Lecture 8

ORTHOGRAPHIC PROJECTIONS

:: SECTIONING

TA 101 : Engineering Graphics

2007-08 Semester II

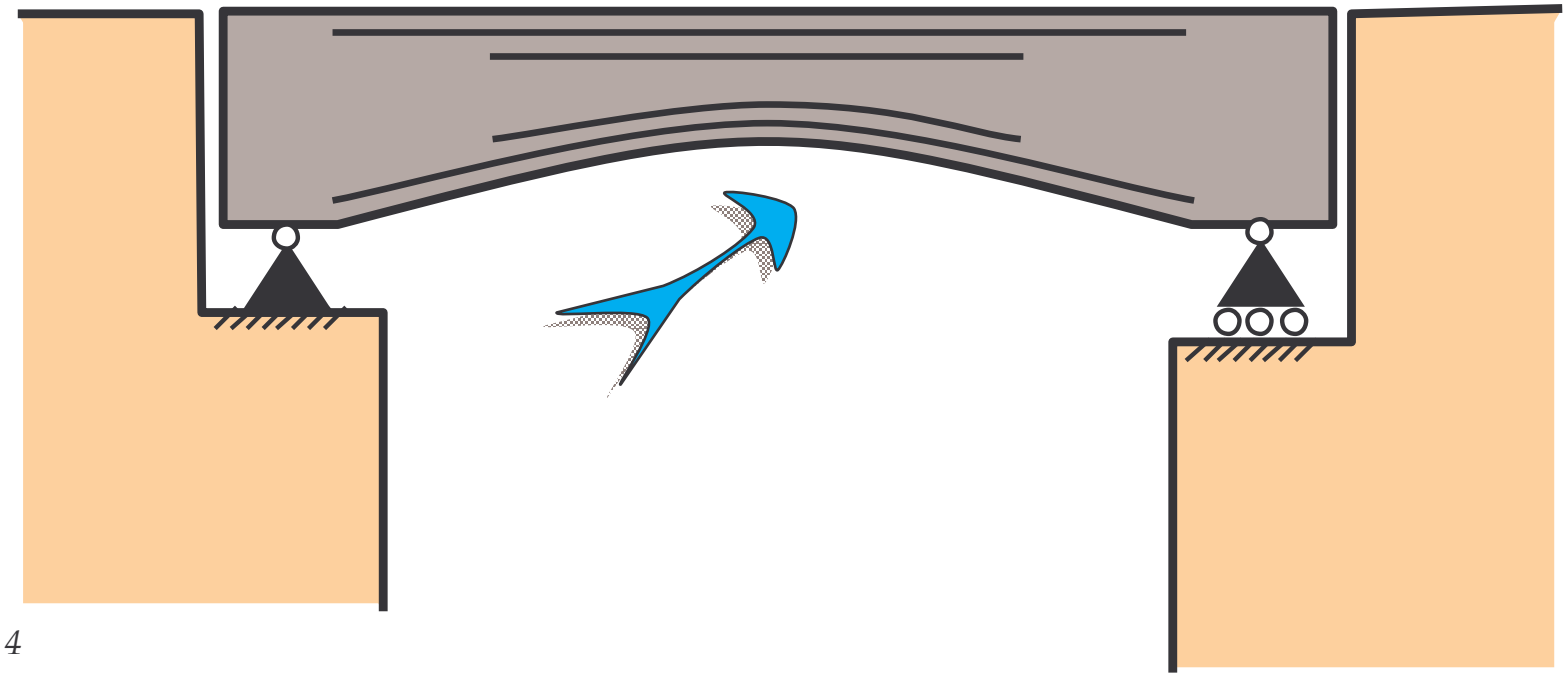
January – May 2008

OUTLINE

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

SECTIONING

WHAT IS SECTIONING?



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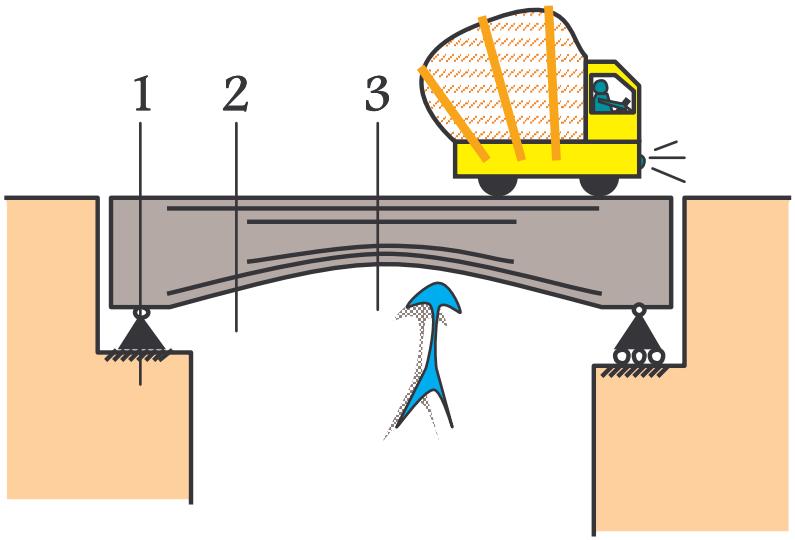
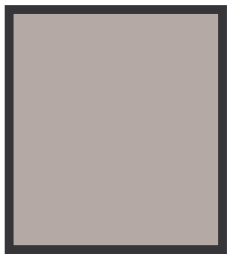
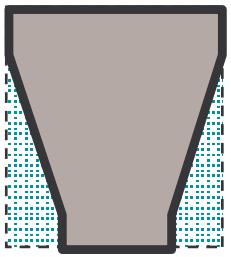
WHAT IS SECTIONING?

