

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10958 (1984): General check list of functions of joints in building (ISO 3447-1975) [CED 13: Building Construction Practices including Painting, Varnishing and Allied Finishing]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard***GENERAL CHECK LIST OF FUNCTIONS OF  
JOINTS IN BUILDING****( ISO Title : Joints in Building — General Check-List of  
Joint Functions )****National Foreword**

This Indian Standard which is identical with ISO 3447-1975 'Joints in building — General check-list of joint functions', 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, it should be read as 'Indian Standard'.

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard gives a general check-list of functions of joints<sup>1)</sup> in building for use in their design.

## 2 METHOD OF USE OF THE CHECK-LIST

The initial stage in the design of a joint is to determine the conditions applying to it. The next stage is to identify the functions it has in consequence to perform, both those relating to the functions of the joined components and those resulting from the presence of the joint as such. While some functions will be obviously relevant in any particular situation in a building, it is necessary for all criteria to be considered if the design is to be complete. Failure in the performance of only one required function may produce a failure of the joint.

The identification of the range of functions that must be satisfied is simplified if the designer can check against a general list covering the great majority of considerations in the selection of a jointing technique. This International Standard provides such a general list in which functions are grouped under design aspects. Any one joint will be required to satisfy a selection of functions only. However, as the list cannot be comprehensive, the designer may have to identify additional functions applying in a specific situation.

It is in the synthesis of a design for a joint that the interrelationship between joint functions becomes apparent, as one part of the joint may have to perform several functions and, moreover, may impede or prevent the achievement of others.

## 3 GENERAL CHECK-LIST OF JOINT FUNCTIONS, GROUPED UNDER DESIGN ASPECTS

### 3.1 Environmental factors

- A1 To control passage of insects and vermin
- A2 To control passage of plants, leaves, roots, seeds and pollen

- A3 To control passage of dust and inorganic particles
- A4 To control passage of heat
- A5 To control passage of sound
- A6 To control passage of light
- A7 To control passage of radiation
- A8 To control passage of air and other gases
- A9 To control passage of odours
- A10 To control passage of water, snow and ice
- A11 To control passage of water vapour
- A12 To control condensation
- A13 To control generation of sound
- A14 To control generation of odours

### 3.2 Capacity to withstand stress<sup>2)</sup>

To resist stress in one or more direction due to :

- B1 compression
- B2 tension
- B3 bending
- B4 shear
- B5 torsion
- B6 vibrations (or any other type of stress which may induce fatigue)
- B7 impact
- B8 abrasion (indicate, for each particular case, the type of wear)
- B9 shrinkage or expansion
- B10 creep
- B11 dilation or contraction due to temperature variations

1) See ISO 2444, first part of the definition :

The construction formed by the adjacent parts of two or more building products, components or assemblies, when these are put together, fixed or united with or without the use of a jointing products.

2) Either during or after assembly.

### 3.3 Safety

- C1 To control passage of fire, smoke, gases, radiation and radioactive materials
- C2 To control sudden positive or negative pressures due to explosion or atmospheric factors
- C3 To avoid generation of toxic gases and fumes in case of fire
- C4 To avoid harbouring or proliferation of dangerous micro-organisms

### 3.4 Accommodation of dimensional deviations

- D1 To accommodate variations in the sizes of the joint at assembly due to deviations in the sizes and positions of the joined components (induced deviations)
- D2 To accommodate continuing changes in the sizes of the joint due to thermal, moisture and structural movement, vibration and creep (inherent deviations)

### 3.5 Fixing of components

- E1 To support joined components in one or more directions
- E2 To resist differential deformation of joined components
- E3 To permit operation of movable components

### 3.6 Appearance

- F1 To have acceptable appearance
- F2 To avoid promotion of plant growth
- F3 To avoid discoloration due to biological, physical or chemical action
- F4 To avoid all or part of the internal structure showing
- F5 To avoid dust collection

### 3.7 Economics

- G1 To have known first cost
- G2 To have known depreciation
- G3 To have known maintenance and/or replacement costs

### 3.8 Durability

- H1 To have specified minimum life, taking into account cyclic factors
- H2 To resist damage or unauthorized dismantling by man

- H3 To resist action of animals and insects
- H4 To resist action of plants and micro-organisms
- H5 To resist action of water, water vapour or aqueous solutions or suspensions
- H6 To resist action of polluted air
- H7 To resist action of light
- H8 To resist action of radiation (other than radiation of light)
- H9 To resist action of freezing of water
- H10 To resist action of extremes of temperatures
- H11 To resist action of airborne or structure-borne vibration, shock waves or high-intensity sound
- H12 To resist action of acids, alkalis, oils, fats and solvents
- H13 To resist abrasive action

### 3.9 Maintenance

- J1 To permit partial or complete dismantling and reassembly
- J2 To permit replacement of decayed jointing products

### 3.10 Ambient conditions

- K1 To perform required functions over a specified range of temperatures
- K2 To perform required functions over a specified range of atmospheric humidity
- K3 To perform required functions over a specified range of air or liquid pressure differentials
- K4 To perform required functions over a specified range of joint clearance variations
- K5 To exclude from the joint if performance would be impaired :
  - a) insects
  - b) plants
  - c) micro-organisms
  - d) water
  - e) ice
  - f) snow
  - g) polluted air
  - h) solid matter
- K6 To perform required functions over a specified range of driving rain volume