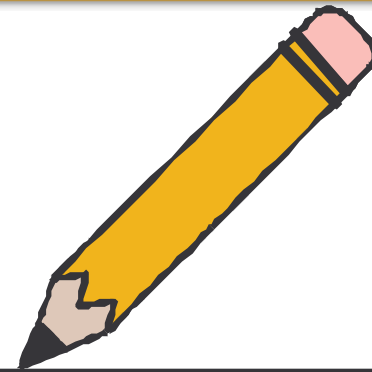


Lecture 8

ORTHOGRAPHIC PROJECTIONS :: SECTIONING



TA 101 : Engineering Graphics

2007~08 Semester II

January – May 2008

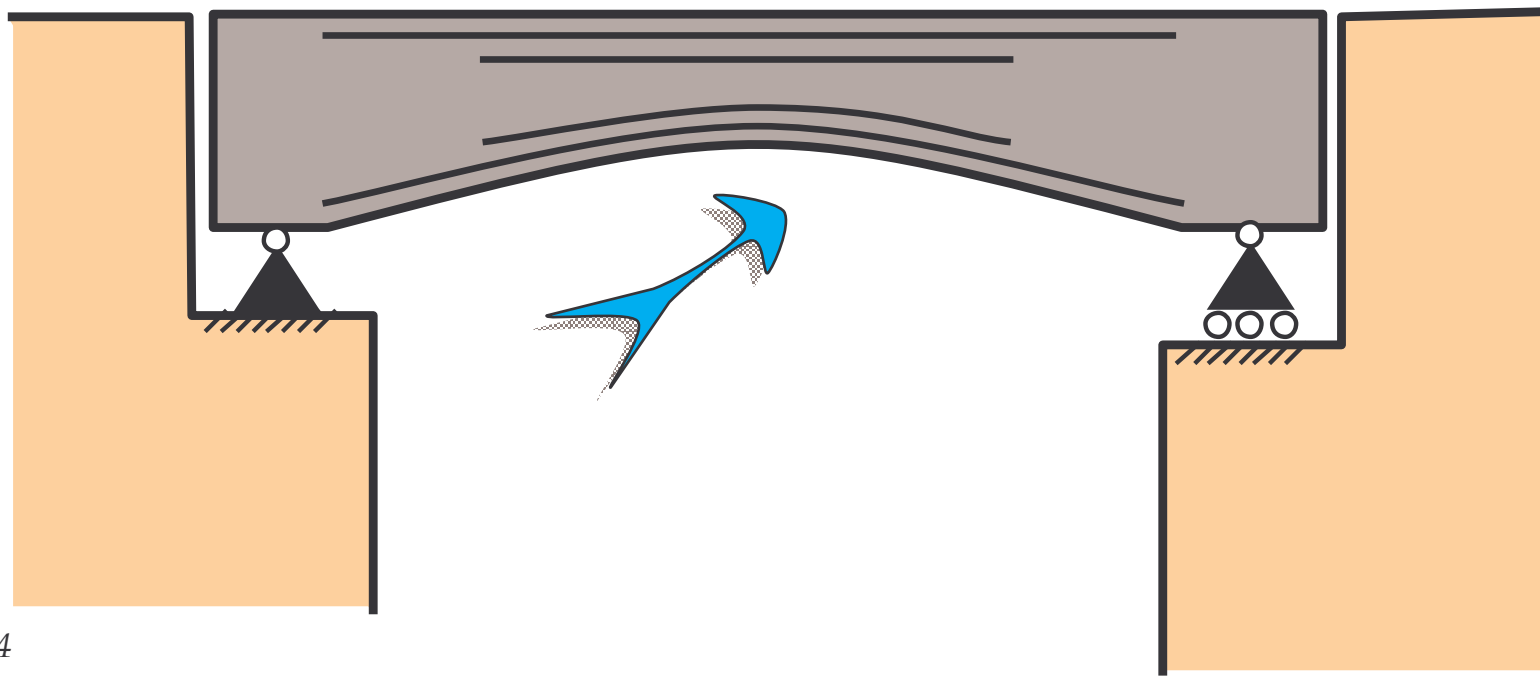
OUTLINE

- Why sectioning should be done
- Some Conventions on line styles
- Examples



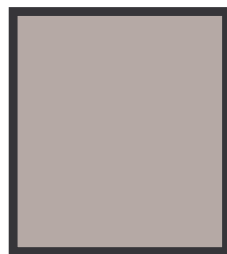
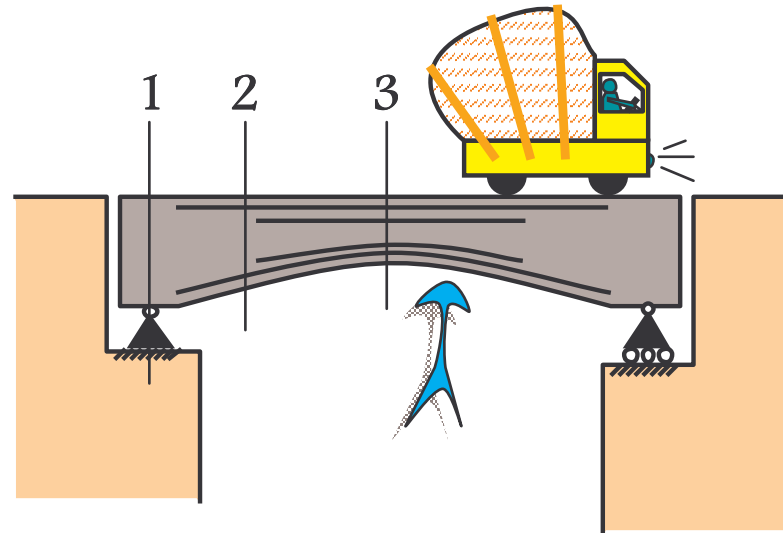
SECTIONING

WHAT IS SECTIONING?

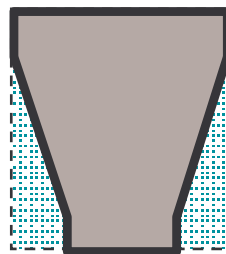


WHAT IS SECTIONING?