- Cutting an object

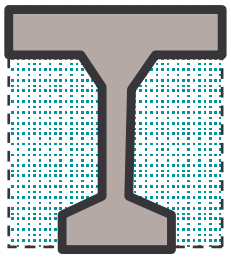




Section @ Point 1



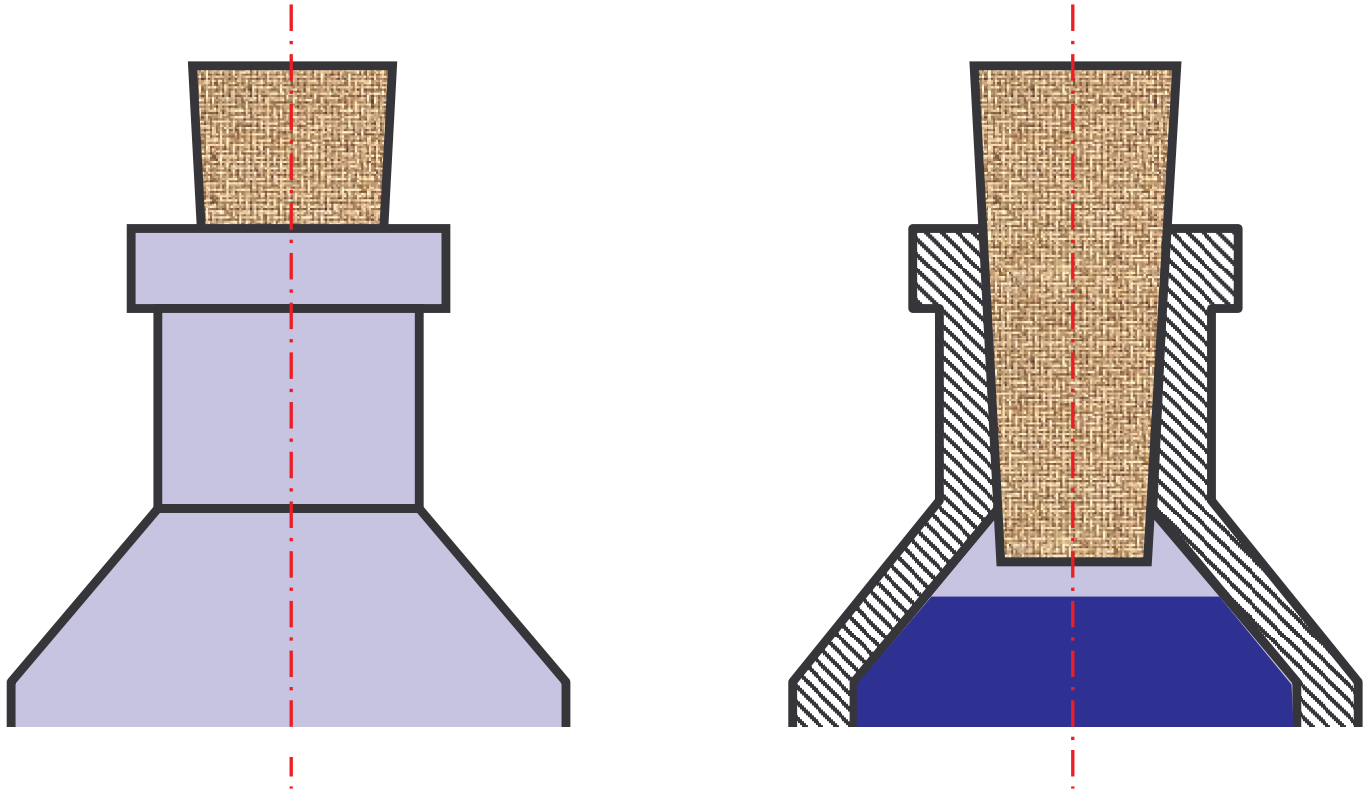
Section @ Point 2



Section @ Point 3

GENESIS

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



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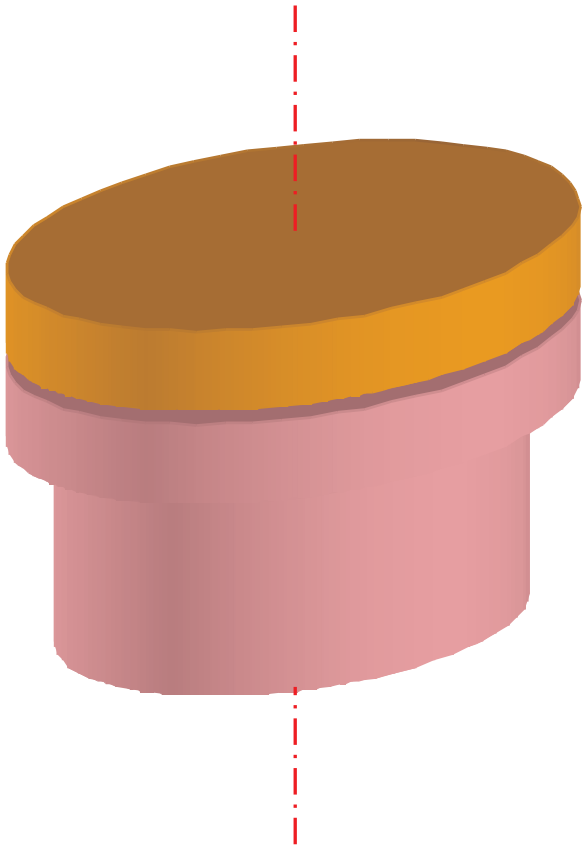
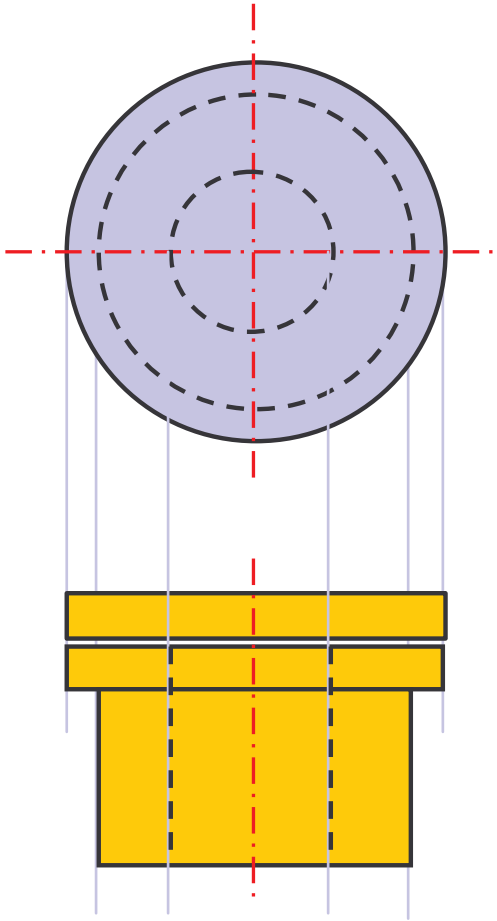
- Outside shapes don't reflect inside shapes





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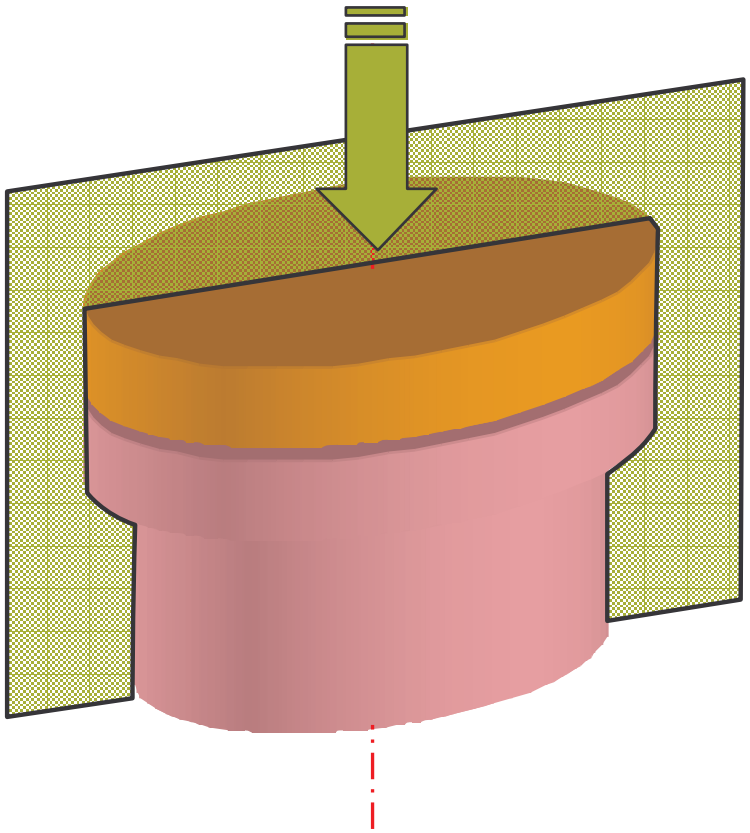
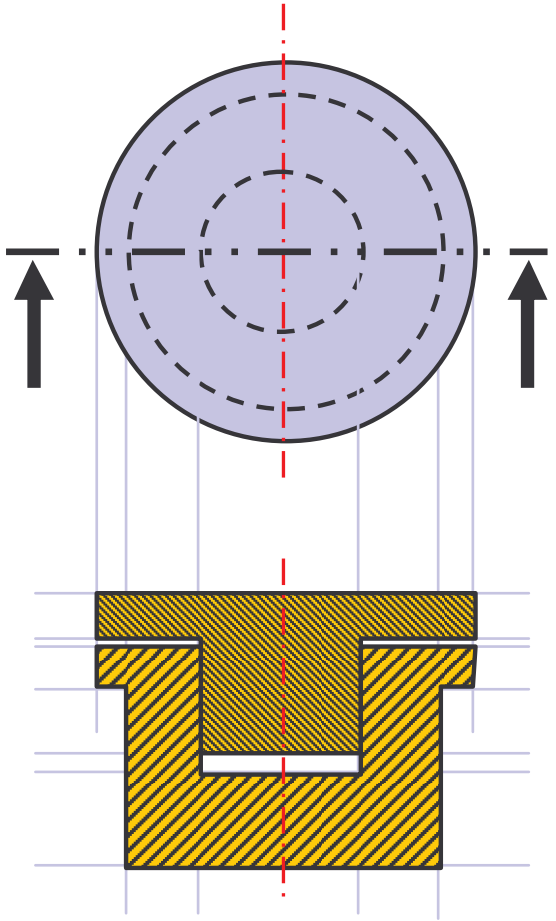
- Outside shapes don't reflect inside shapes





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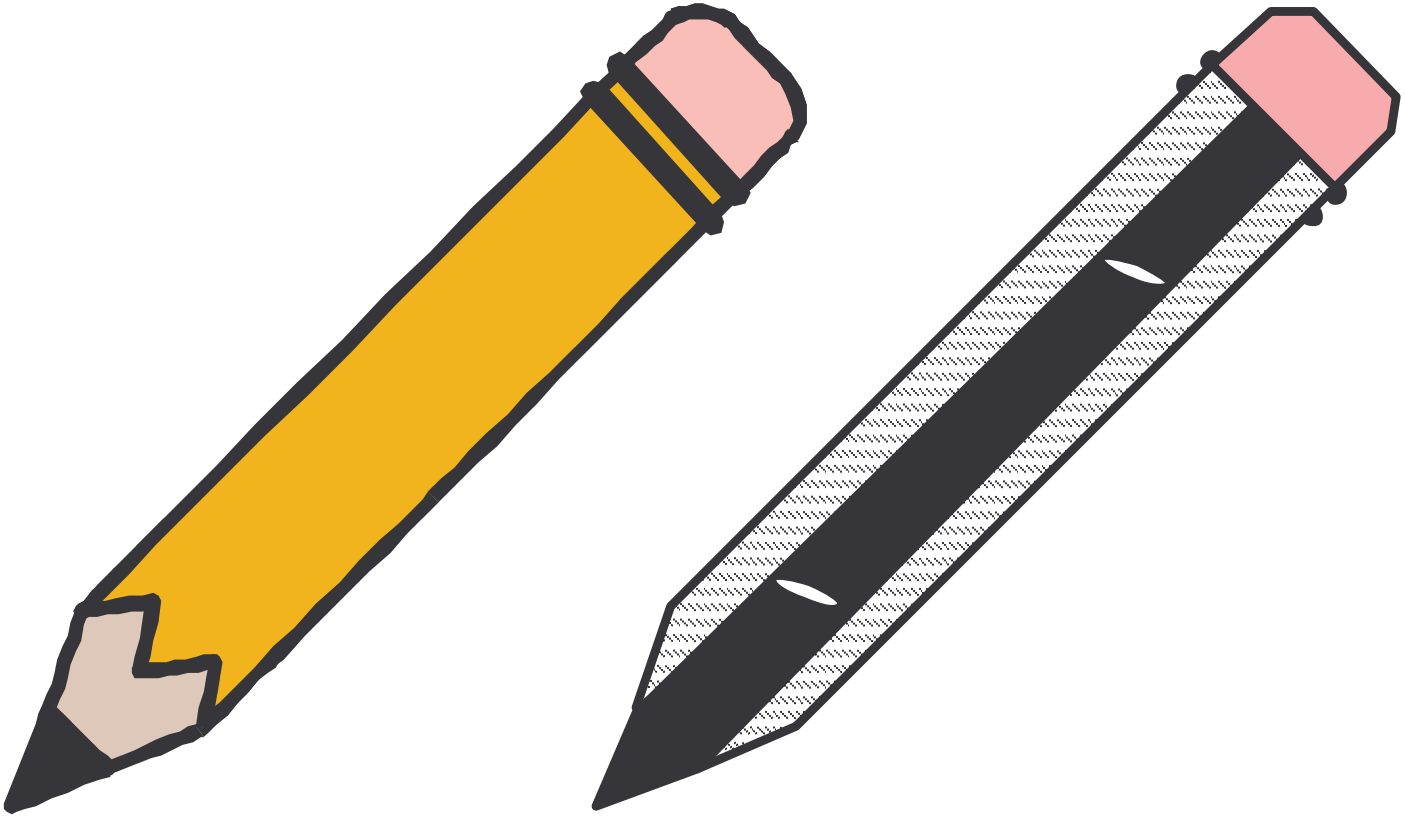
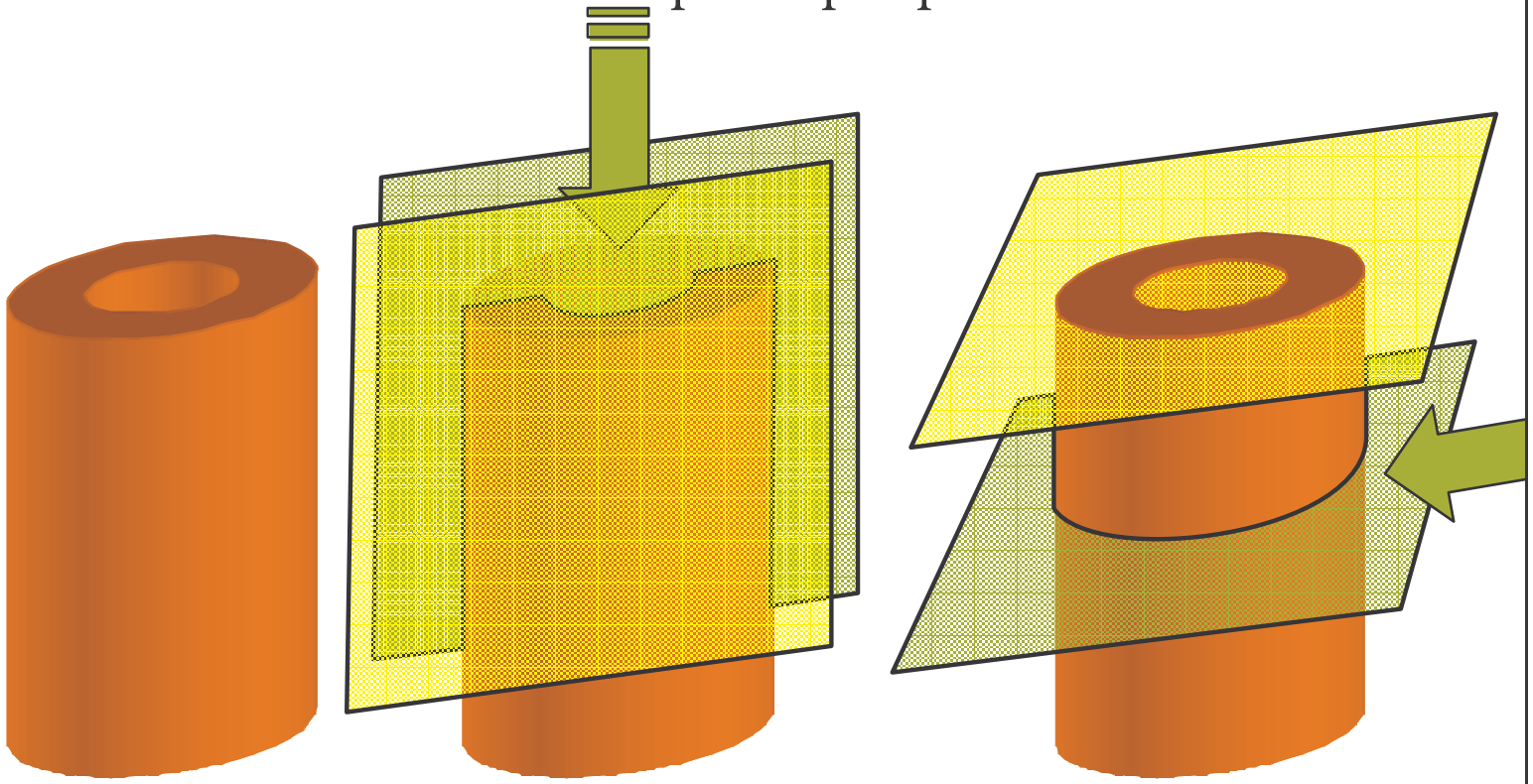
BASICS

