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INTRODUCTION

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Door - is an open able barrier secured in a wall opening and is provided to give access, protection, safety and privacy to the inside of a room of a building.

- ✓ It serves a connecting link b/n the various internal portions of a building.
- ✓ Basically a door consists of two parts
 - i. Door frame
 - ii. Door shutter

INTRODUCTION

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Window - is a vented barrier secured in a wall opening.

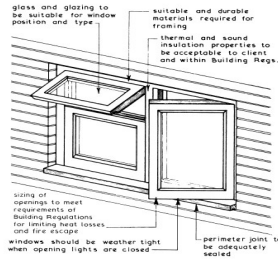
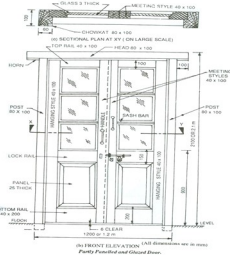
Function of a window is to:

- ✓ Admit light and air to the building,
- ✓ Give a view to the outside,
- ✓ Provide insulation against heat loss, and
- ✓ Give a measure of resistance to fire.

INTRODUCTION

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- A window also consists of two parts
 - i. **Window frame** secured to the wall opening with the help of hold fasts
 - ii. **Window shutter** held in position by the window frame.



LOCATION OF DOORS AND WINDOWS

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- The following points should be kept in view while locating doors and windows.
 - ✓ The number of doors in a room should be kept minimum
 - ✓ The location of door should meet functional requirements of a room.
 - A door should preferably be located near the corner of a room –nearly 20cm away from the corner.
 - ✓ If there are two doors in a room, the doors should preferably be located in opposite walls facing each other, so as to provide good ventilation.
 - ✓ A window should be located in opposite wall, facing a door or another window for cross ventilation.
 - ✓ From the point of view of fresh air, a window should be located in the prevalent direction of wind.
 - ✓ The sill of window should be located about 70-80 cm about the floor level of the room.

DEFINITION OF TECHNICAL TERMS

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The following are the technical terms applied to doors and windows

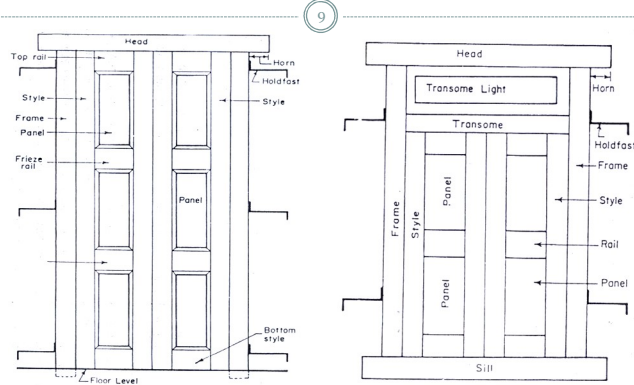
- **Frame:** It is an assembly of horizontal and vertical members, forming an enclosure, to which the shutters are fixed.
- **Shutters:** these are open able parts of a door or window . It is an assembly of styles, panels and rails.
- **Head:** this is the top or uppermost horizontal part of a frame.
- **Sill:** this is the lowermost or bottom horizontal part of a window frame.
- **Horn:** these are the horizontal projections of the head and sill of a frame to facilitate the fixing of the frame on wall opening.
- **Style:** the vertical outside member of the shutter of the door or window.
- **Top rail:** this is the top most horizontal member of a shutter.

DEFINITION OF TECHNICAL TERMS

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- **Lock rail:** The middle horizontal member of a door shutter, to which locking arrangement is fixed.
- **Bottom rail:** the lower most horizontal member of a shutter.
- **Intermediate or cross rails:** additional horizontal rails, fixed b/n the top and bottom rails of a shutter.
- **Panel:** this is the area of shutter enclosed b/n the adjacent rails.
- **Mullion:** vertical member of a frame, which is employed to sub-divide a window or a door vertically.
- **Transom:** Horizontal member of a frame, which is employed to subdivide a window opening horizontally.
- **Hold fasts:** mild steel flats generally bent into Z shape, to fix or hold the frame to the opening.

DEFINITION OF TECHNICAL TERMS



SIZE OF DOORS & WINDOW

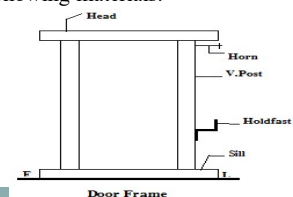
- ❑ The size of the door should allow the movement of largest object or tallest person likely to use the door.
- ❑ As, a rule the height of a door should not be less than 1.8-2.0 m.
- ❑ The width of the door should be such that two persons can pass through it walking shoulder to shoulder.
- ❑ The common width height relations are:
 - ✓ Width = 0.4 to 0.6 height
 - ✓ Height = (width + 1.2) meters.

SIZE OF DOORS & WINDOW

- ❑ The following are the generally adopted size of doors for various type of buildings Doors of residential building
 - Ex. door: 0.9-1.2m W and 2-2.1m H In. door: 0.8-0.9m W and 2-2.1m H
 - Bath room: 0.7-0.8m W and 2-2.1m H Garages : 2.25-2.4m W and 2-2.25m H
- ❑ In general, the window size should be based on total floor area of the room. The area of window is 10% to 20% of room floor area.
 - In hot and dry climate, window opening area varies from 10% to 15%.
 - In case of hot and humidity regions, window opening should be 15% to 20% of the floor area.

DOOR & WINDOW FRAMES

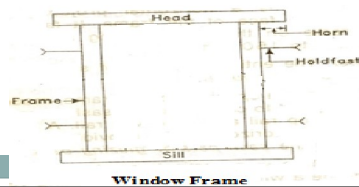
- ❑ A door frame is an assembly of horizontal and vertical members forming an enclosure, to which door shutters are fixed.
- ❑ The vertical members, one at each side, are known as **posts** while the horizontal top member connecting the posts is called head & at the bottom called sill.
- ❑ Door frames are made of the following materials:
 - Timber
 - Steel section
 - Aluminum sections
 - Concrete, and
 - Stone



DOOR & WINDOW FRAMES

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- A window frame is an assembly of horizontal and vertical members forming an enclosure, to which window shutters are fixed.
- *Window Frame* is made of two vertical member called as styles and the horizontal member connecting the styles at top called as head and at the bottom is called as sill.
- window frames are made of the following materials:
 - Timber
 - Steel section
 - Aluminum sections
 - Concrete, and
 - Stone



TYPES OF DOORS

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Classification based on types of material used

Wooden doors
Glazed doors
Plywood doors
Plastic doors
Metal doors

Classification based on working operation

Revolving doors
Sliding doors
Swing doors
Folding doors
Collapsible doors

Classification based on method or manner of construction

Framed and panelled doors
Glazed or sash doors
Flush doors
Louvered doors
Wire-gauged doors

Classification based on arrangement of components

Battened and ledged doors
Battened, legged and braced doors
Battened, legged and frame doors
Legged, braced and framed doors.

TYPES OF WINDOW

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- Windows are classified in to different types based up on the type of materials used, arrangement of different window components, and method of construction and nature of operation. Windows are broadly classified in to;
 - *Fixed Window*
 - *Pivoted Window*
 - *Double Hung Window*
 - *Casement Window*
 - *Louvered Window*
 - *Bay Window*

TYPES OF WINDOW

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