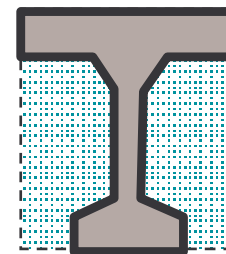
- Cutting an object



Section
@ Point 1

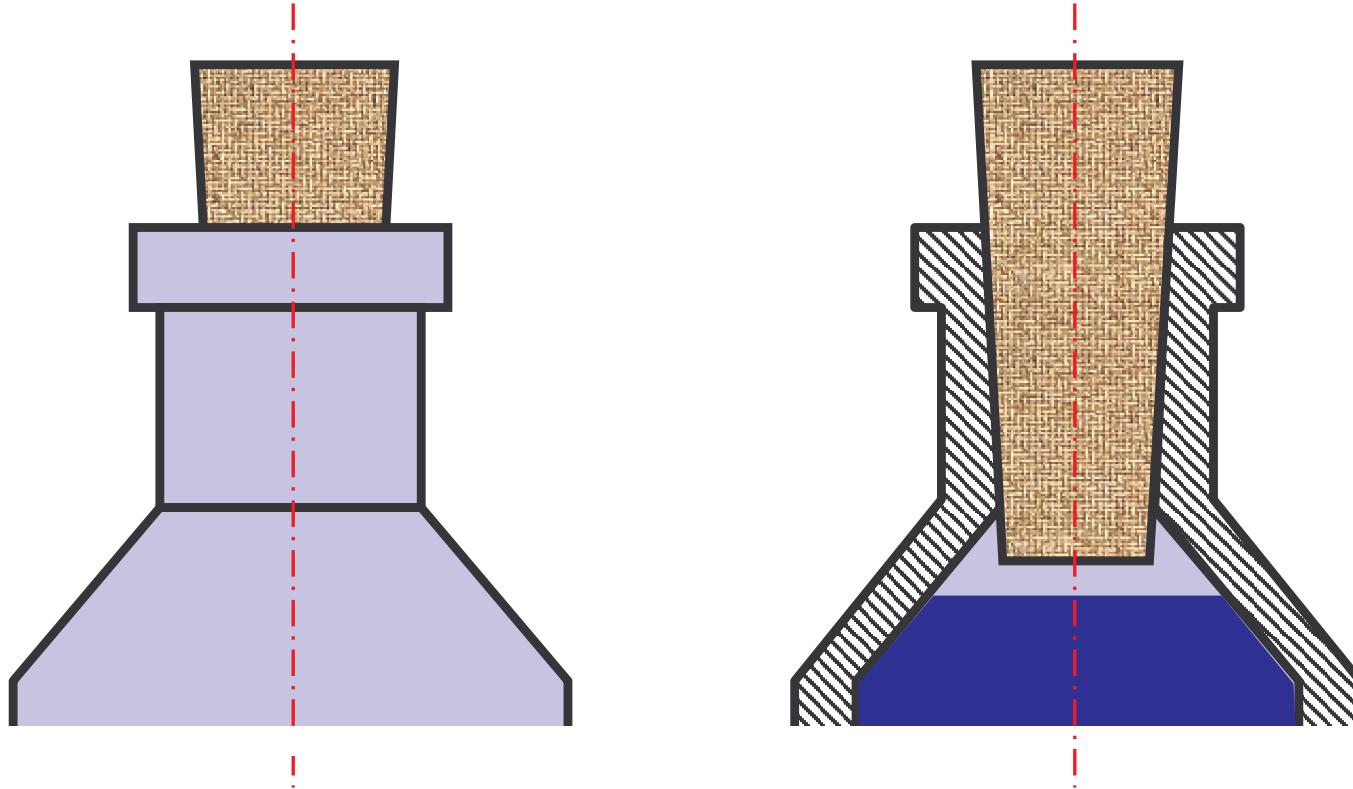


Section
@ Point 2

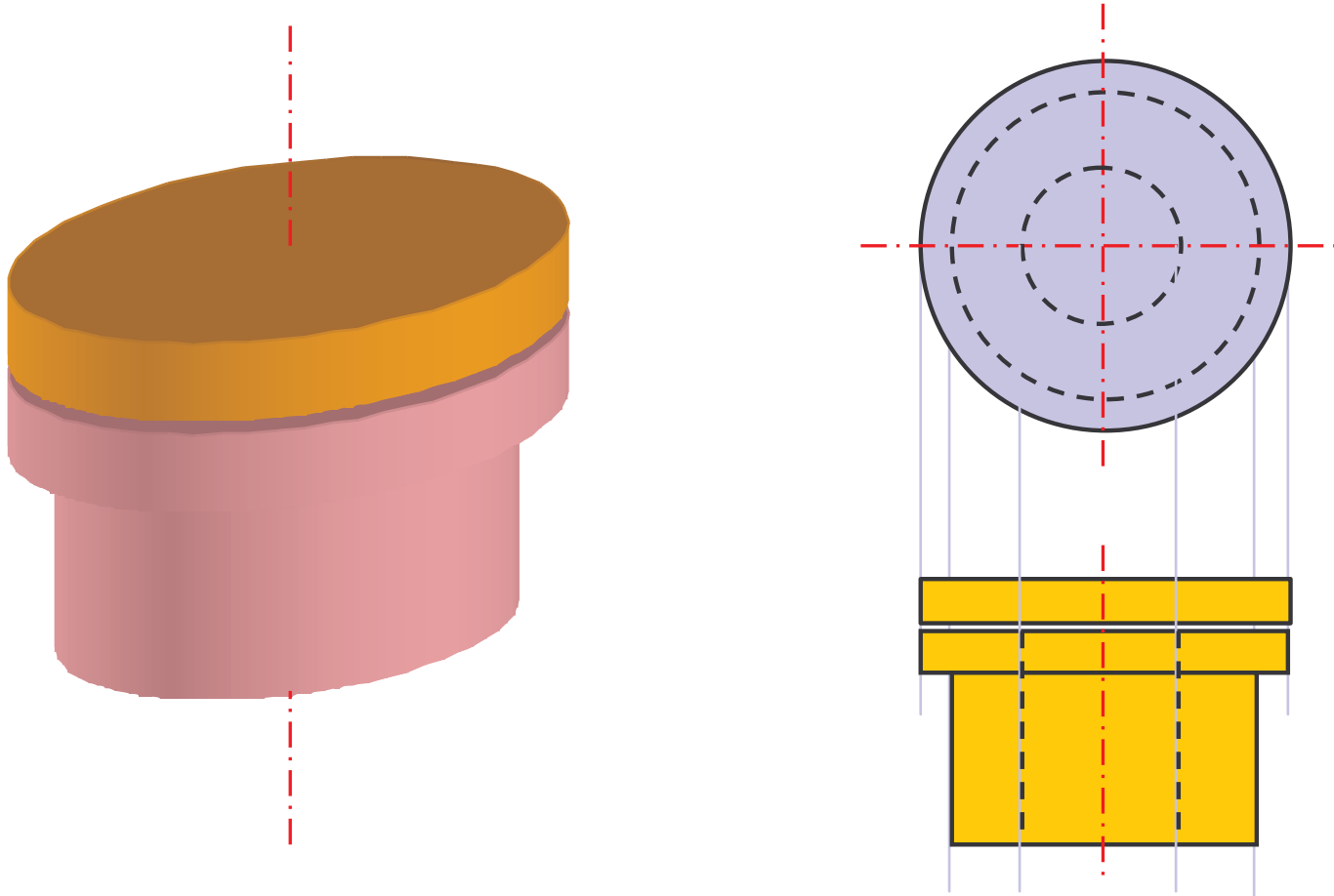


Section
@ Point 3

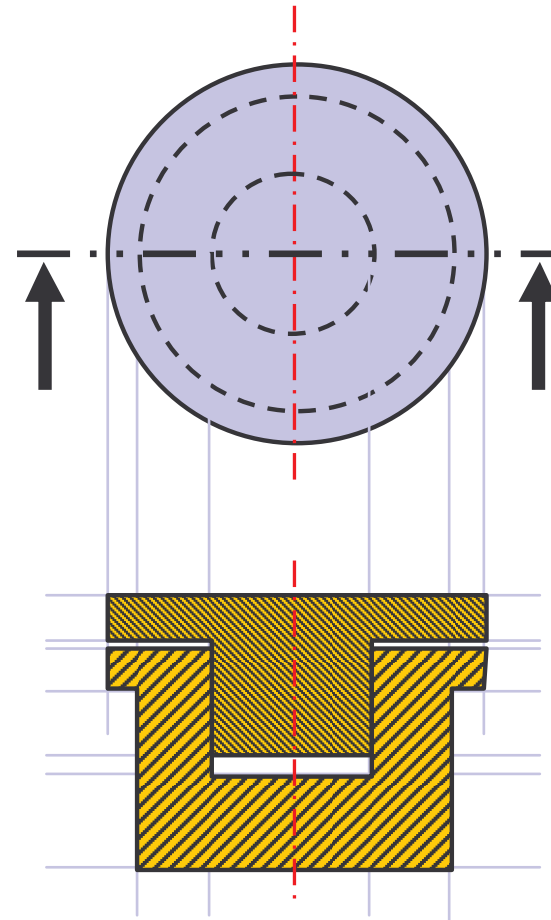
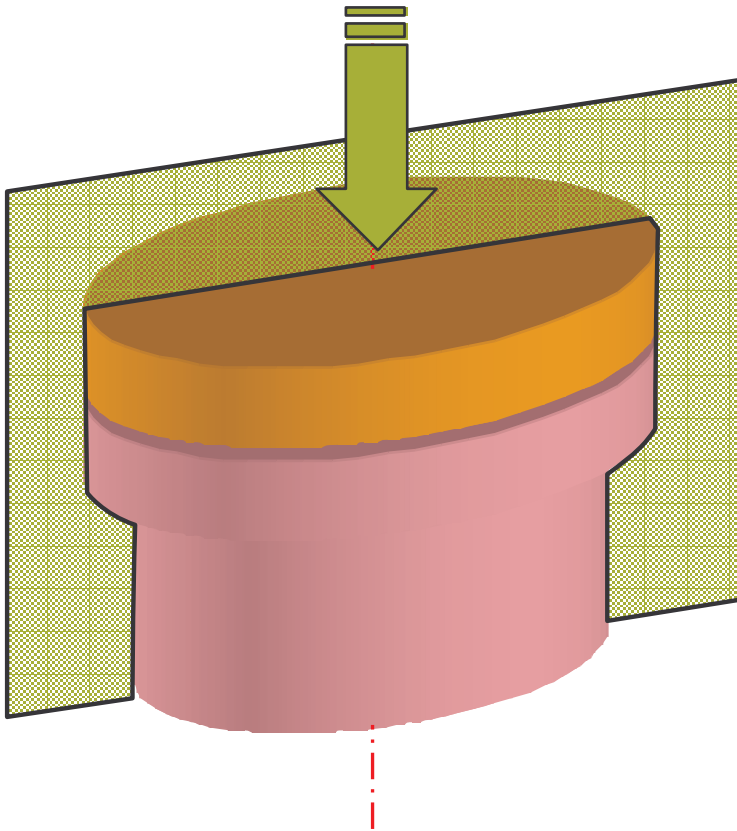
- Some objects have different shapes on the exterior and in the interior
 - Sectioning used to provide details of the interior



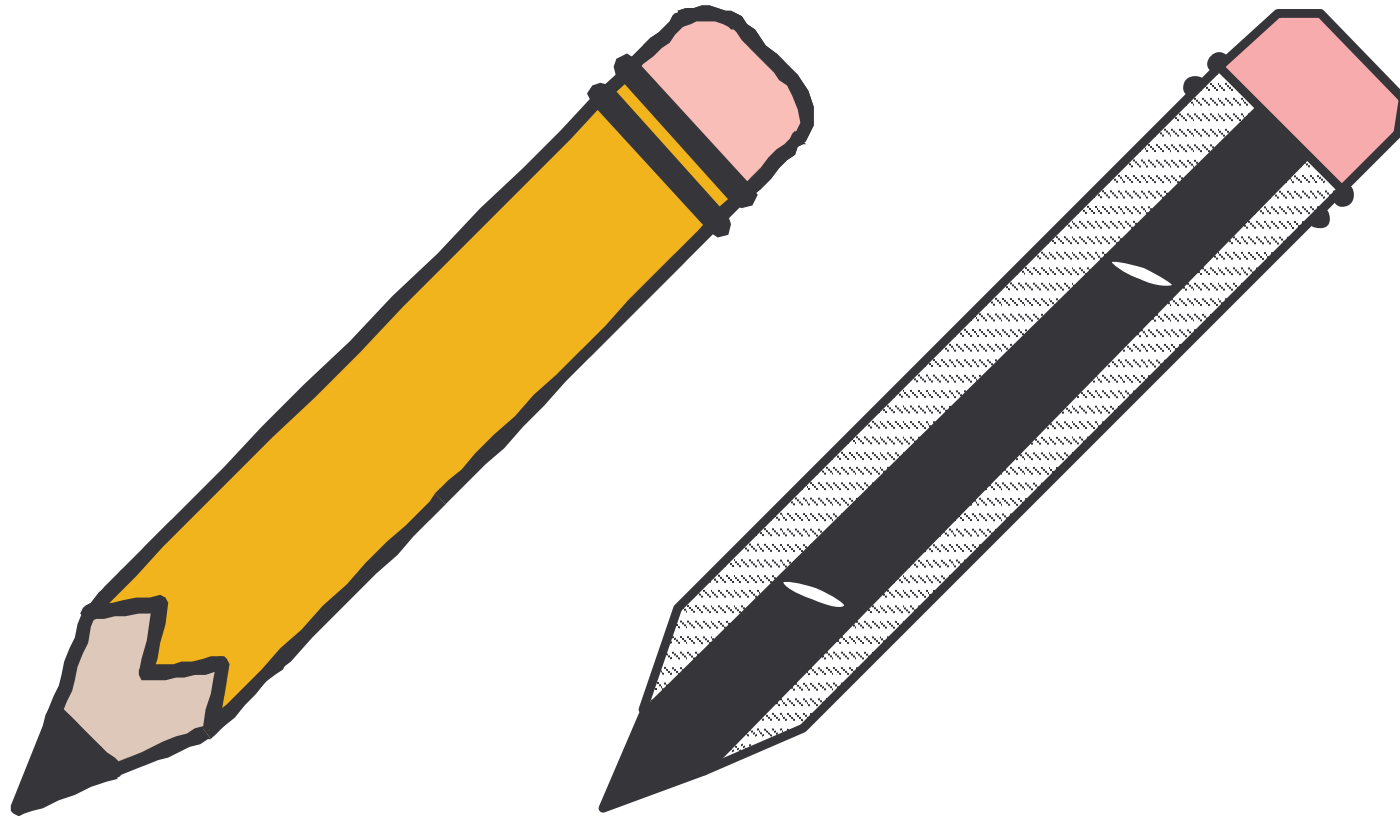
- Outside shapes don't reflect inside shapes



