their ability to accommodate dimensional deviations[1] (see figure 1).

5.1 Joints type 1

These are joints that can satisfactorily absorb all dimensional deviations in connection with a given component, in the joints around the component.

5.2 Joints type 2

These are joints which can absorb dimensional deviations to a limited extent.

1) Limit values between categories should be fixed according to the components to be assembled.

5.3 Joints type 3

These are joints which cannot absorb dimensional deviations without being functionally impaired.

6 Designation

Joints shall be designated by type and the number of this International Standard.

Example:

Joint type 2, ISO 7727.

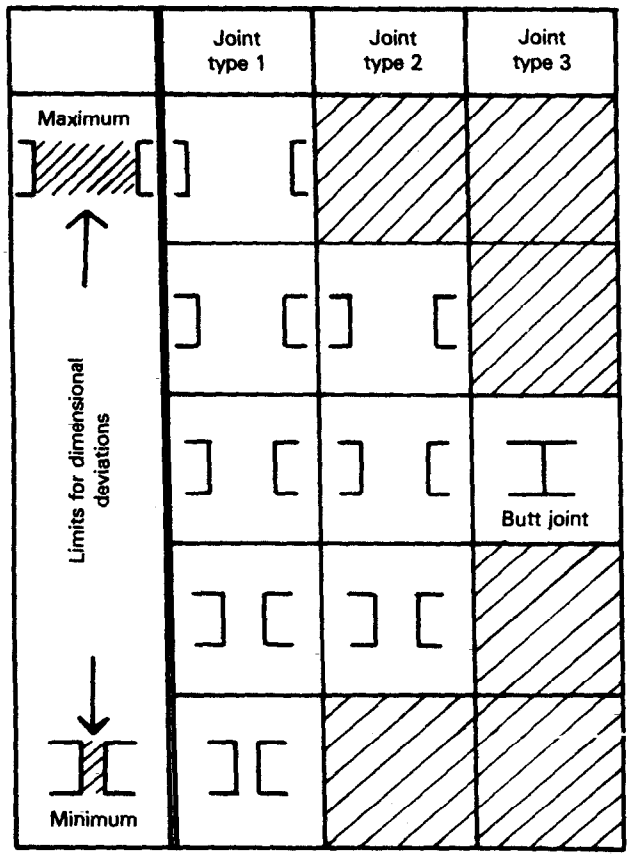

Figure 1

Annex

Examples of types of joints

(This annex does not form part of the standard.)

A.0 Introduction

The examples in this annex are derived mostly from *Some notes on Geometry of Joints for Building,* Second Revised Edition, CIB W 24, where further examples are given.

If joints of types 2 or 3 are chosen, which may result in the accumulation of unacceptably large dimensional deviations, measures should be taken to limit each dimensional deviation. For this purpose, more stringent requirements for tolerances, or special design solutions, such as partial use of joints type 1, may be used.

A.1 Joints type 1

A.1.1 See figure 2.

The adjustability of the bolt and the nut combines with the height of the joint to allow absorption of greater dimensional deviations than those normally occurring with this type of assembly.

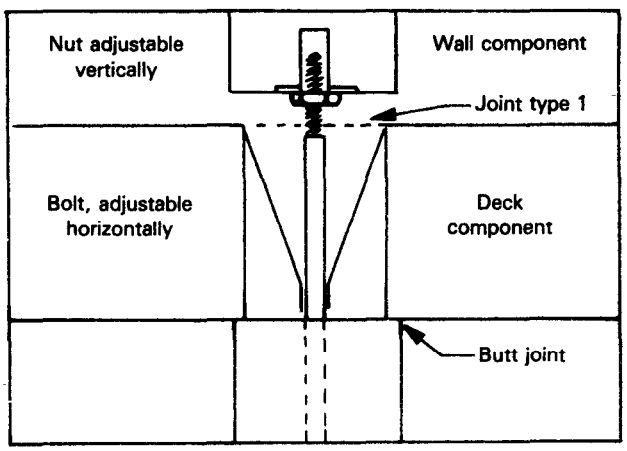

Figure 2

A.1.2 See figure 3.

The "sliding attachment" is available as a standard solution for an equipment system. The range of adjustability in the horizontal plane allows for absorption of greater dimensional deviations than those normally occurring. The assembly also functions in case of walls which are out of plumb.

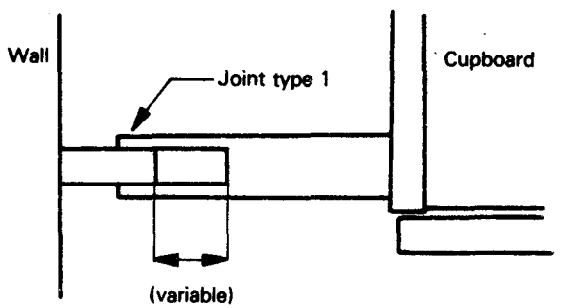

Figure 3

A.2 Joints type 2

A.2 1 See figure 4.

