

# Workability of Concrete

[IS: 1199]

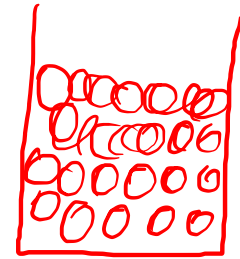
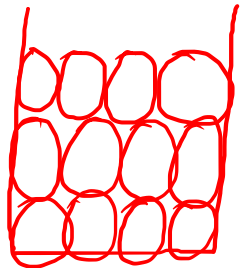
# Workability of Concrete

This is defined as the ease with which concrete can be compacted fully without seggregating & Bleeding.

It can also be defined as the amount of internal work required to fully compact the concrete to optimum density.

# factors affecting Workability :-

- ① Water cement Ratio  $\rightarrow \frac{\text{Water}}{\text{cement}} \uparrow$  Workability  $\uparrow$
- ② Aggregate cement Ratio  $\rightarrow \frac{\text{Agg}}{\text{cement}} \uparrow$  Workability  $\downarrow$
- ③ Size of Aggregate
- ① Bigger  $\rightarrow$  Surface Area  $\downarrow$  Workability  $\uparrow$
  - ② Smaller  $\rightarrow$  Surface Area  $\uparrow$  Workability  $\downarrow$



④ Time to transit:- Time  $\uparrow$  Workability  $\downarrow$

⑤ Shape of Aggregate

i) Round  $\rightarrow$    $\rightarrow$  Surface Area  $\downarrow \rightarrow$  Workability  $\uparrow$

ii) Angular   $\rightarrow$  Surface Area  $\uparrow \rightarrow$  Workability  $\downarrow$

⑥ Texture of Aggregate:-

① Rough  $\rightarrow$    $\rightarrow$  Surface Area  $\uparrow$  - Workability  $\downarrow$

② Smooth  $\rightarrow$    $\rightarrow$  Surface Area  $\downarrow$  - Workability  $\uparrow$

⑦ Grading of Aggregate:-

① Well graded  $\rightarrow$  Voids  $\downarrow$  Workability  $\uparrow$

② Poorly Graded  $\rightarrow$  Voids  $\uparrow$  Workability  $\downarrow$

⑧ Admixture :- Air entraining Agent  
zn, Al Powder, Natural wood resin, animal &  
vegetable fatty acid) Workability  $\uparrow$

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