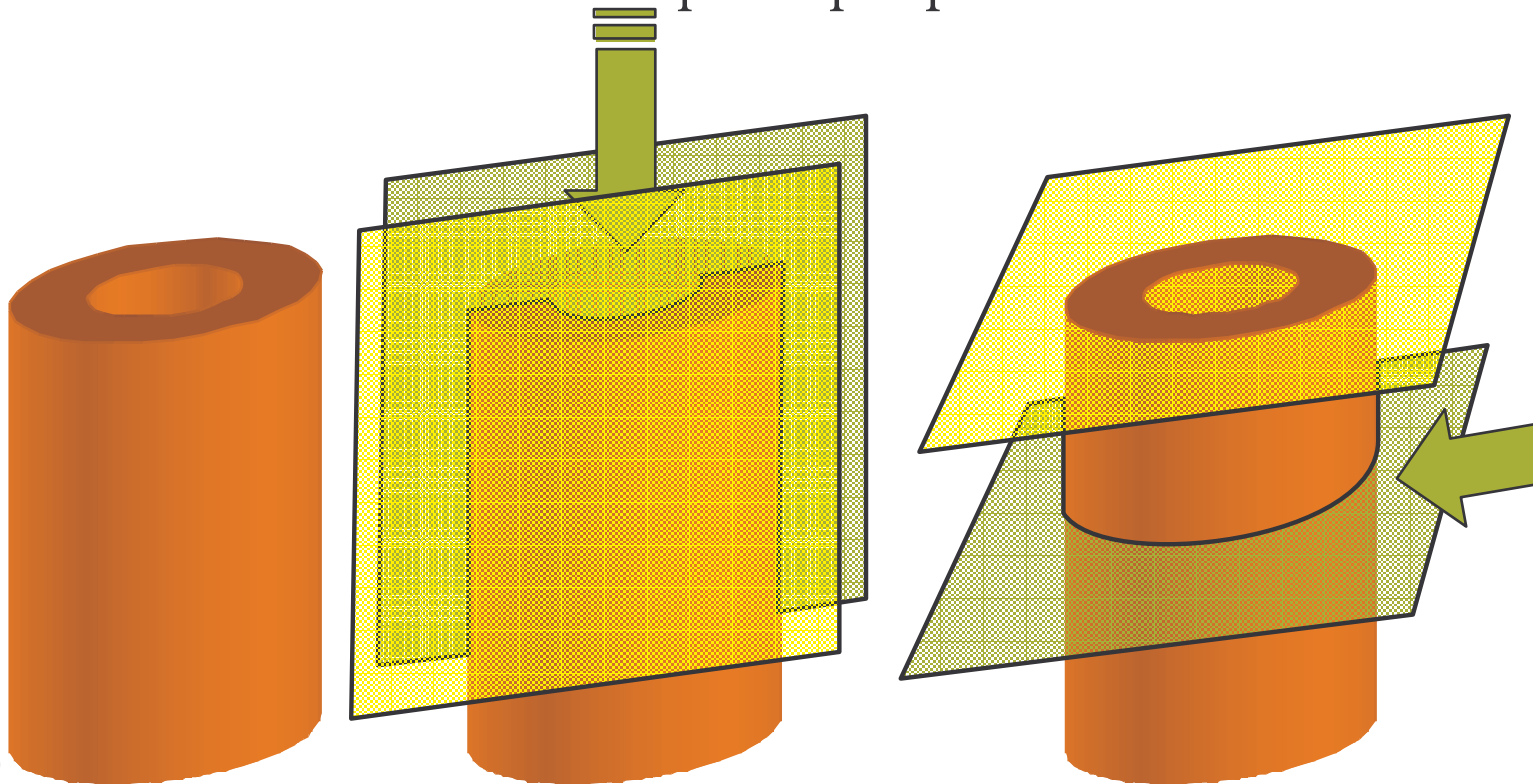
- Outside shapes don't reflect inside shapes



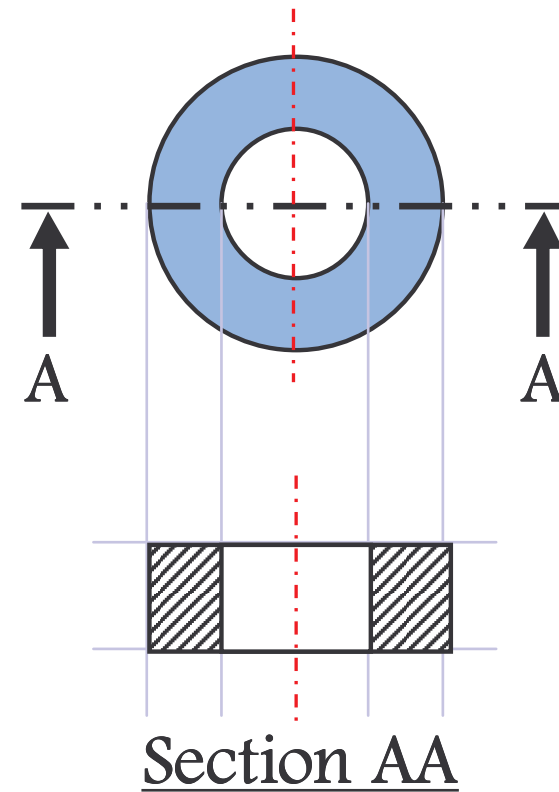
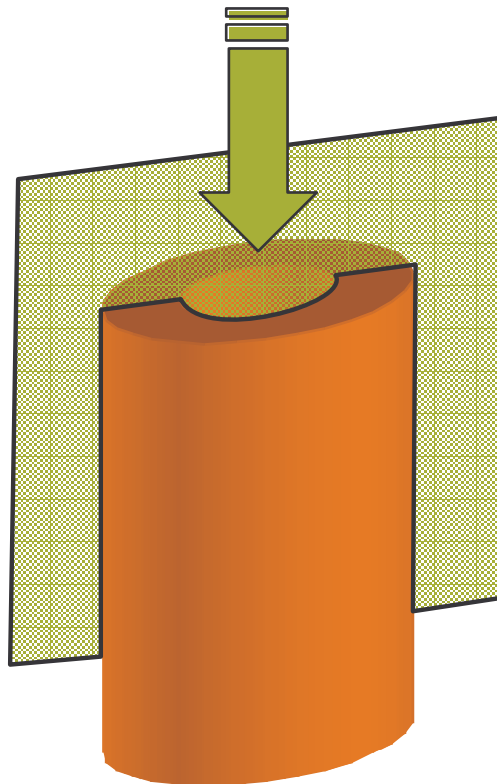
- Sectional views
 - Must show the solids and voids



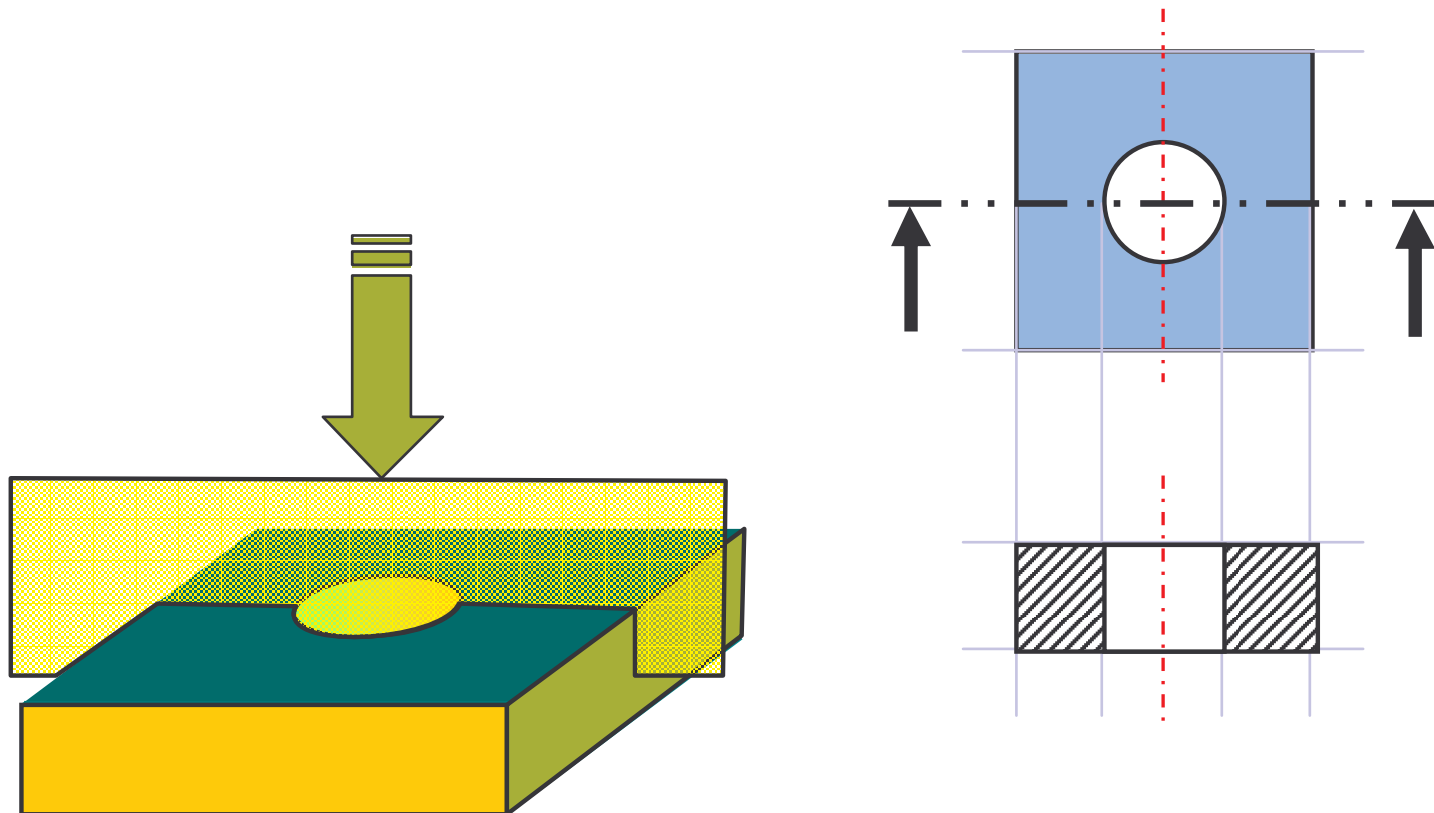
- Sectional views typically
 - Pass through an axis of symmetry
 - Parallel to one of the principal planes



