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मानक

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IS 13416-1 (1992): Recommendations for preventive measures against hazards at workplaces, Part 1: Falling material hazards prevention [CED 29: Construction Management including safety in Construction]



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भारतीय मानक

कार्यस्थलों पर खतरों के विरुद्ध एहतियाती उपाय —
सिफारिशें

भाग 1 गिरने वाली सामग्री से जोखिम निवारण

Indian Standard

**PREVENTIVE MEASURES AGAINST HAZARDS
AT WORKPLACES — RECOMMENDATIONS**

PART 1 FALLING MATERIAL HAZARDS PREVENTION

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FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by Safety in Construction Sectional Committee had been approved by the Civil Engineering Division Council.

Many accidents are caused by fall of materials, tools and equipments at construction sites. To prevent fatalities/injuries, dislocation and delay of work and financial loss, it is necessary to prevent fall of materials. Therefore, causes of falling of materials have to be studied and analysed and suitable remedial measures have to be taken to prevent their fall.

*Indian Standard***PREVENTIVE MEASURES AGAINST HAZARDS
AT WORKPLACES — RECOMMENDATIONS****PART 1 FALLING MATERIAL HAZARDS PREVENTION****1 SCOPE**

1.1 This standard (Part 1) lays down the causes and places of falling materials and the measures to be taken at worksites to prevent their falling.

2 FALL OF MATERIALS

2.1 Some of the places from where construction materials, tools and equipments are likely to fall at construction worksites and their probable causes are as follows :

- a) From scaffolds during erection, alteration or dismantling of a structure;
- b) Failure of scaffolds fully or partly;
- c) Failure of working platform, gangway, trestles or scaffolds;
- d) Fall from cradles, chairs, skips, etc;
- e) From ladders;
- f) Through opening in floors or walls or from down stairway;
- g) Through fragile roofing materials;
- h) From sloping roofs, and unguarded flat roofs;
- j) From building structures under demolition;
- k) From structural frame work during erection;
- m) From within excavation areas;
- n) From hoists; and
- p) From trucks while unloading materials.

2.2 Improperly stacked or transported construction or dismantled materials are often the sources for fall of materials at construction worksites.

**3 FALLING MATERIALS HAZARDS
PREVENTION AND PROTECTION**

3.1 It shall be ensured that scaffolds, platforms, gangways, trestles, ladders, centring and shuttering materials, etc, are strong and properly designed.

3.2 Stacking of materials at worksite and working platforms shall be done properly.

3.3 Railings and barricades shall be provided at all vulnerable places.

3.4 Walkways, stairs, etc, shall be kept clear, clean and well lit, naturally or artificially.

3.5 Tools, stackles and plants shall be maintained in good working conditions.

3.6 Falling material hazards shall be prevented by means of safety nets, coverings to walkways, by barricading the area, etc.

3.7 The risks involved with falling materials may also be reduced by channelling traffic or personnel to routes where materials are less likely to fall.

3.8 Tool boxes shall be provided to reduce chances of fall of tools.

3.9 Excavated and other materials shall be kept away from edges of trenches. During night time lights should be provided at intervals.

3.10 Materials and tools should be properly lowered in trenches. No material should be thrown.

3.11 Small tools may also be chained to belts of workmen to prevent their fall from heights due to slipping from hands.

3.12 Discarding of waste materials by throwing down the sides of the building shall be prohibited. The provision of refuse chutes for small items and the use of lifting equipment to remove large ones should be adequately notified and enforced. The use of cleaning teams working after work hours should reduce potential hazards.

3.13 Where there is a danger of collapse of structures, steps should be taken to provide temporary support and barricade the unsafe zone until repairs are made.

3.14 Suitable personal protective equipment of approved quality shall be worn at construction worksites.

3.15 Planks of working platforms shall be kept close to each other to avoid gaps in-between the planks.

3.16 All the exposed side edges of platforms shall be provided with toe boards to prevent falling of loose materials.

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