CONSTRUCTION TECHNOLOGY 1

SEMINAR

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Question 4

YOU ARE APPOINTED AS A CONSULTANT FOR A PROPOSED DOUBLE STOREY LINK HOUSE PROJECT AND HAVE TO ADVISE YOUR CLIENT REGARDING WINDOW, DOORS AND IRONMONGERIES THAT ARE SUITABLE TO BE INSTALLED.

A

Explain the differences between **hollow core flush door**, s**olid timber door** and **glazed door** together with TWO advantages and TWO disadvantages for each type of door.

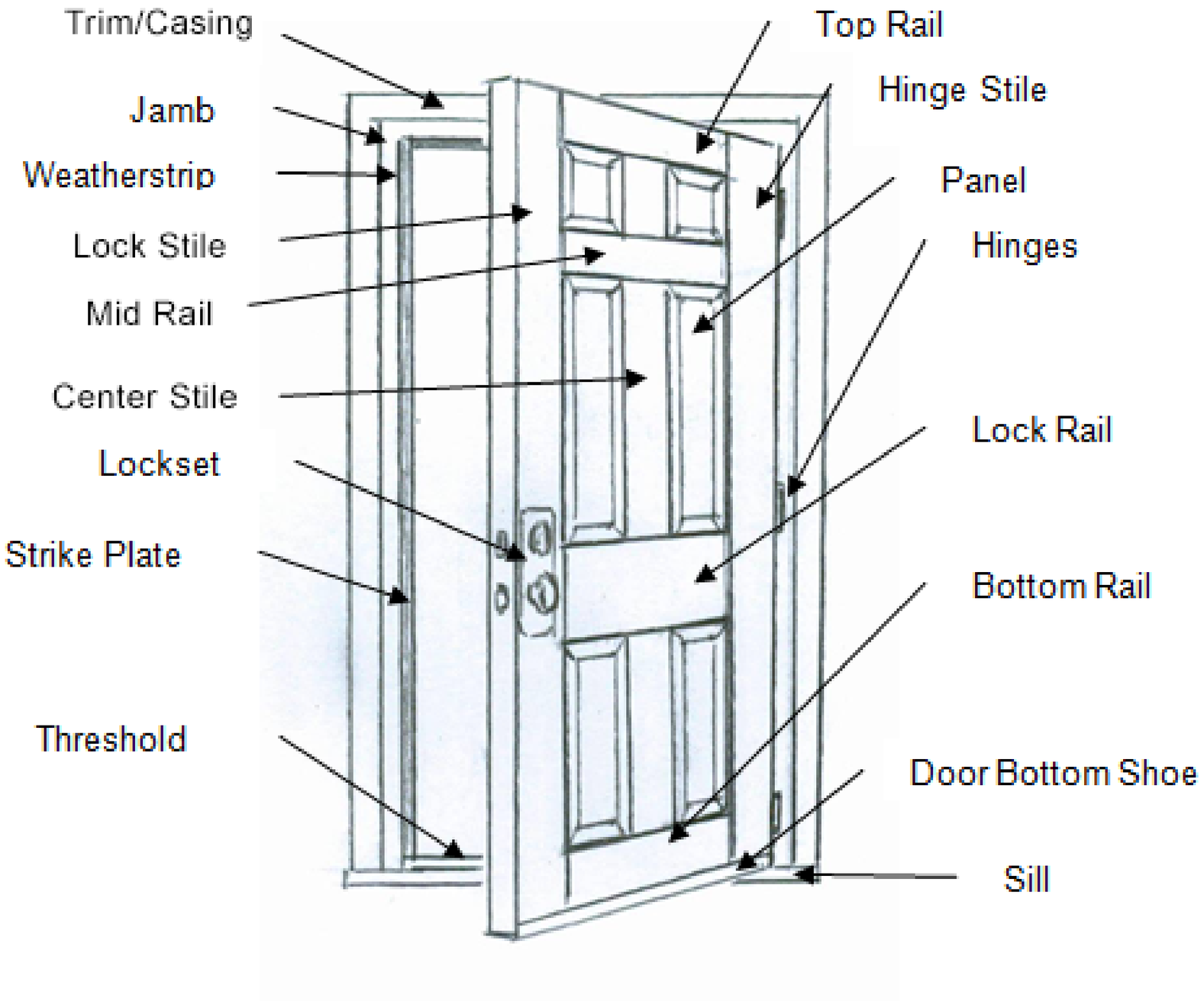
B

There are two types of **casement windows** used to improve building design. Explain the differences between both types.

A.

DOORS

Components of Door



BASIC SIZE OF DOOR

External Door

1.0 m x 2.0 m
to
1.1 m x 2.0 m

Internal Door

0.9 m x 2.0 m
to
1 m x 2.0 m

Bathroom

0.7m x 2.0 m
to
0.8m x 2.0 m

PURPOSE

1. Provide access to the inside of a building or rooms of a building.

2. To serve as a connection link between the internal parts and to allow free movement to the outside of the building.

3. Provides lighting and ventilation to various rooms in the house.

FUNCTIONAL REQUIREMENTS

-Privacy and security
- Safety
- Ventilation and light
- Strength and stability
- Climate control
- Prevent spreading of fire
- Barrier to noise
- Durability

HOLLOW CORE FLUSH DOOR

- Used for : Bathroom doors

Cross Section of Hollow Door

Advantages & Disadvantages

ADVANTAGES

Relatively cheap in cost

Light in weight that can be easily handled and equipped

DISADVANTAGES

Not as strong as solid core flush door

Poor at blocking sound

IRONMONGERIES

Knob

Tower Bolt

SOLID TIMBER DOOR

- Used for : Main door (security), Bedroom doors (noise insulation)

Cross Section of Solid Timber Door

Advantages & Disadvantages

ADVANTAGES

Effective insulator against sound/noise.