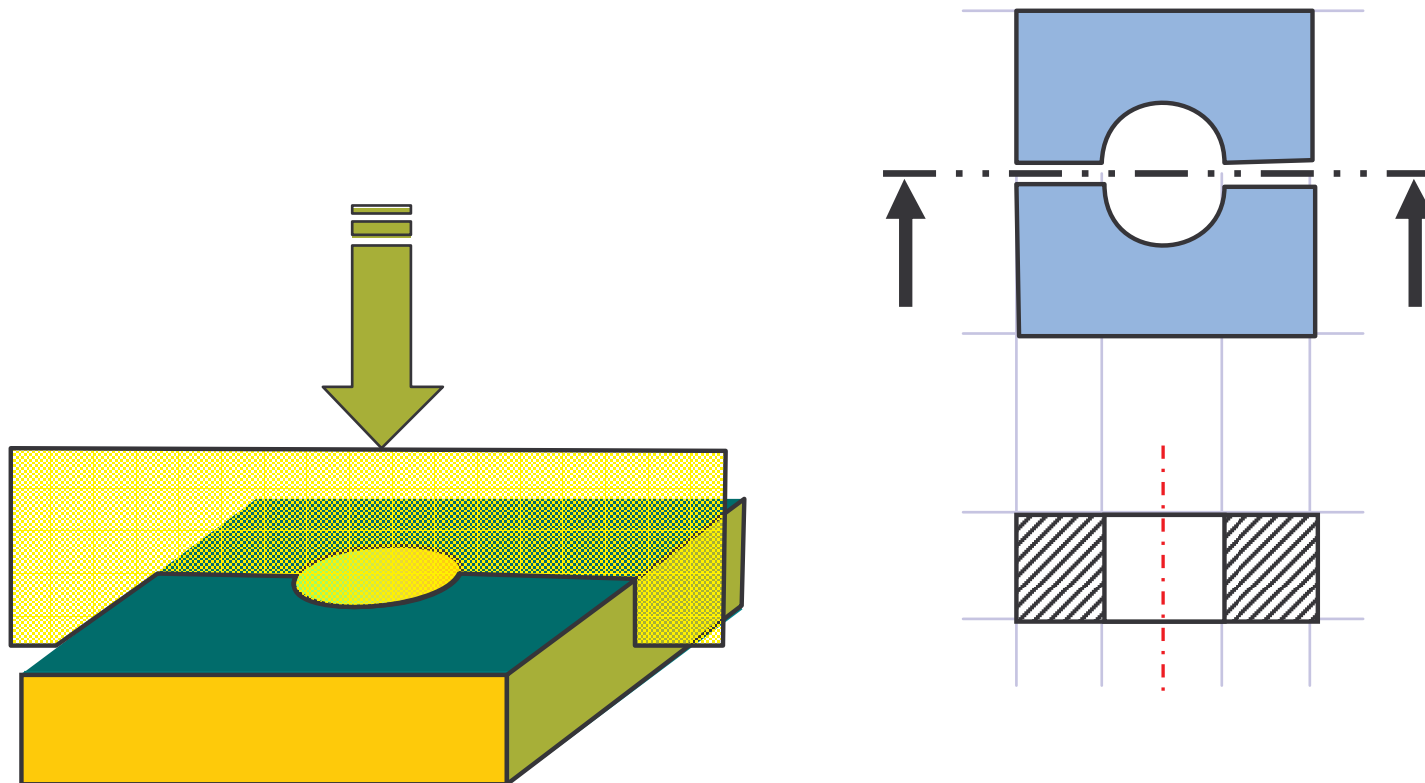
- Basic items in drawing a sectional view



- Which piece is being viewed



- Which piece is being viewed
 - And how



HATCHING

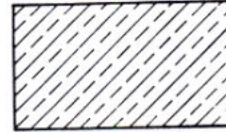
- Means of showing solid portions of object
 - Inclined lines of different line styles
 - Fills



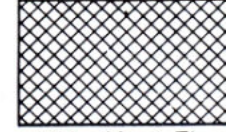
Cast Iron



Steel



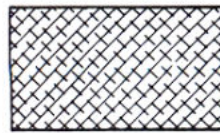
*Bronze, Brass, Copper
and Composition*



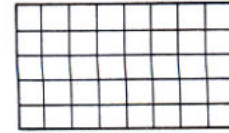
*White Metal, Zinc,
Lead, Babbitt & Alloys*



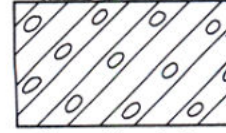
Wood



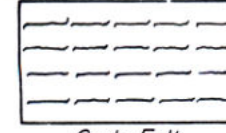
Aluminum



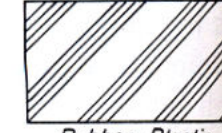
*Electrical Windings,
Electromagnets, etc.*



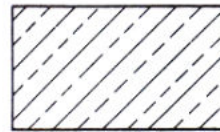
Sound Insulation



*Cork, Felt,
Leather & Fiber*



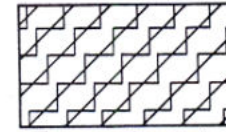
*Rubber, Plastic,
Electrical insulation*