- Sectional views
  - Must show the solids and voids

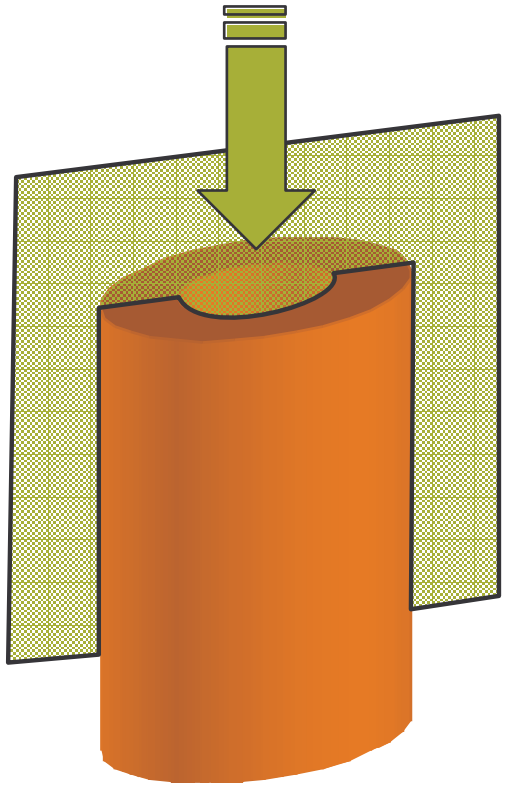


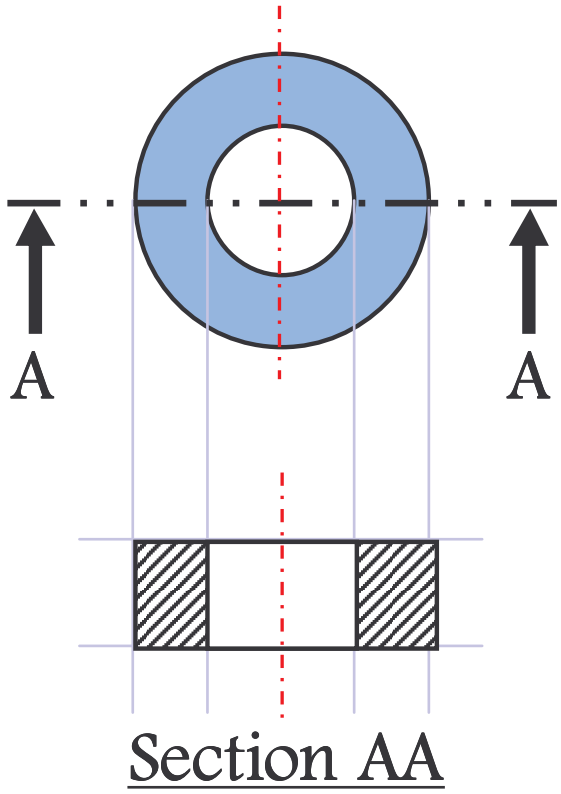
BASICS

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

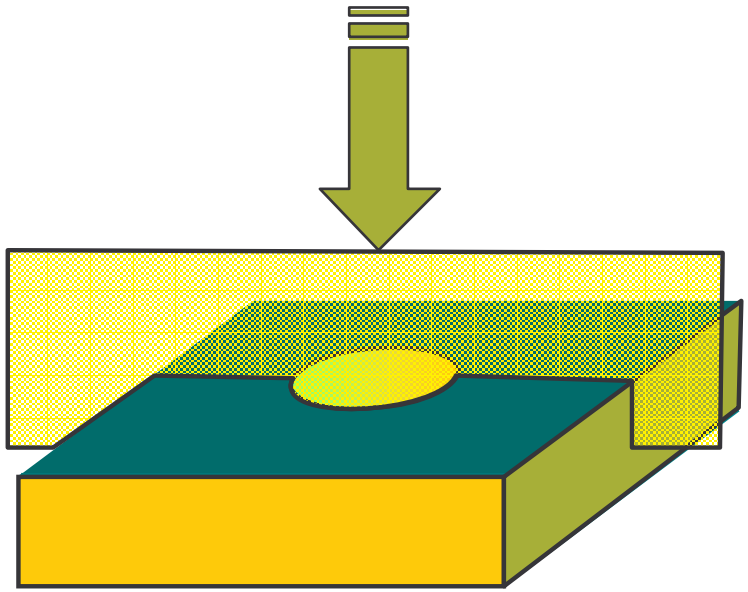


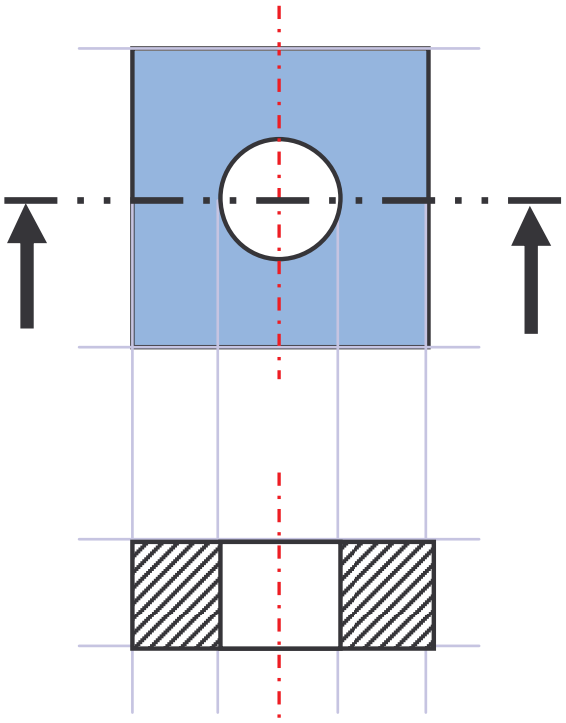
- Basic items in drawing a sectional view