Durable

DISADVANTAGES

Very expensive

Heavy and easily damaged during installation

IRONMONGERIES

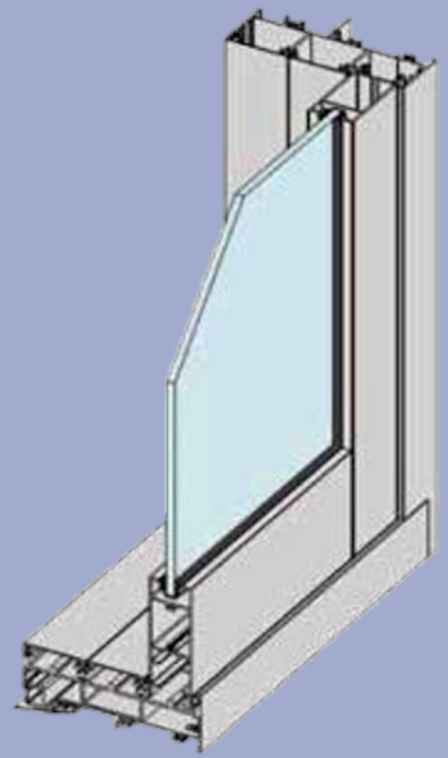
Heavy/medium duty mortise type lock

GLAZED DOOR

Cross Section of Glazed Door

GLAZED DOOR

- Used for : Shower cubicle



Cross Section of Hollow Door

Advantages & Disadvantages

ADVANTAGES

Allow lights to pass through

Will not rust, corrode, warp or come off easily

DISADVANTAGES

Poor insulation

Easily broken

IRONMONGERIES

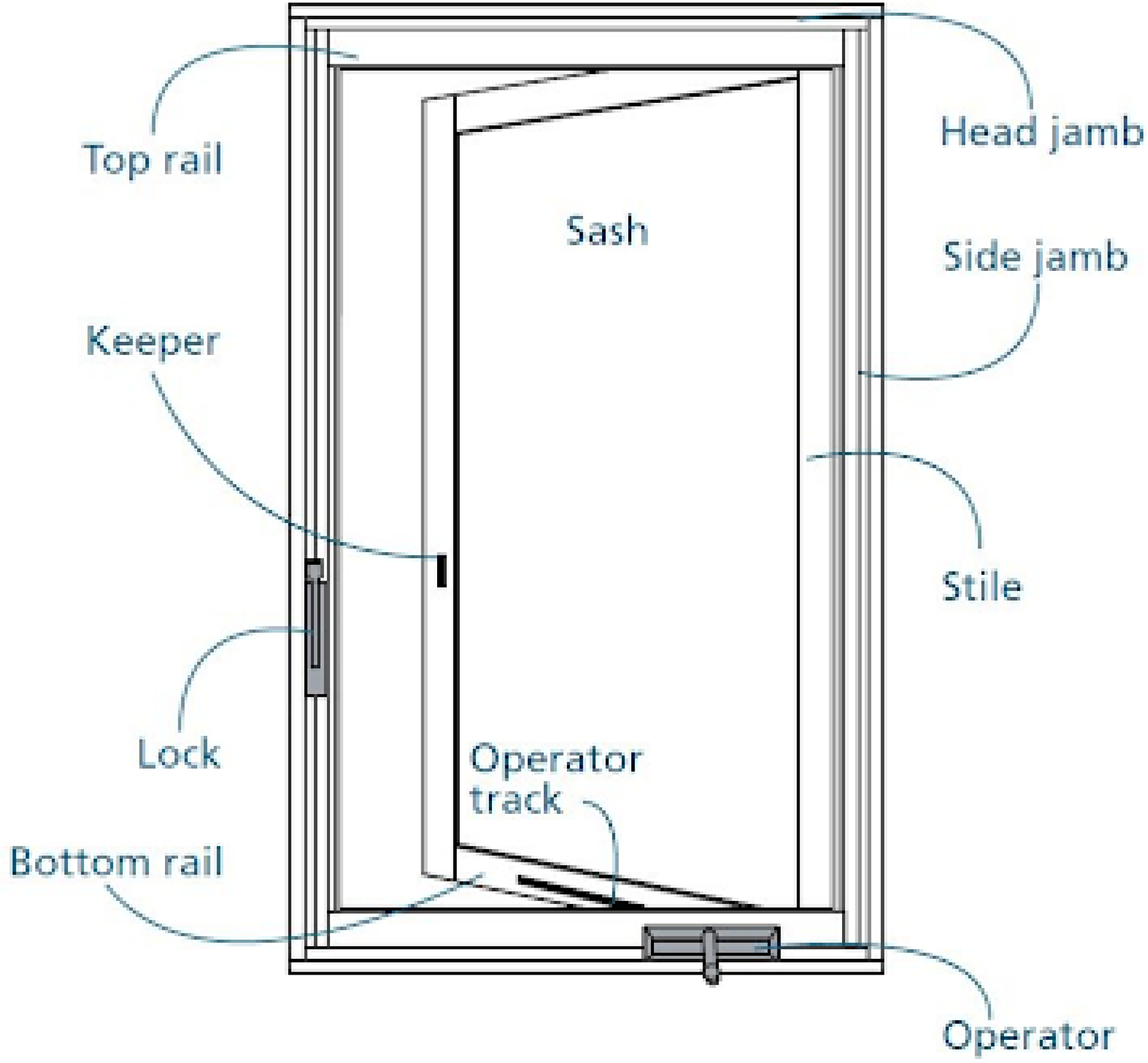
Knob

Tower Bolt

B.