*Titanium and
Refractory Material*



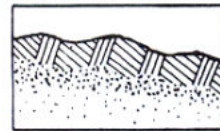
Concrete



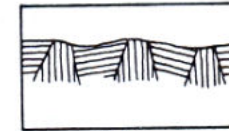
Thermal Insulation



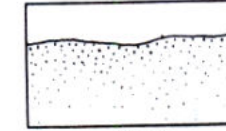
*Marble, Slate, Glass,
Porcelain, etc.*



Earth



Rock



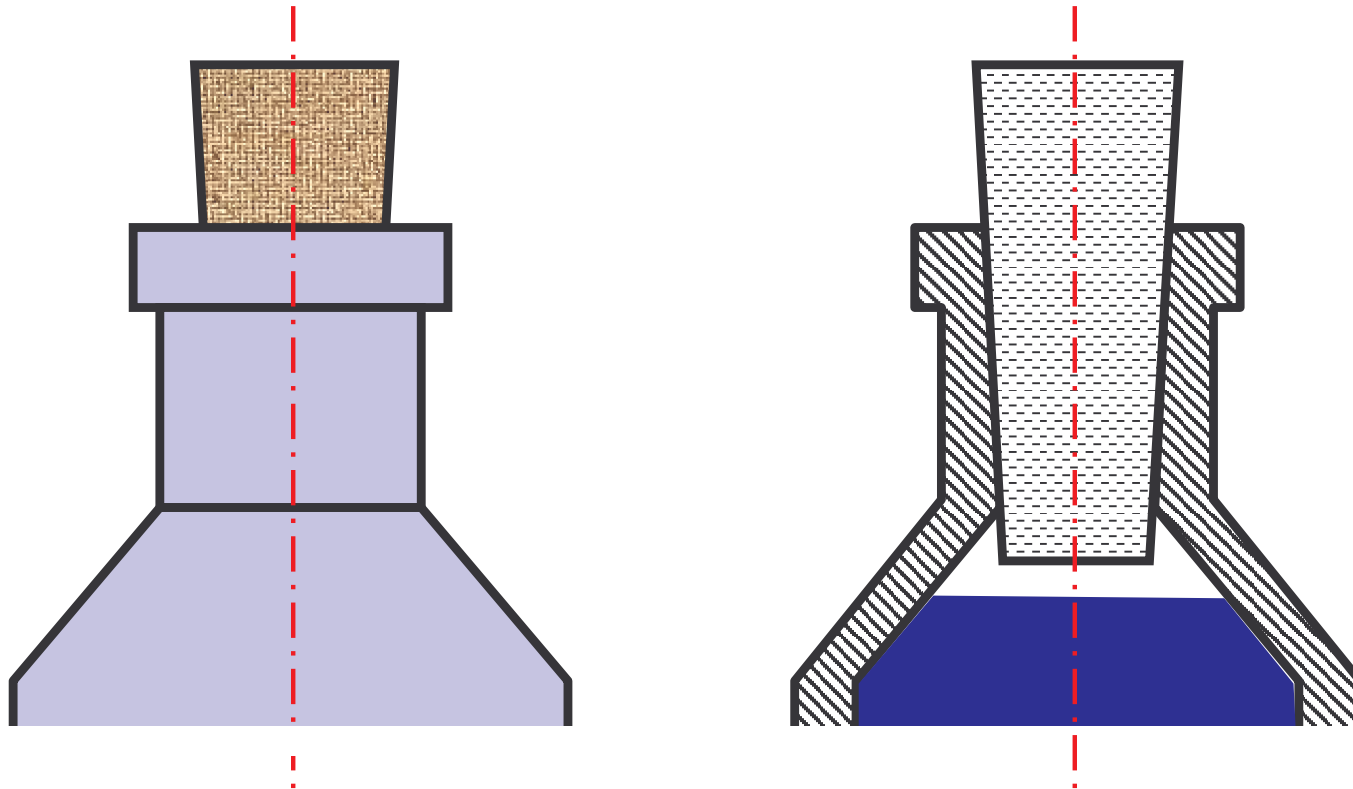
Sand



Water & Other Liquids

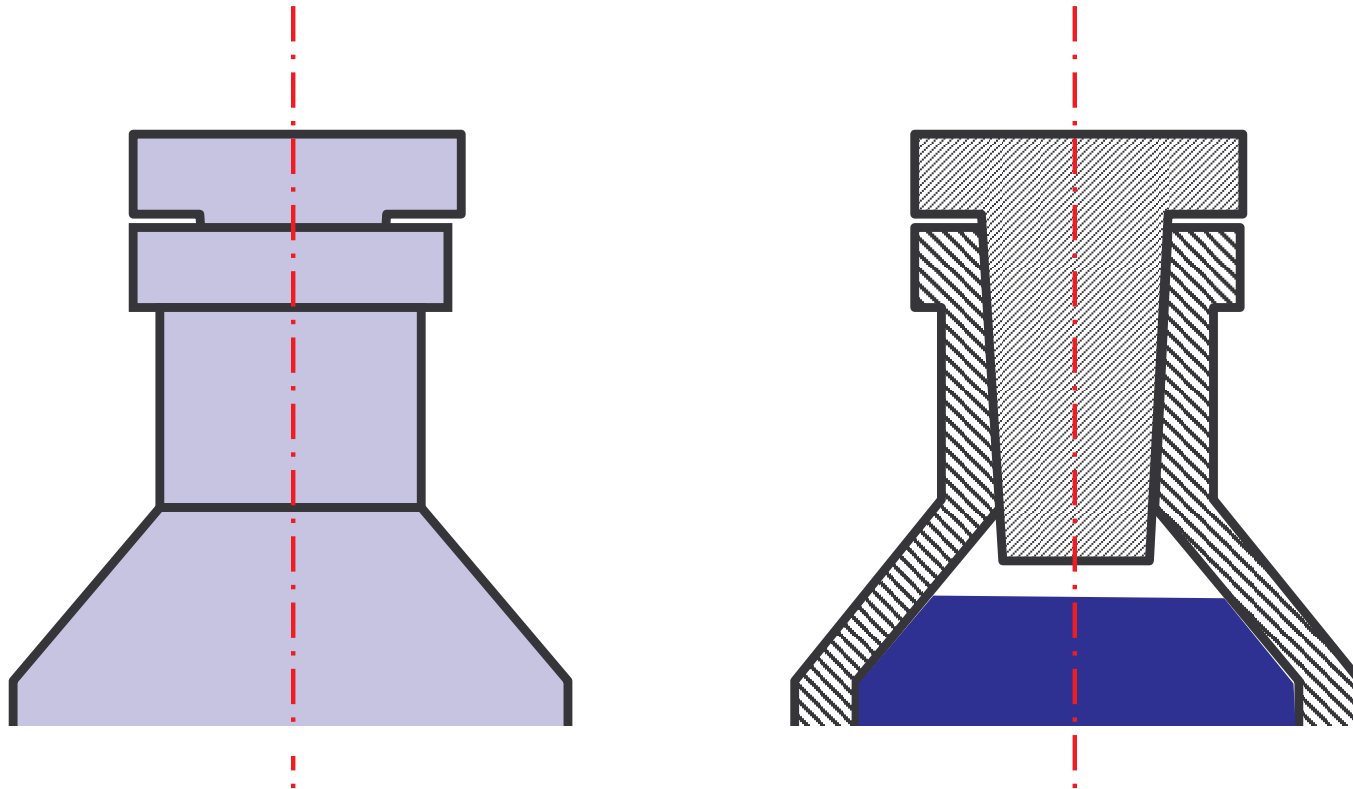
HATCHING

- Means of showing solid portions of object...
 - Different hatching for different components



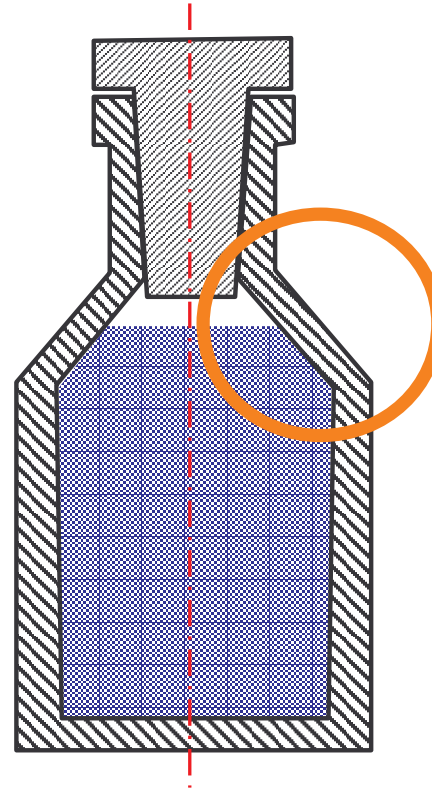
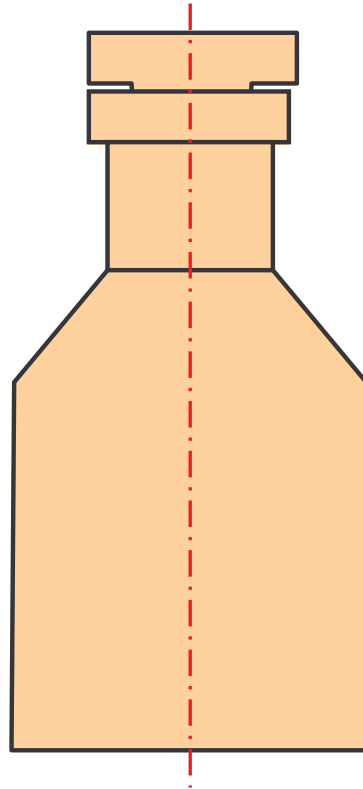
HATCHING

- Means of showing solid portions of object...
 - Different hatching for different components
 - Even if made of same material



HATCHING

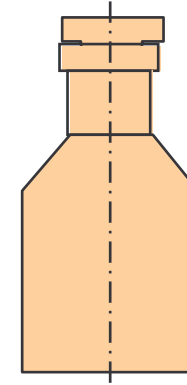
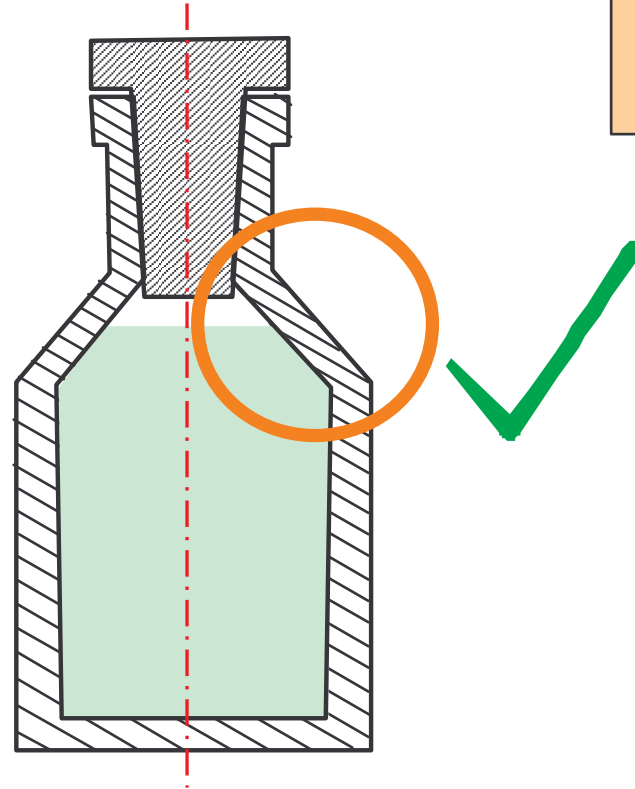
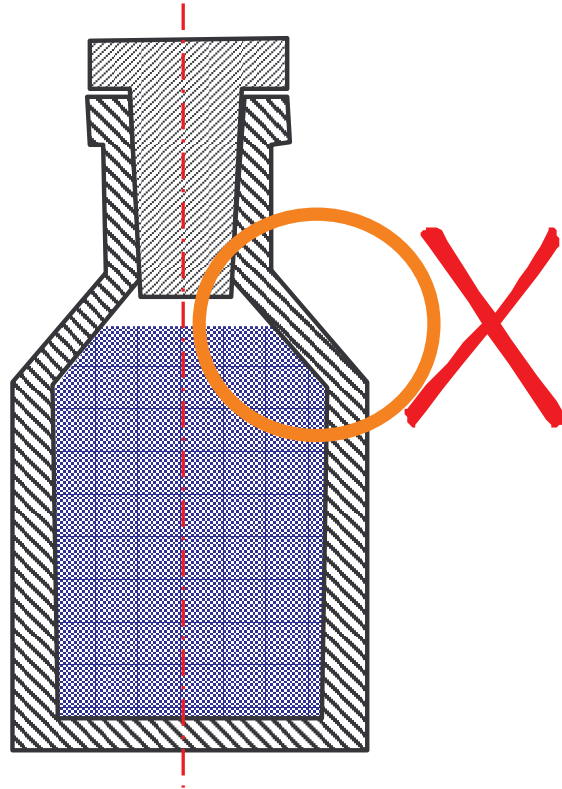
- Means of showing solid portions of object...
 - Different hatching for different components
 - Even if made of same material



HATCHING

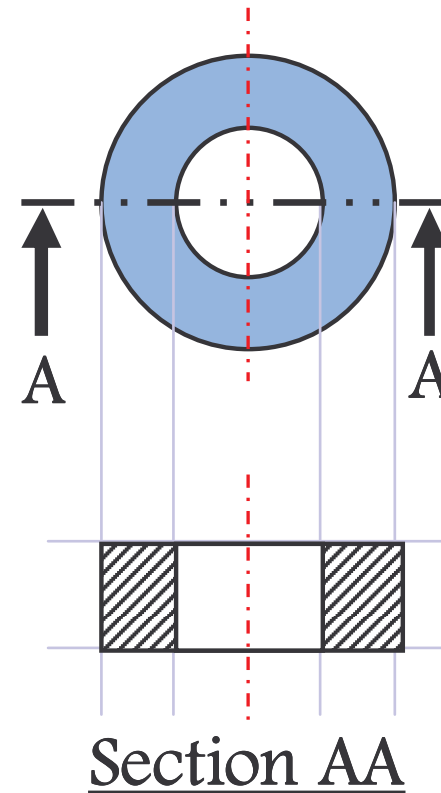
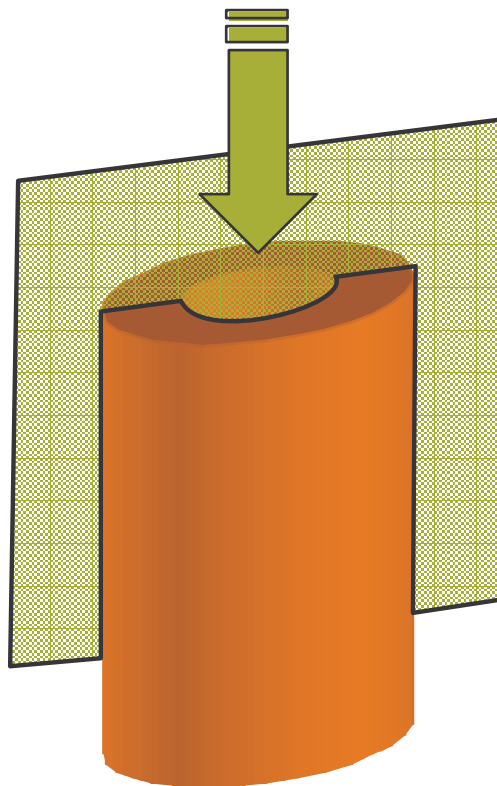
- Preferred direction of hatching