Mortar joints in brickwork can to some extent compensate for fired bricks being of inaccurate sizes. There are, however, limits to how narrow, or wide, mortar joints should be made.

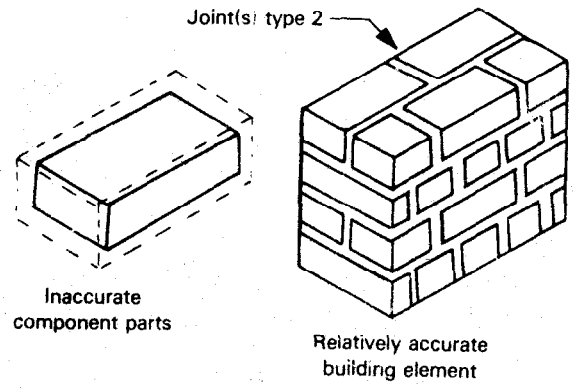

Figure 4

A.2.2 See figure 5.

Joints with gaskets or sealants can absorb some dimensional deviations, but, as a rule, there are limits to how much such jointing products can be compressed or "stretched"

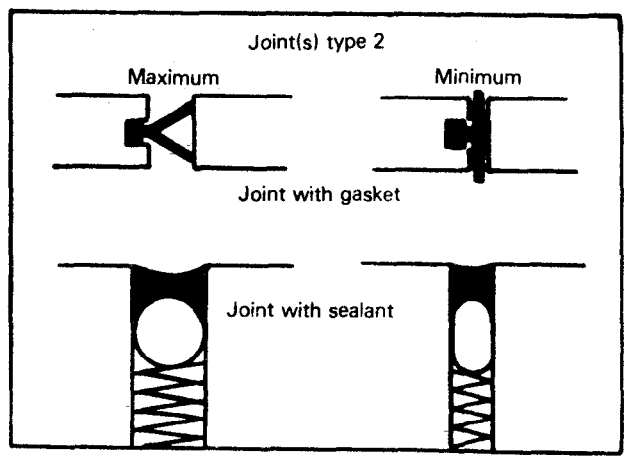

Figure 5

A.3 Joints type 3

A.3.1 See figure 6.

As a rule, wooden floor boards are joined together with a tongue and groove joint, part of which is detailed as a butt joint. Dimensional deviations in the width of the floor boards cannot, therefore, be absorbed in the individual joints.

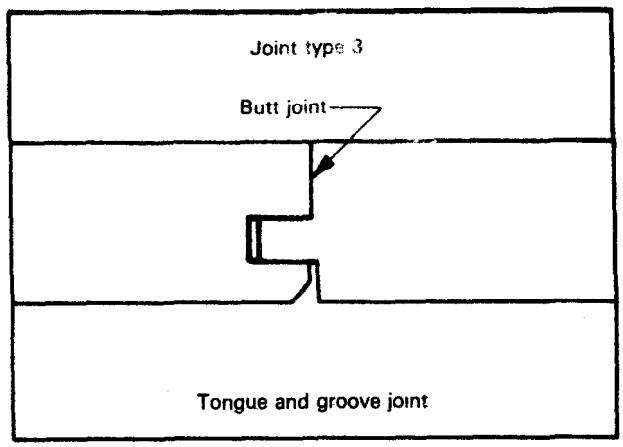

Figure 6

A.3.2 See figure 7.

Kitchen cupboard components are often joined together with butt joints. As the cupboard components are frail and, as a rule, highly finished, accumulated dimensional deviations must be absorbed in the joints between the row of kitchen cupboards and the walls.

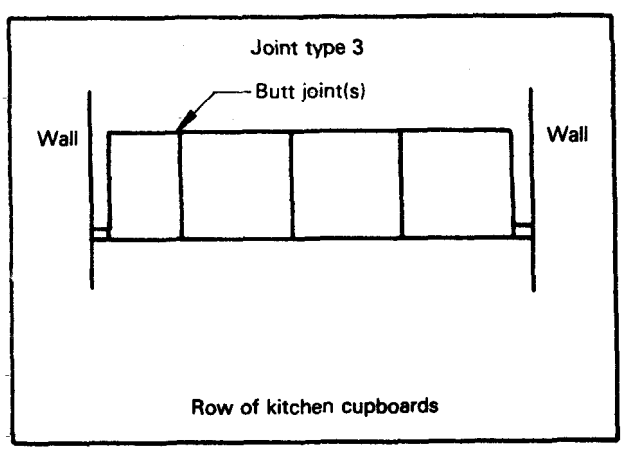

Figure 7