WINDOWS

Components of Casement Window



PURPOSE

1. Provide for occasional rapid **ventilation** and **sunlight entry**.

2. Provide a **view** of what's outside.

3. **Security**

FUNCTIONAL REQUIREMENTS

-Weather resistance

-Sound insulation

-Heat insulation

-Fire resistance

BASIC HEIGHT OF WINDOW

Living Room

between 675mm to
900mm from floor level

Bedroom

700mm to 900mm
from floor level

Bathroom

more than 1050mm
from floor level

2 TYPES OF CASEMENT WINDOW

- In-swing
- Out-swing

INSWING

ADVANTAGES

Easy to clean

Easier for kids to open

DISADVANTAGES

Difficult to make watertight design

Takes up the space indoor

OUTSWING

ADVANTAGES

Watertight design

Doesn’t take up indoor space

DISADVANTAGES

Needs maintenance

Hard to clean

INSWING & OUTSWING

SIMILARITIES

- Frames
- Ironmongeries
- Components

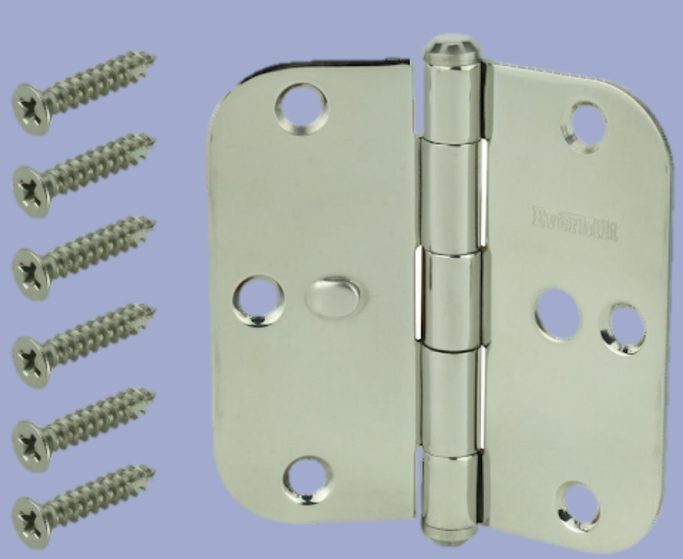
DIFFERENCES

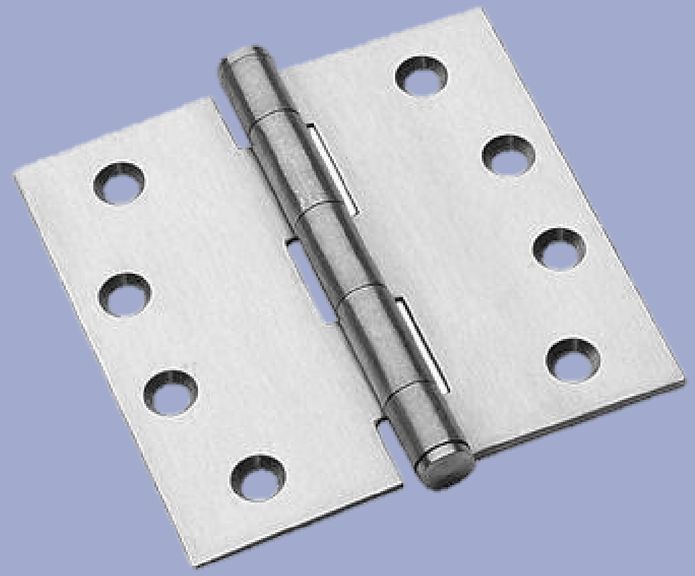
The way it swings open

IRONMONGERIES

1. FOR HANGING