– 30°, 60° & 75°



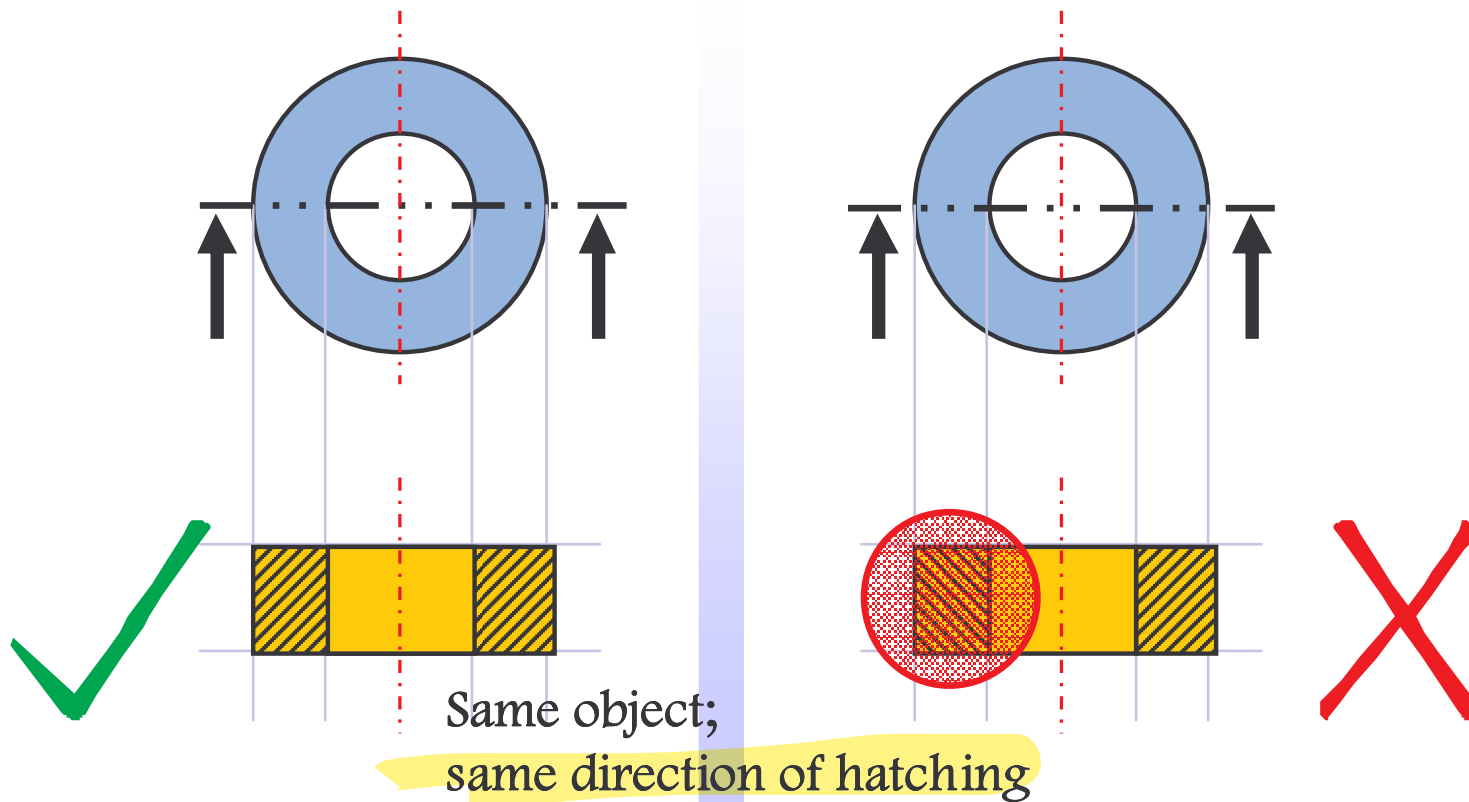
HATCHING

- Direction of hatching for the same object



HATCHING

- Direction of hatching for the same object...
 - Same object; same direction of hatching

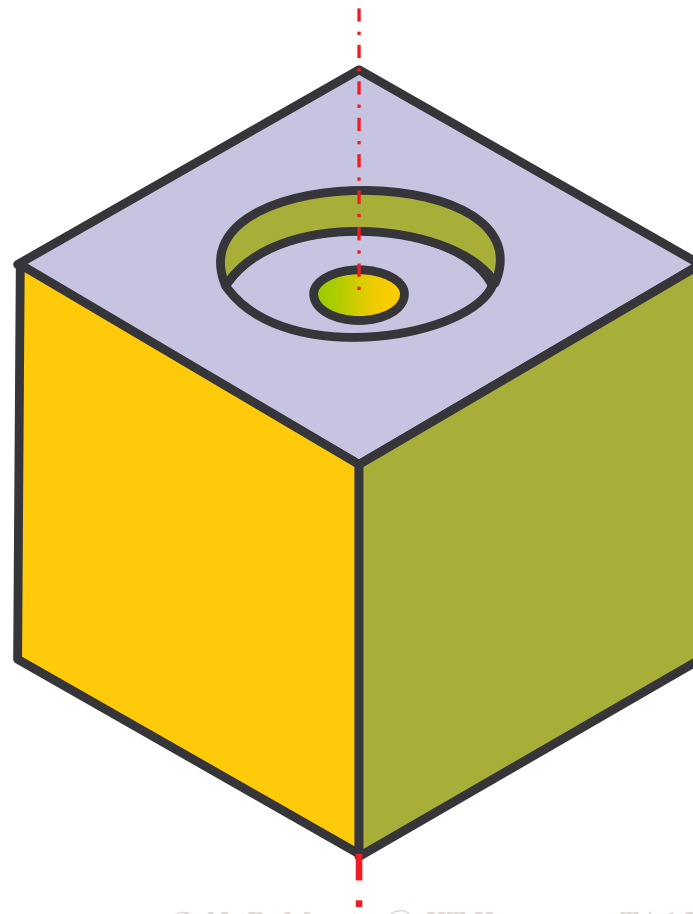




EXAMPLES

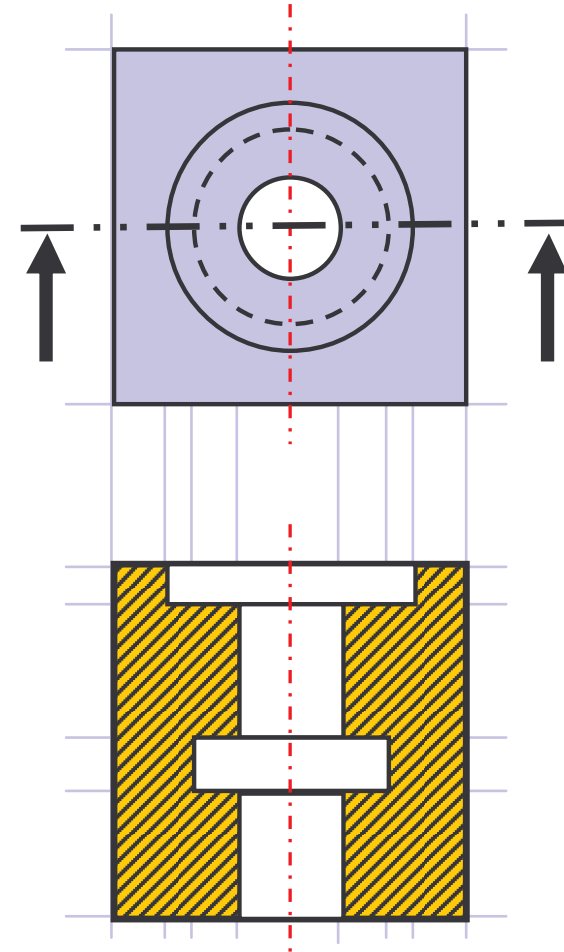
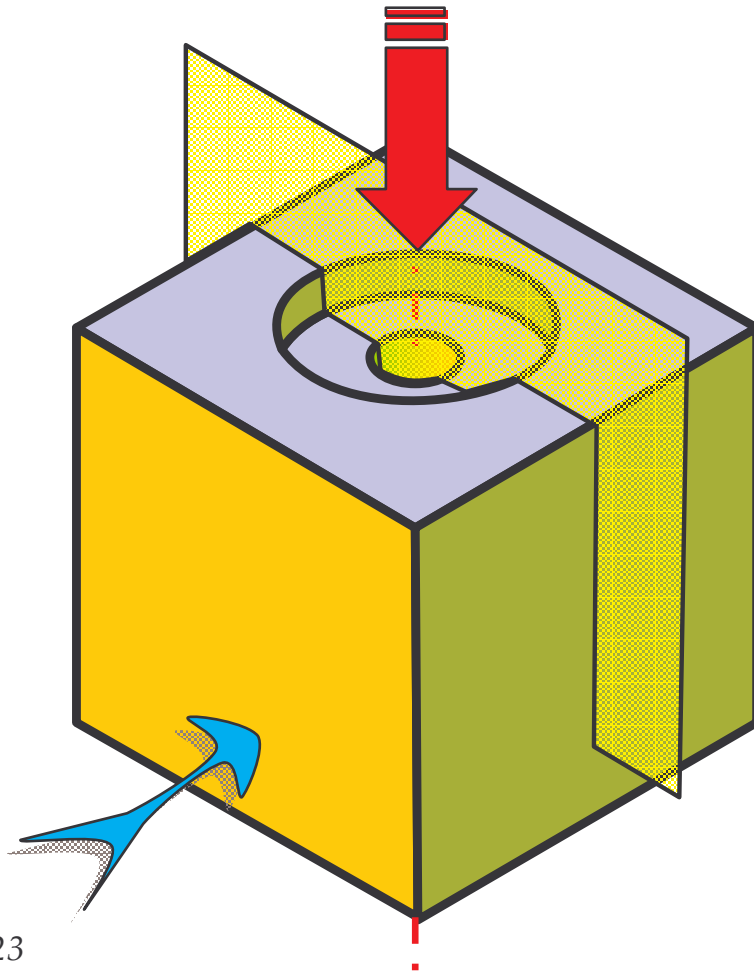
EXAMPLE 1