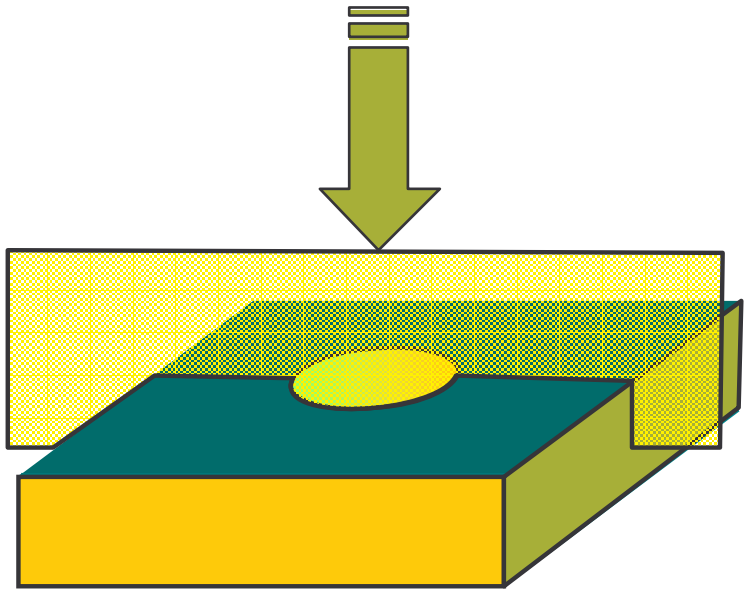


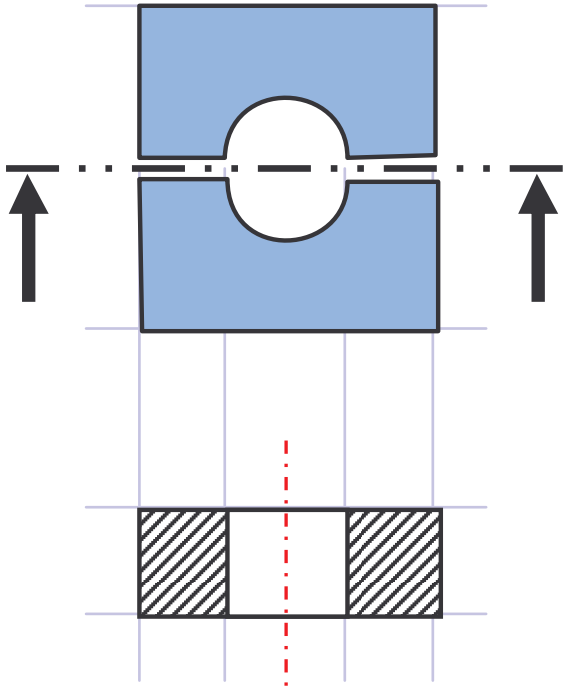
- Which piece is being viewed





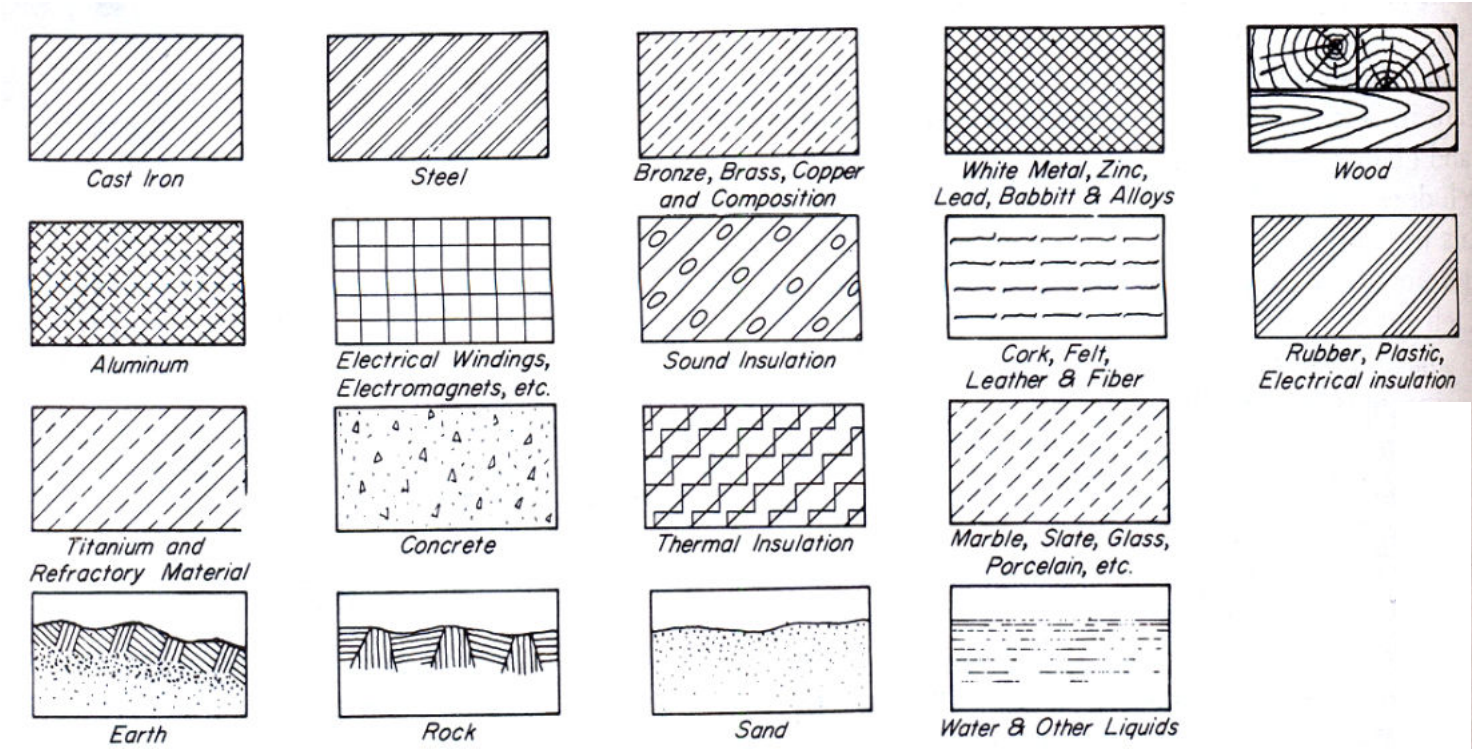
- Which piece is being viewed
  - And how





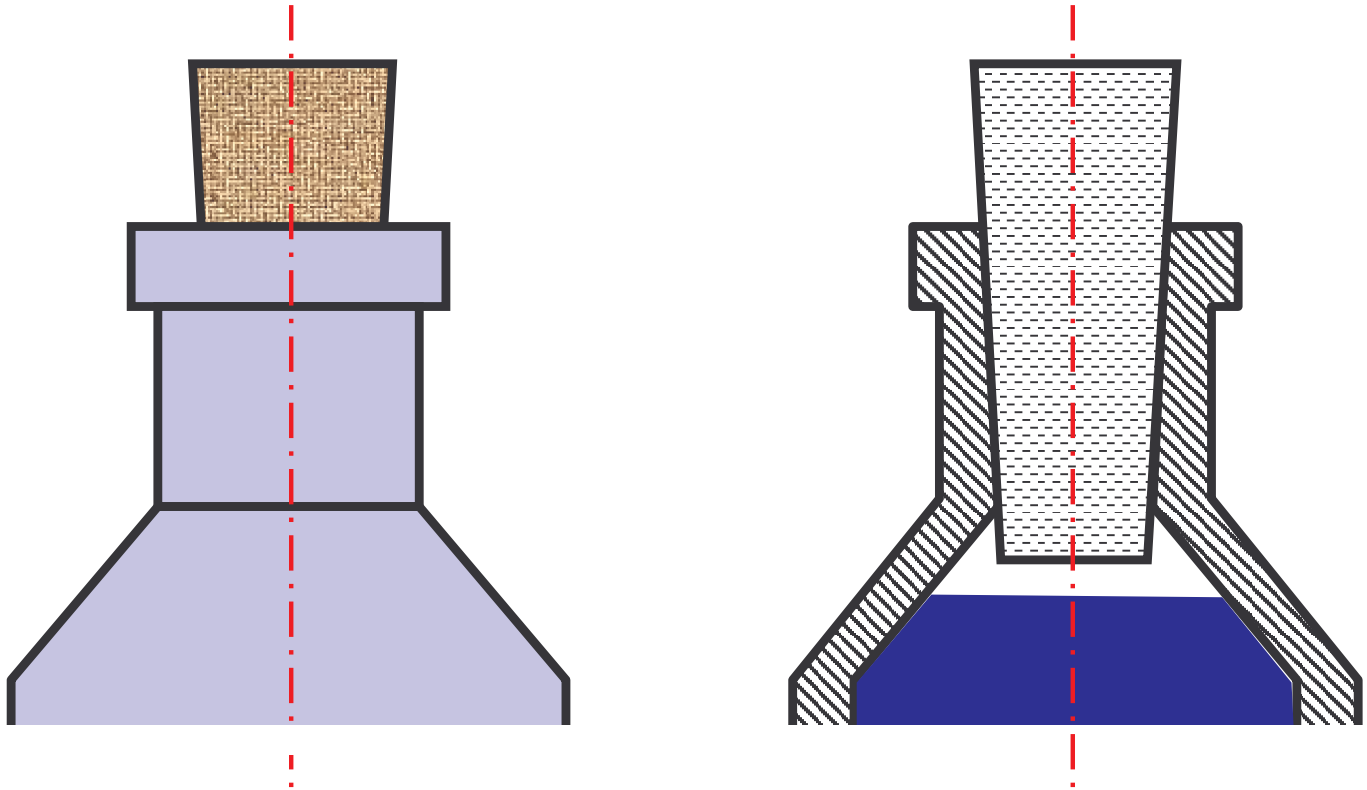
HATCHING

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



HATCHING

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



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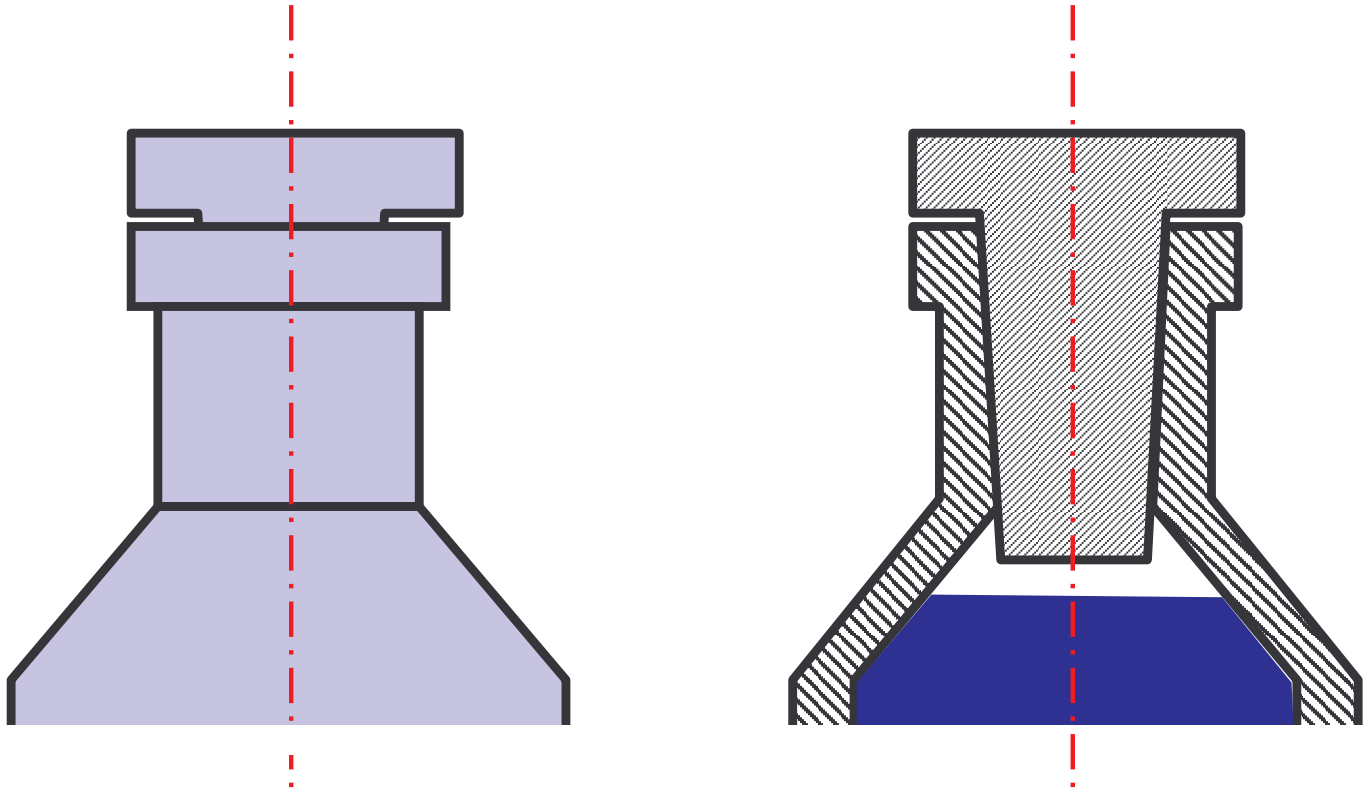
HATCHING