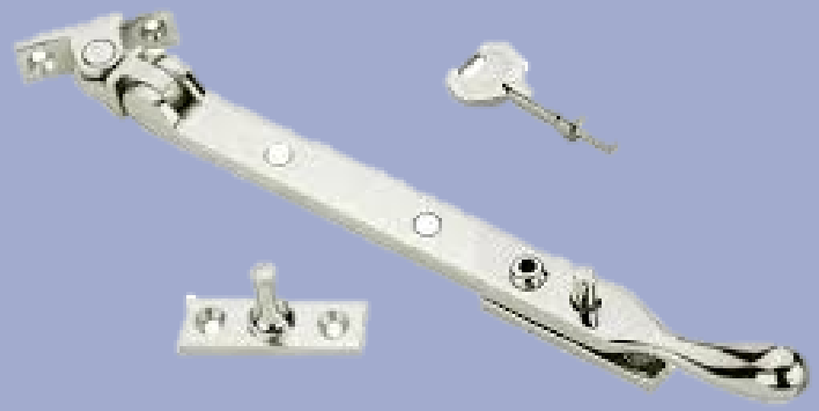
Stainless steel door hinge

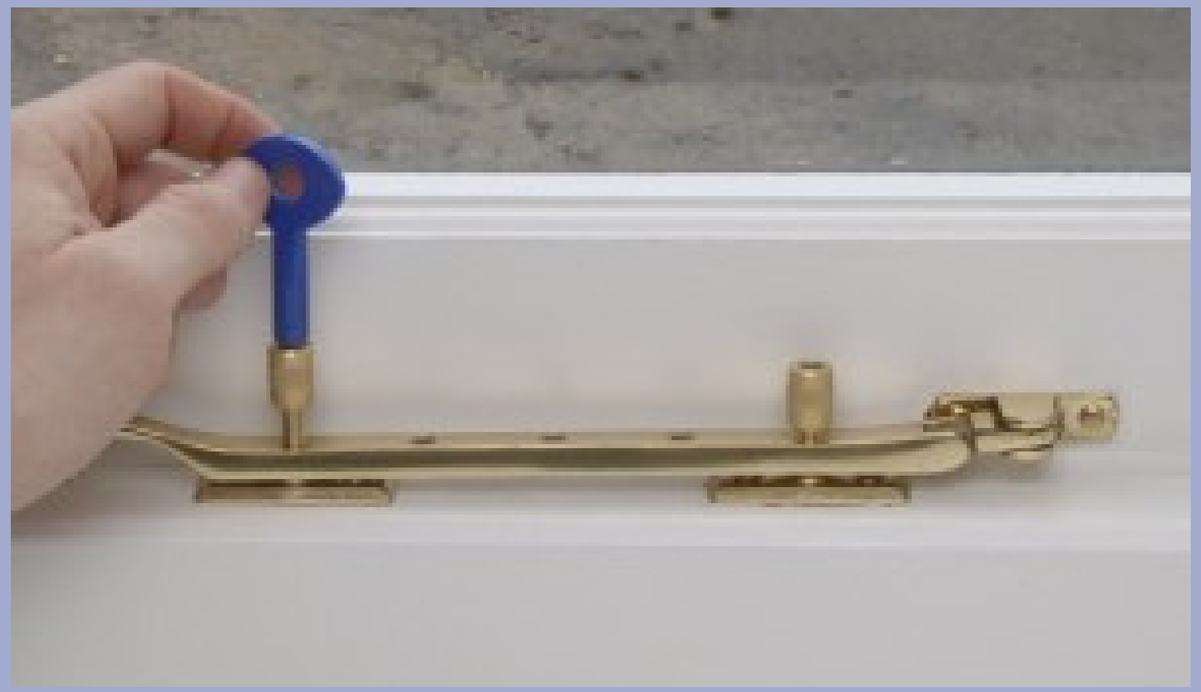




IRONMONGERIES

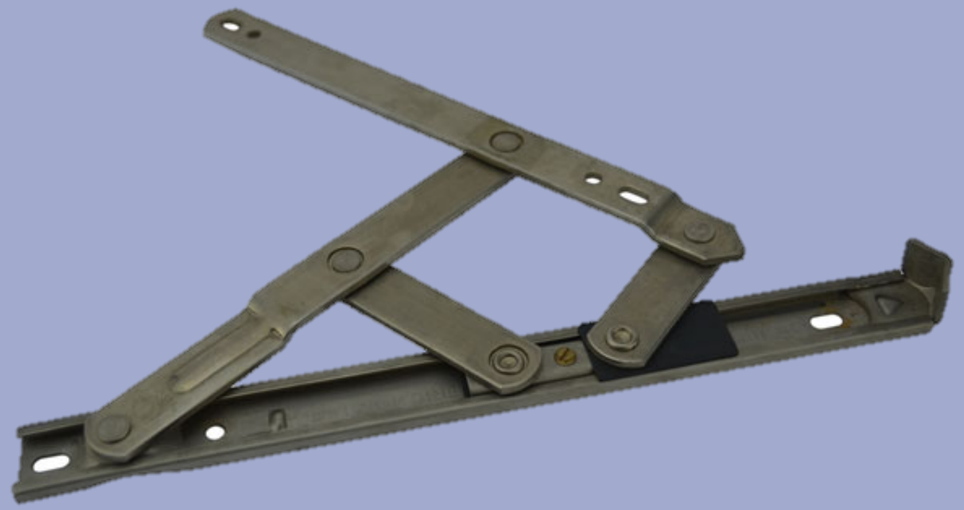
2. FOR OPERATING
   - Pin Stay





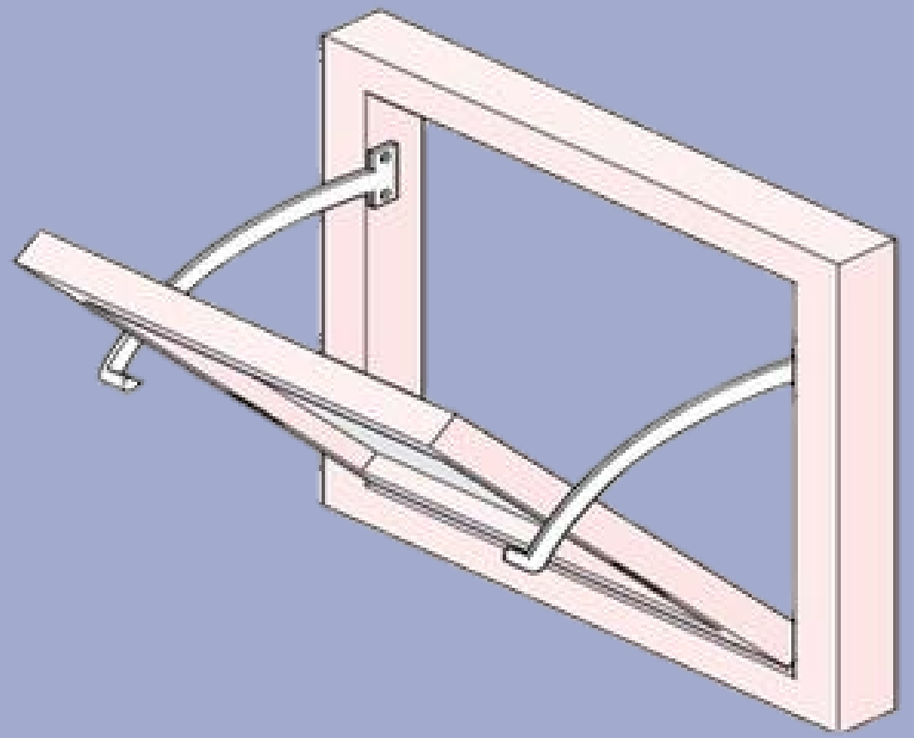
IRONMONGERIES

2. FOR OPERATING
   - Folding Stay



IRONMONGERIES

2. FOR OPERATING
   - Quadrant Stay



IRONMONGERIES

3. FOR SAFETY

Casement Fastener

ADVICE FOR CLIENT

OUTSWING CASEMENT WINDOW

- Watertight
- Does not take up space indoor

Q&A

THANK YOU