- Block with a hole



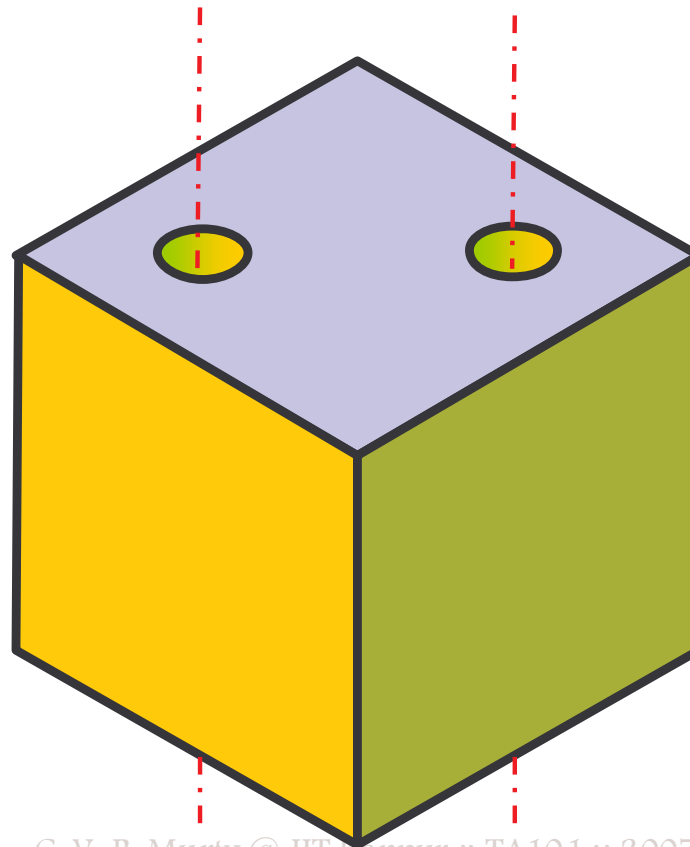
EXAMPLE 1

- Block with a hole



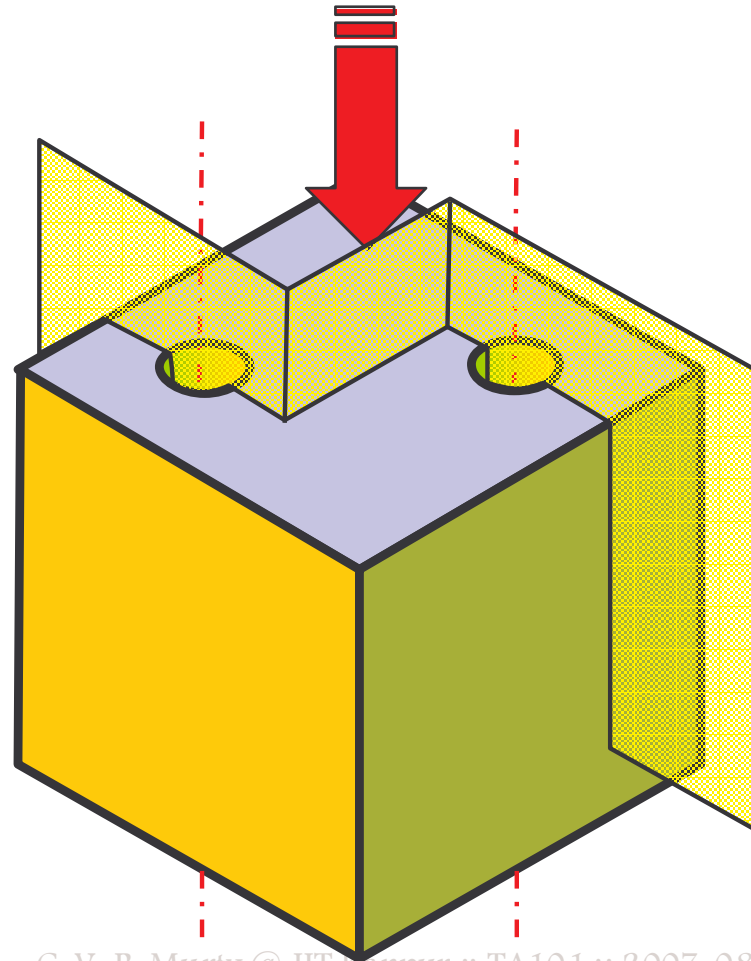
EXAMPLE 2

- Block with two holes



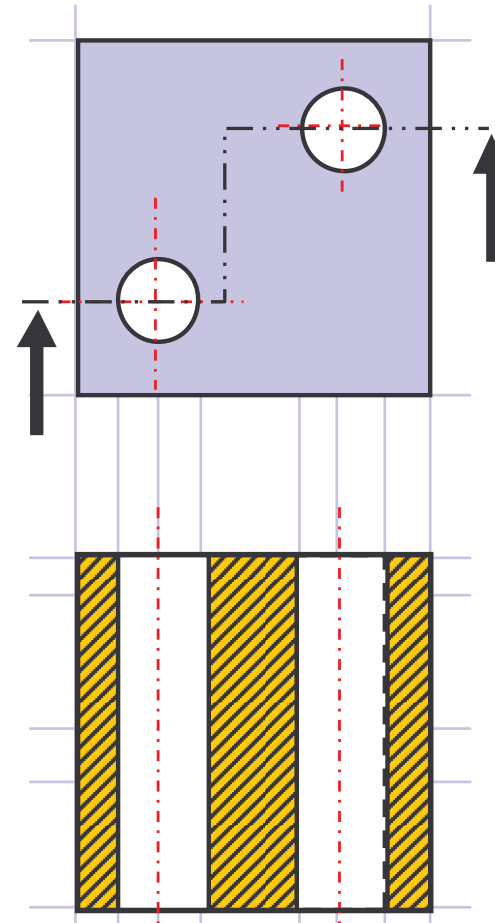
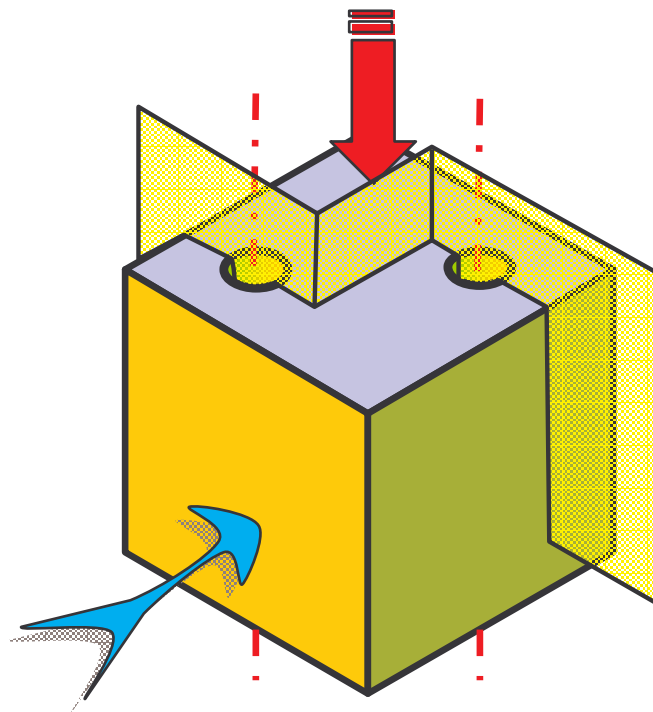
EXAMPLE 2