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



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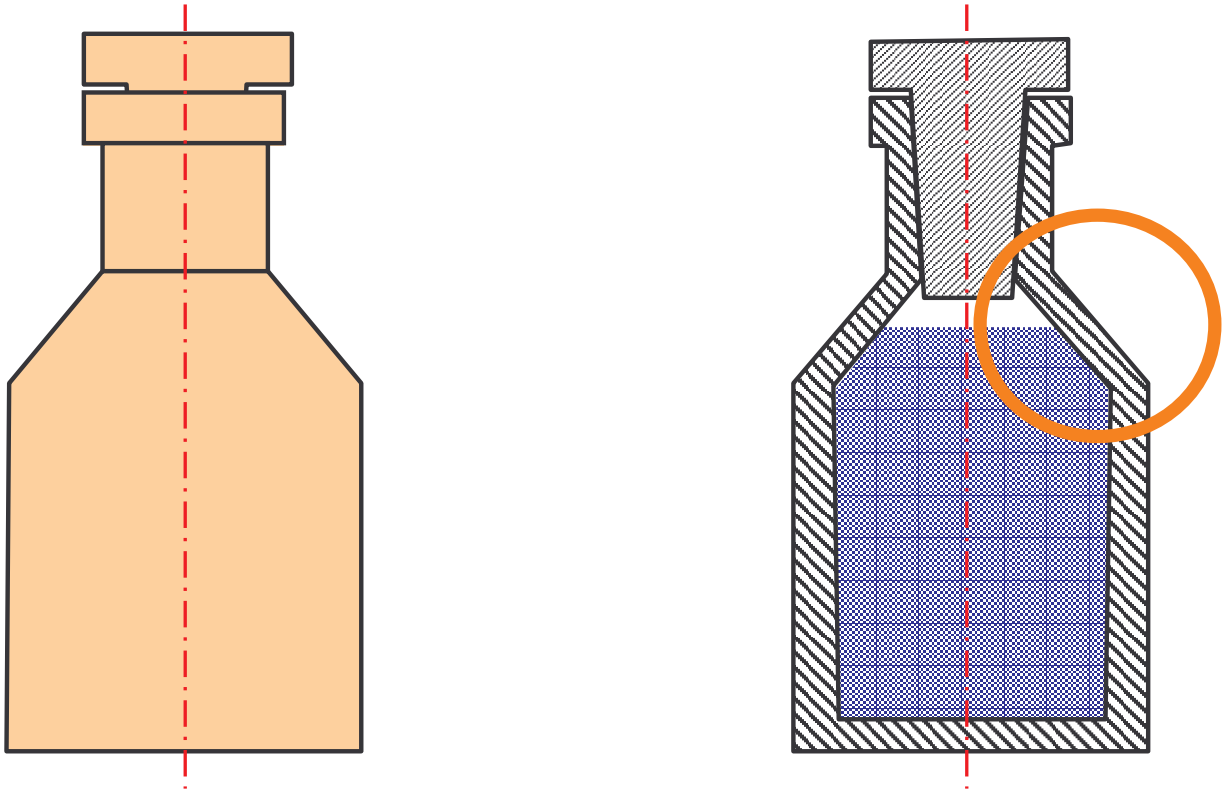
HATCHING

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



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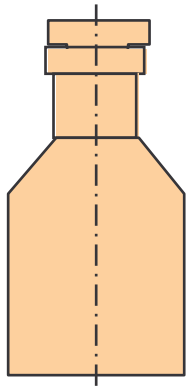
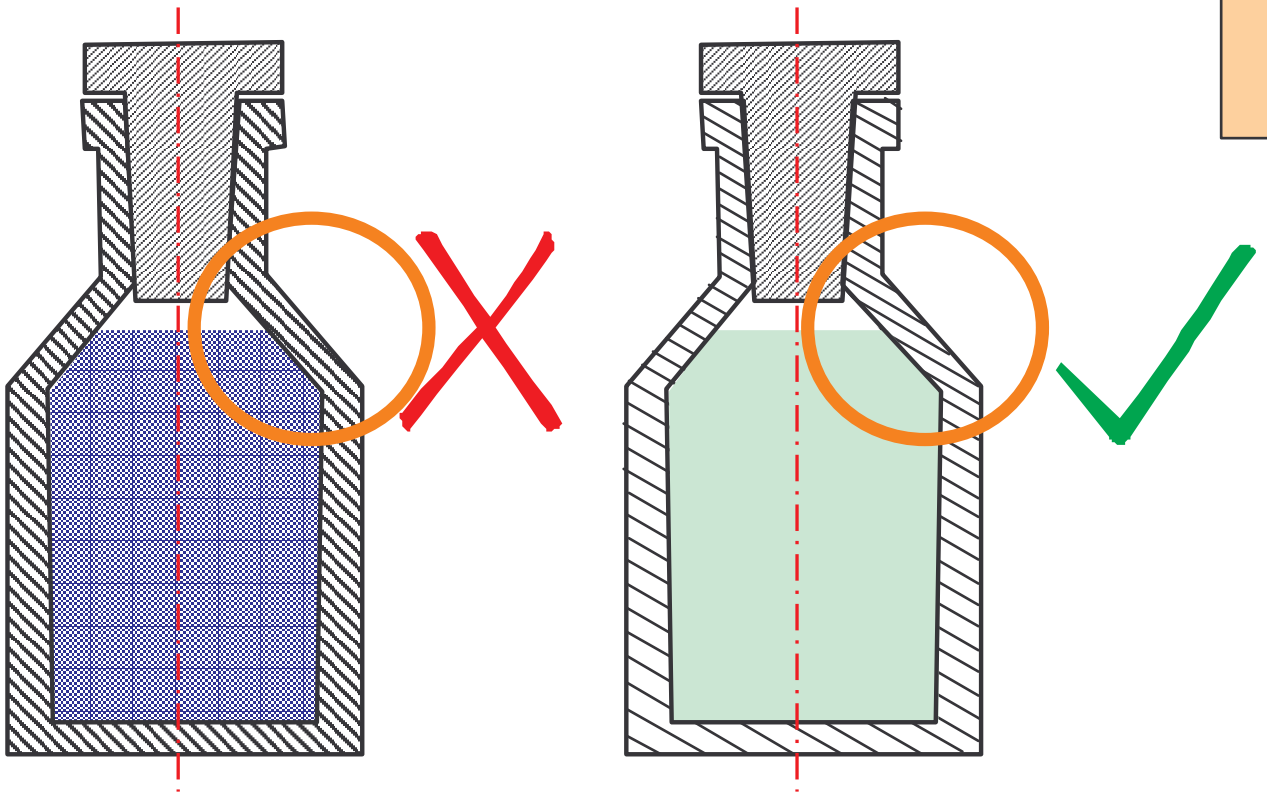
HATCHING

- Preferred direction of hatching
  - 30°, 60° & 75°





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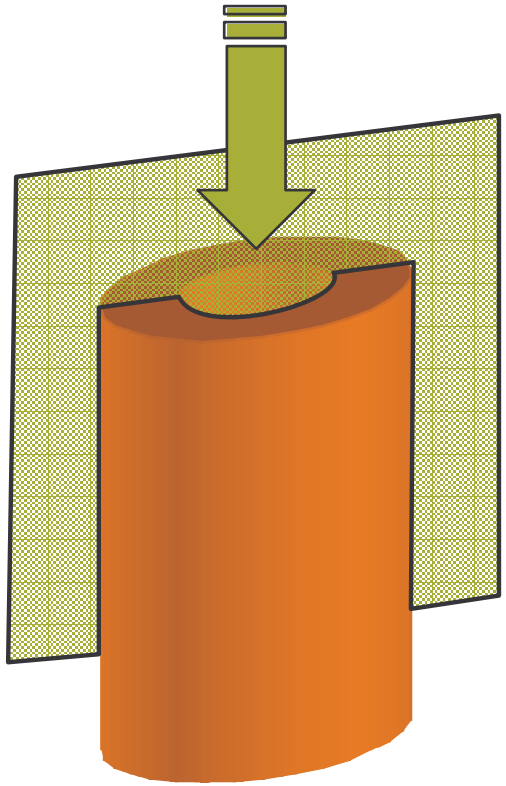
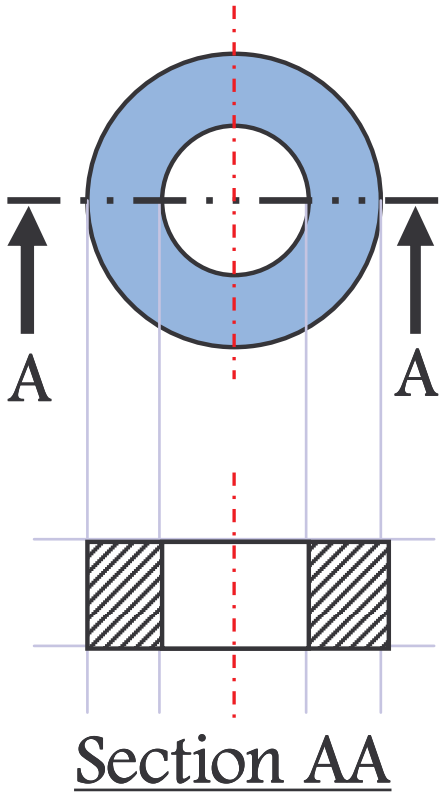
HATCHING

