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# International Standard



# 7727

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## **Joints in building — Principles for jointing of building components — Accommodation of dimensional deviations during construction**

*Joints dans le bâtiment — Principes de jonction des composants de bâtiment — Aptitude des joints à s'accommoder des écarts dimensionnels en cours de construction*

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Descriptors : buildings, joints, dimensional deviations, designation.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7727 was prepared by Technical Committee ISO/TC 59, *Building construction*.

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# Joists in building — Principles for jointing of building components — Accommodation of dimensional deviations during construction

## 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, *Joists in building — Vocabulary*.

ISO 2445, *Joists 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<sup>1)</sup> (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.

	Joint type 1	Joint type 2	Joint type 3
Maximum			
Limits for dimensional deviations			
Minimum			

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.

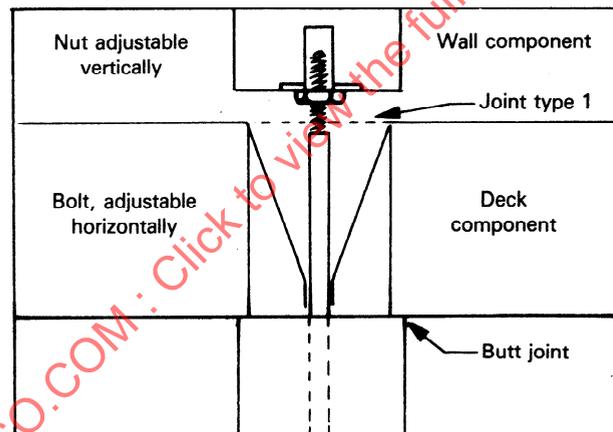


Figure 2

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.

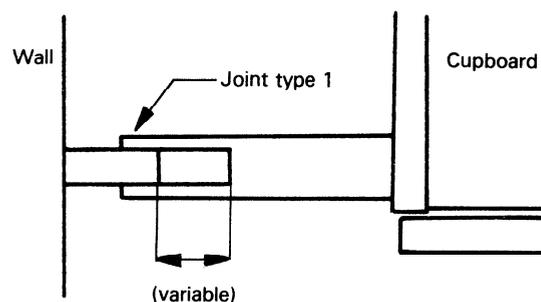


Figure 3

## 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.

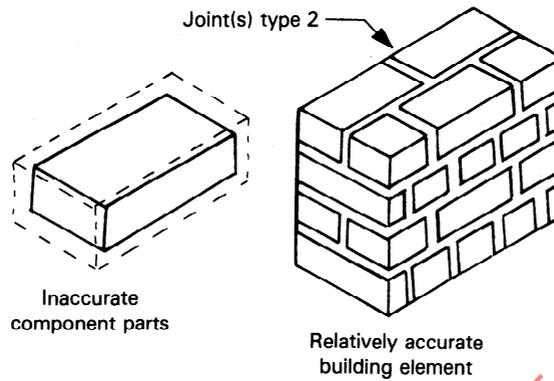


Figure 4

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".

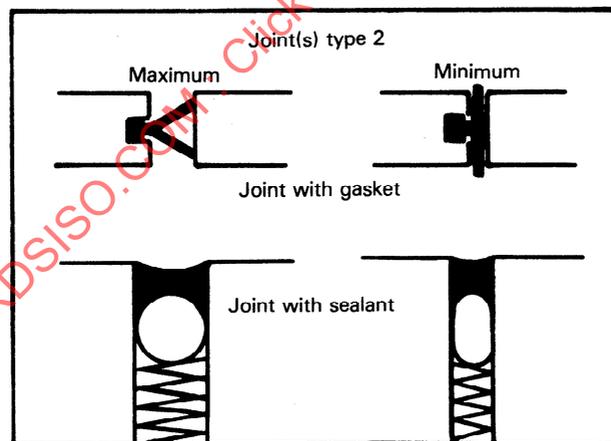


Figure 5