- Block with two holes
 - Views



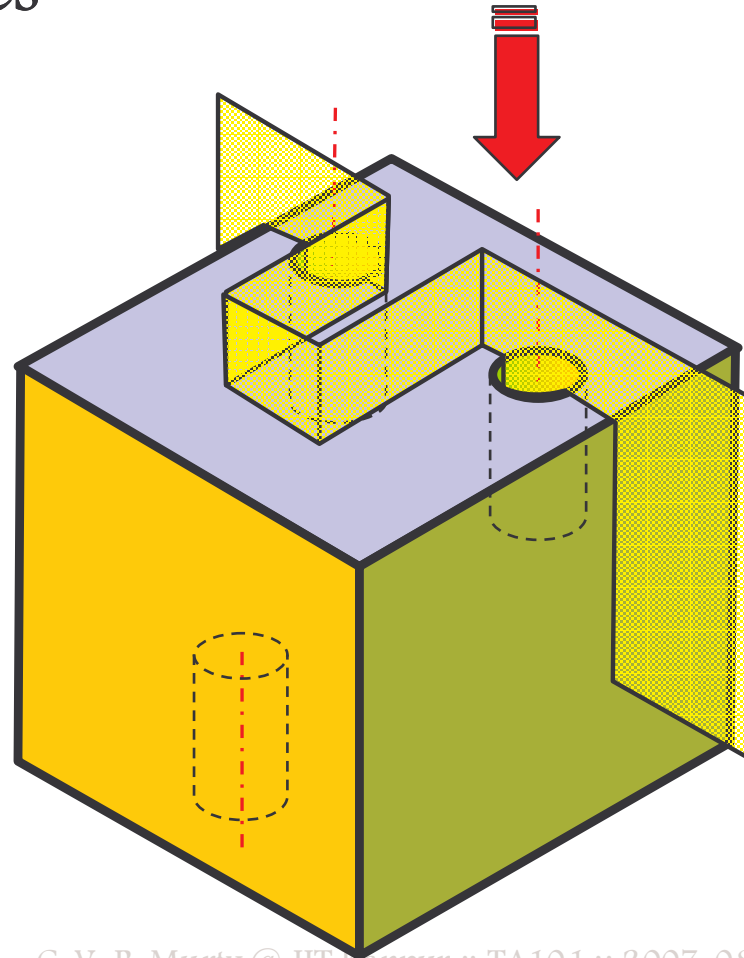
EXAMPLE 2

- Block with two holes
 - Cutting plane



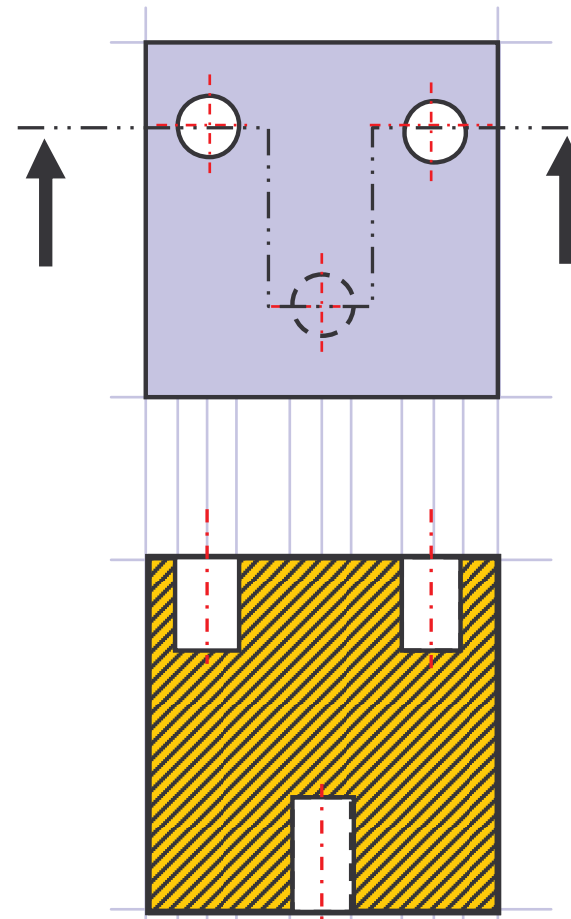
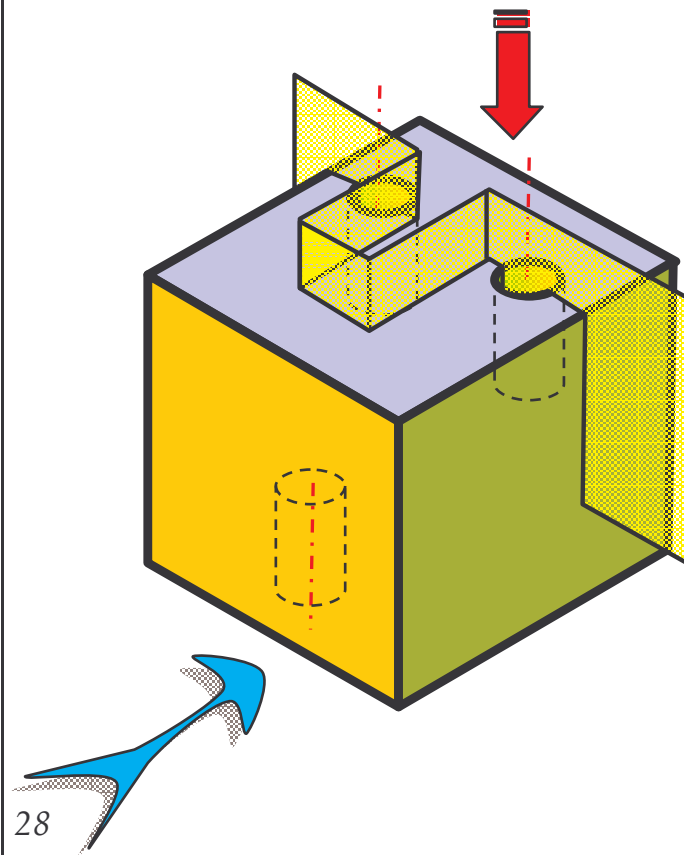
EXAMPLE 3

- Block with three holes



EXAMPLE 3

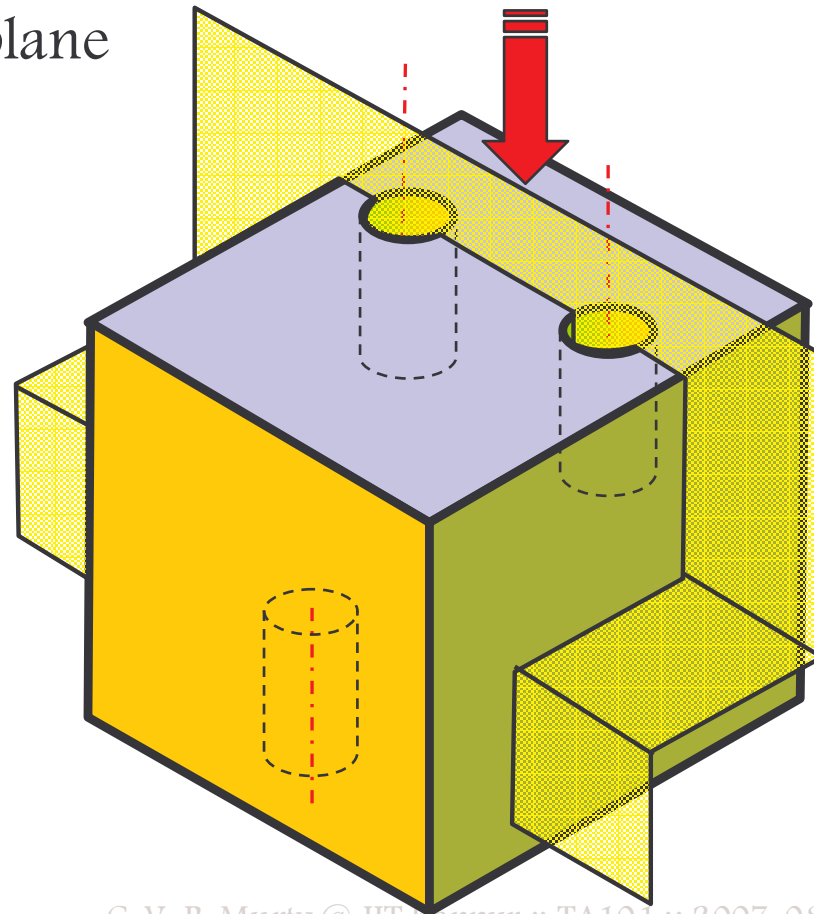
- Block with three holes



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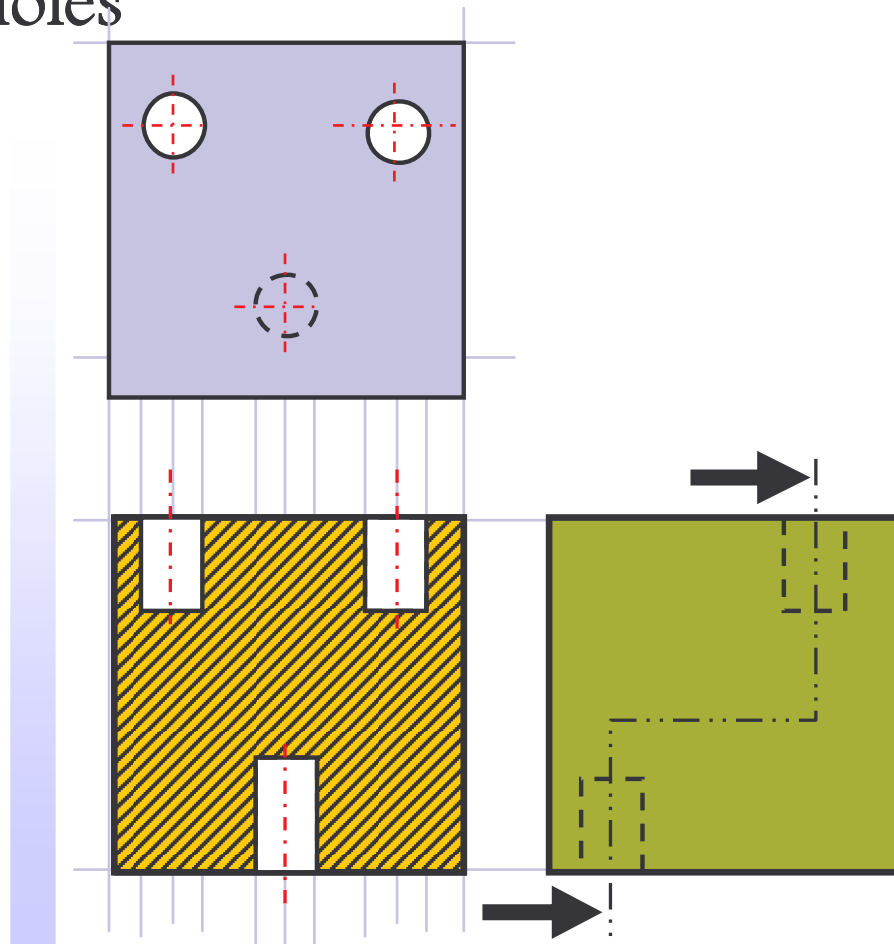
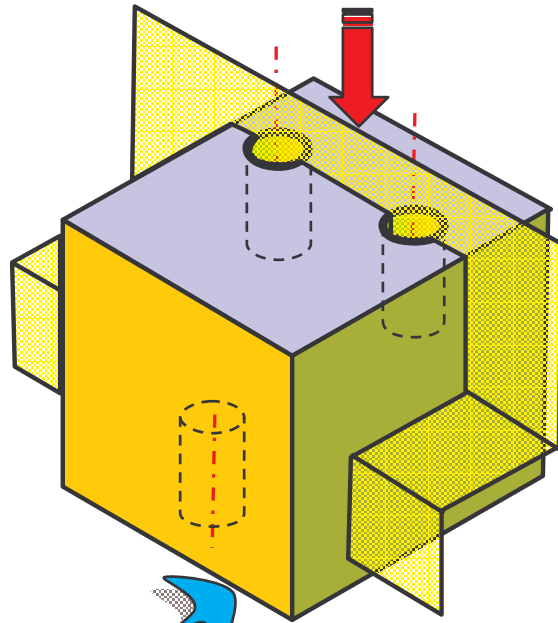
EXAMPLE 3

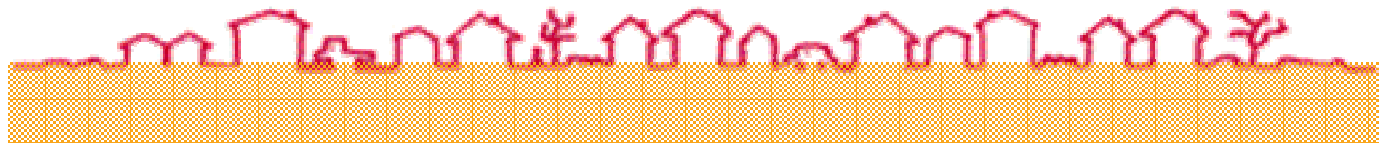
- Block with three holes
 - Different cutting plane



EXAMPLE 3

- Block with three holes





Have a Great Day!!