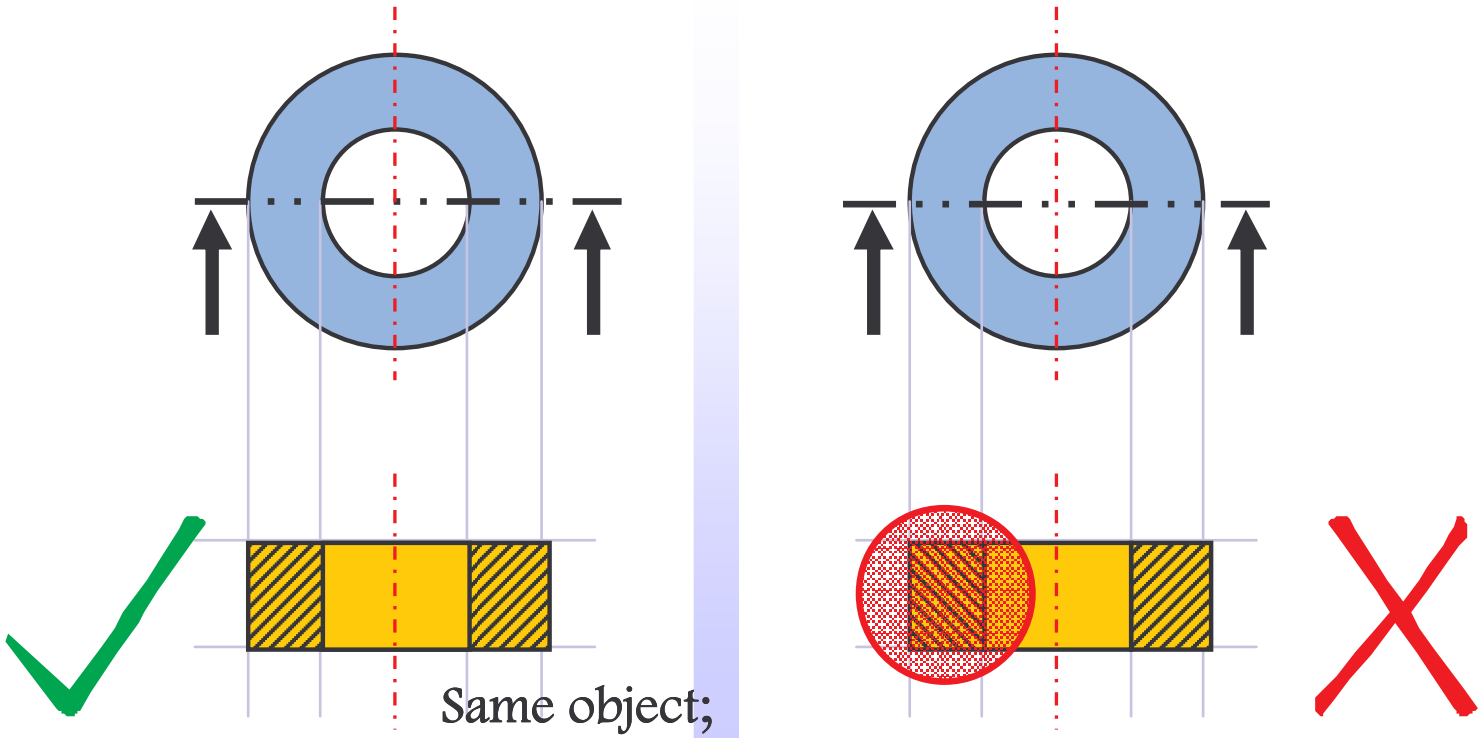
- Direction of hatching for the same object





HATCHING

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

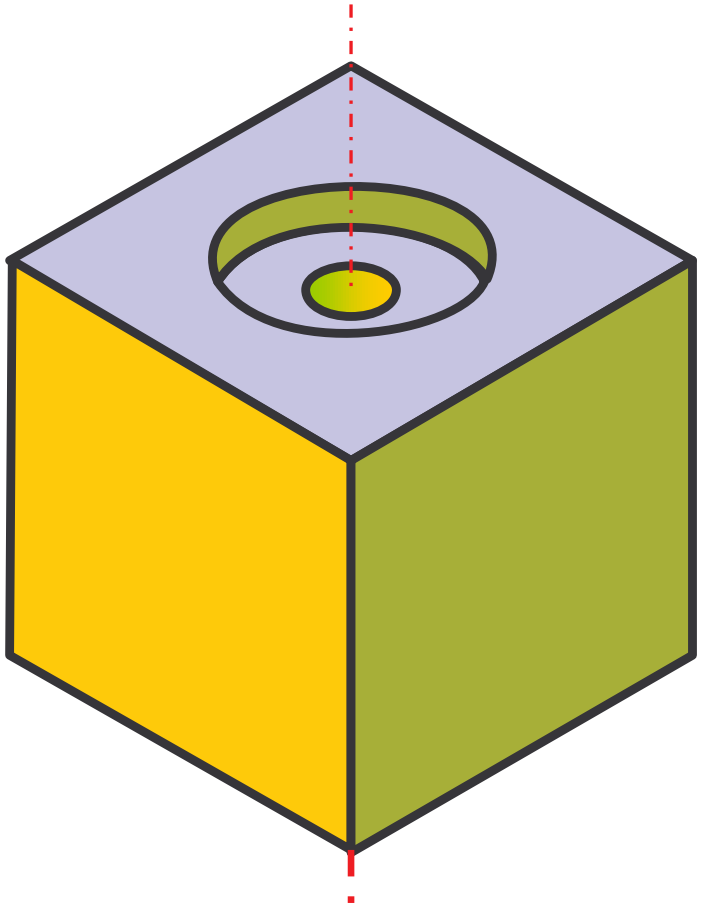


Same object;
same direction of hatching

EXAMPLES

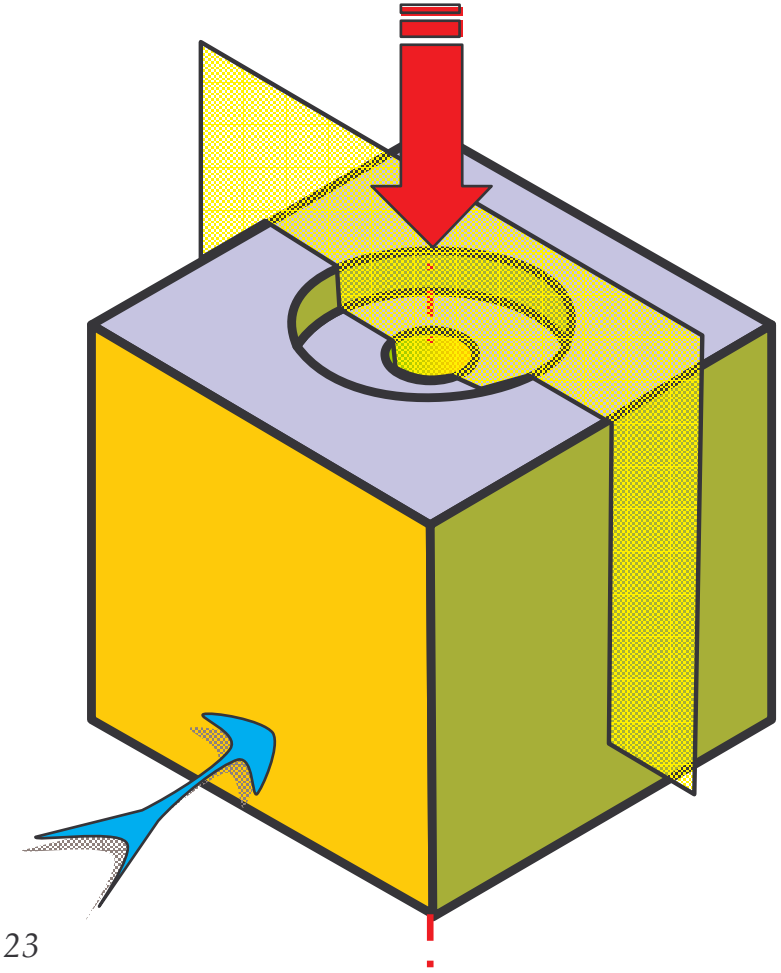
EXAMPLE 1

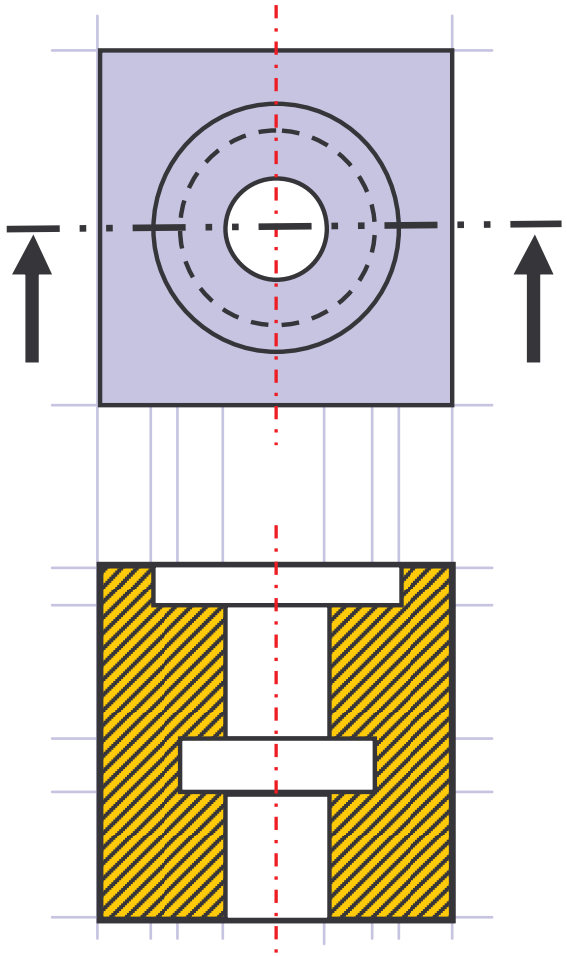
- Block with a hole



EXAMPLE 1

- Block with a hole





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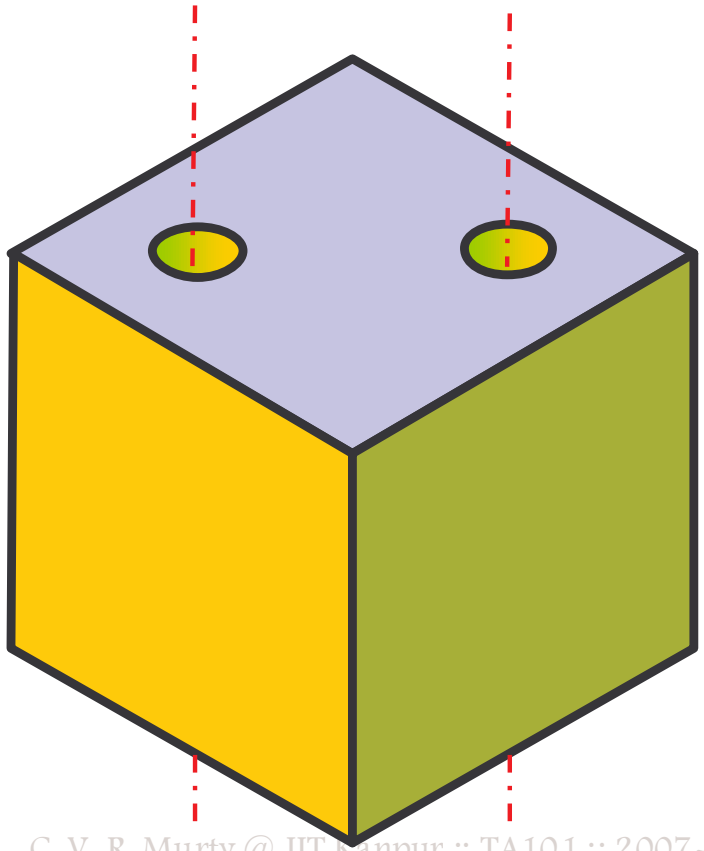
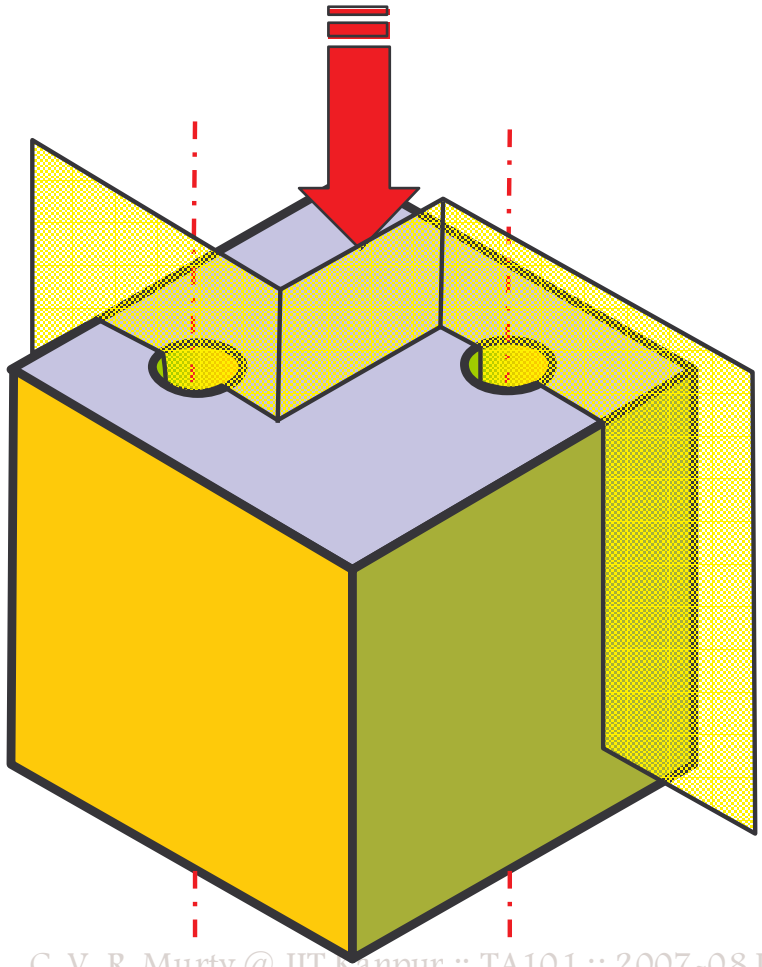
EXAMPLE 2

- Block with two holes



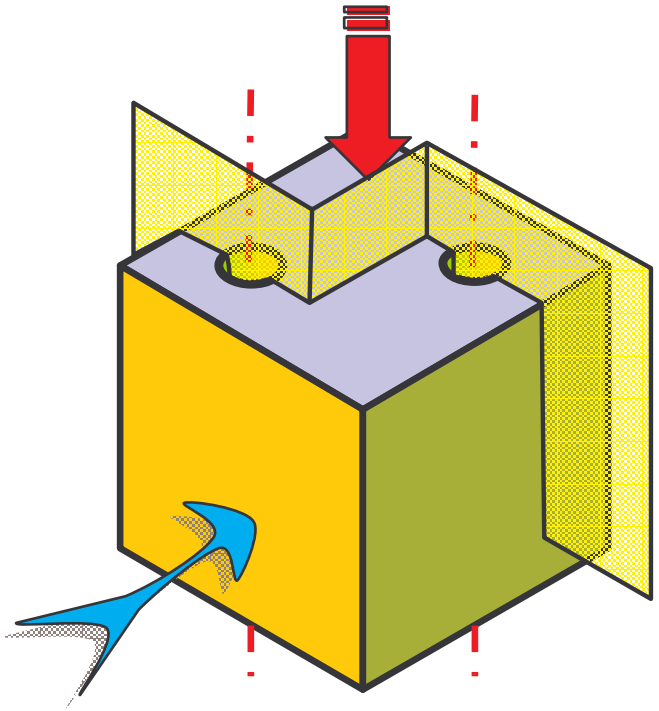
EXAMPLE 2

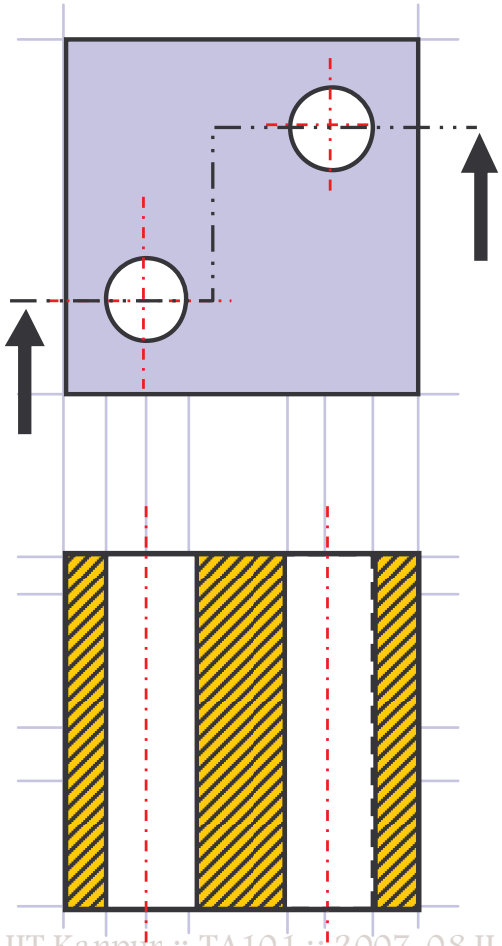
- Block with two holes
  - Views



EXAMPLE 2

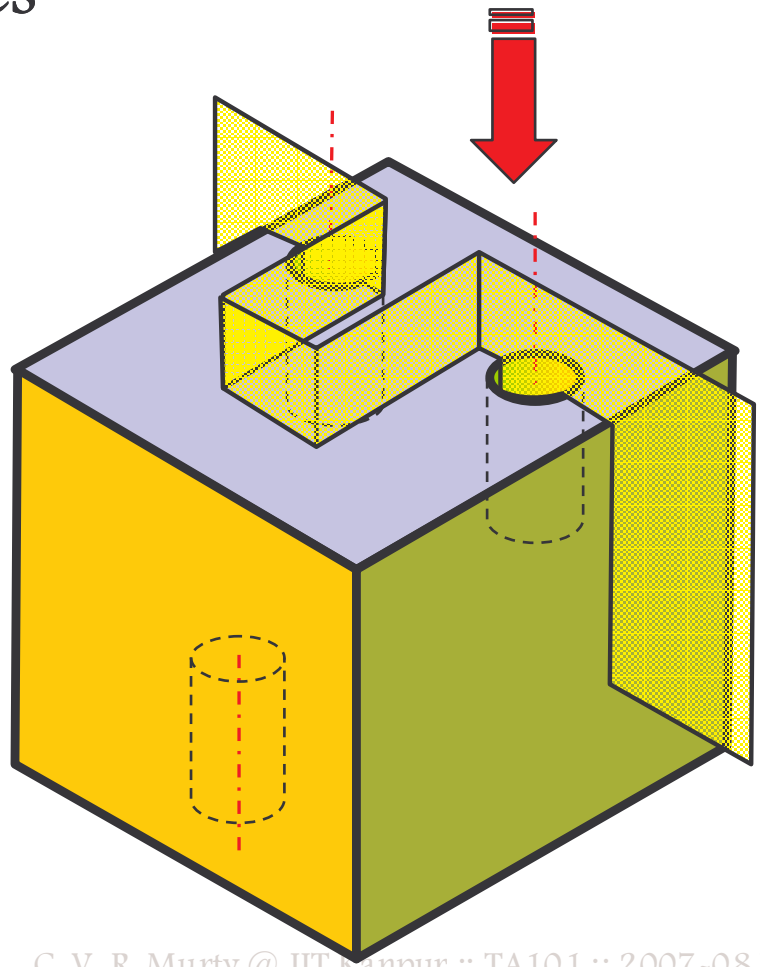
- Block with two holes
  - Cutting plane





EXAMPLE 3

- Block with three holes



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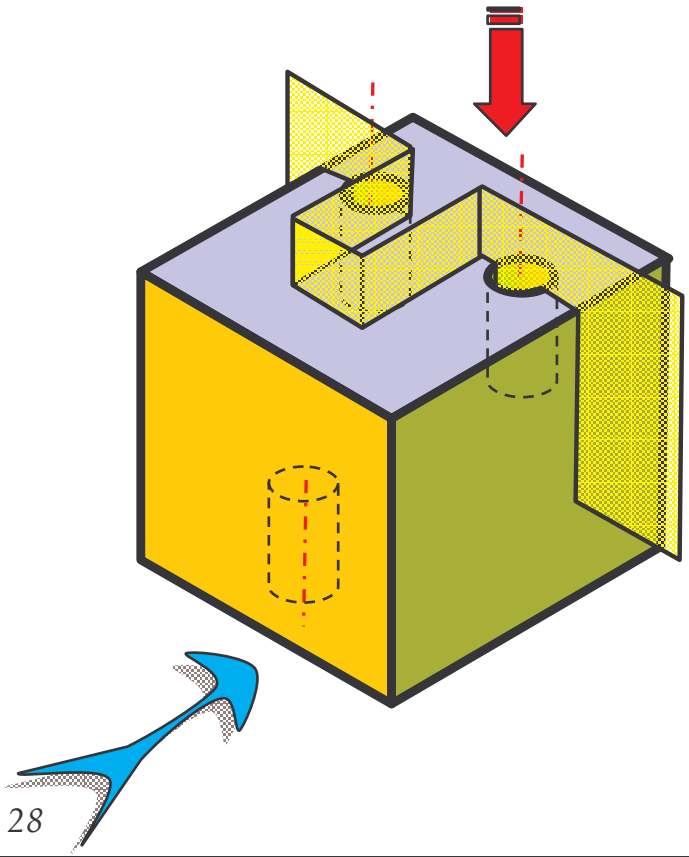
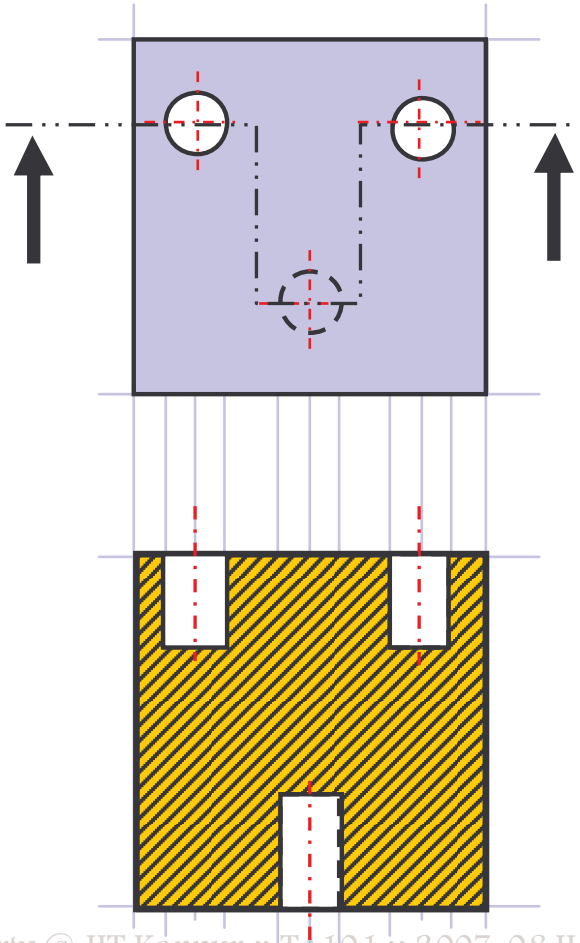
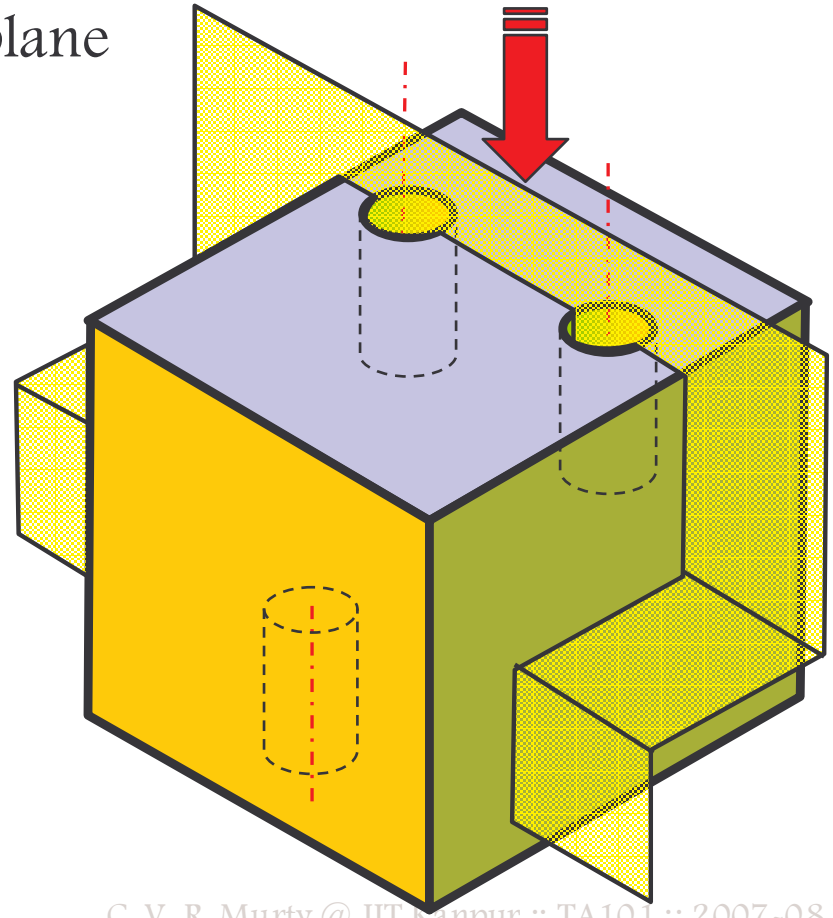
- Block with three holes





EXAMPLE 3

- Block with three holes
  - Different cutting plane



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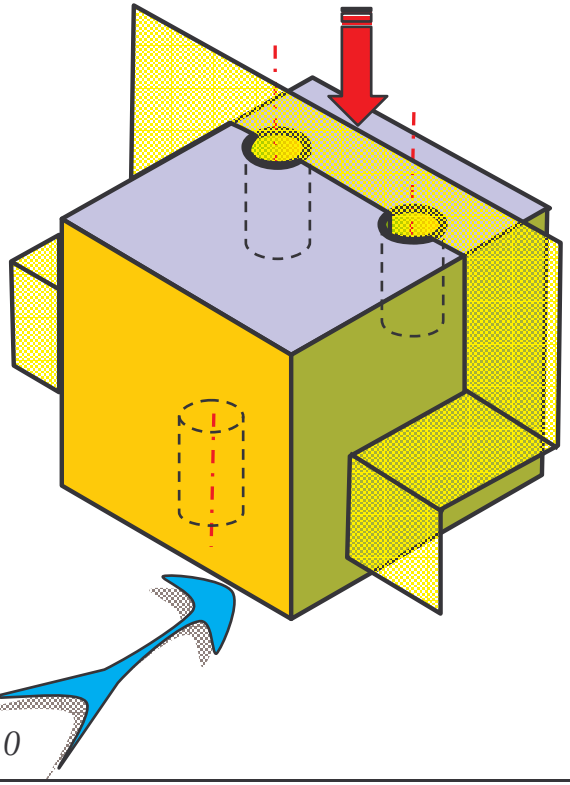
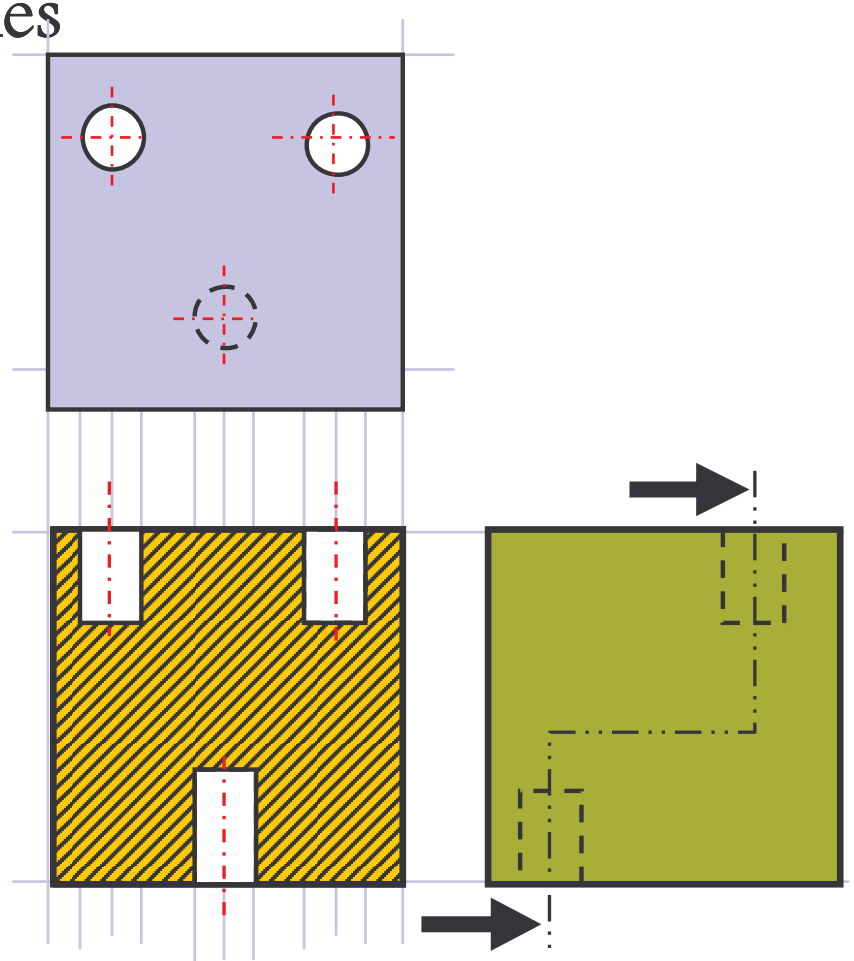
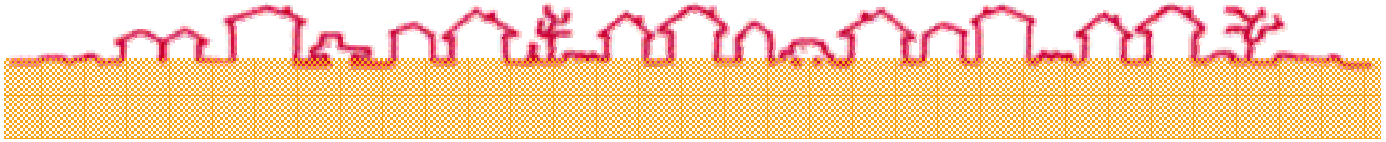
- Block with three holes







Have a Great Day!!