* MEMBER NAME : B01 [ End(I) ]
  1. General Information
     1. Design Code : ACI318M-14
     2. Unit System : N, mm
  2. Material
     1. : 21.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 350 x 550mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Not Considered
     4. Splice Type : 0%



* 1. Moments and Forces
     1. : 0.000kN·m
     2. : 200kN·m
     3. : 0.000kN
  2. Reinforcement
     1. Top Bar : 4-#8 (
        + Layer 1 : 4 EA (
     2. Bot Bar : 4-#8 (
        + Layer 1 : 4 EA (
     3. Stirrup : 2-#5@200 (= 400mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 259mm,

s = 70.95 < 259mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Calculate design parameter
     2. Check space of rebar
        + Moment is zero. Skipped.
     3. Calculate required ratio of reinforcement
        + Moment is zero. Skipped.
     4. Calculate moment capacity
        + Moment is zero. Skipped.
  2. Check Shear Capacity
     1. Calculate shear strength by concrete
        + d = 481mm
     2. Calculate shear strength by stirrup
     3. Calculate ratio of shear capacity
     4. Calculate spacing limits for reinforcement
* MEMBER NAME : B01 [ Middle ]
  1. General Information
     1. Design Code : ACI318M-14
     2. Unit System : N, mm
  2. Material
     1. : 21.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 350 x 550mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Not Considered
     4. Splice Type : 0%



* 1. Moments and Forces
     1. : 200kN·m
     2. : 200kN·m
     3. : 400kN
  2. Reinforcement
     1. Top Bar : 4-#8 (
        + Layer 1 : 4 EA (
     2. Bot Bar : 4-#8 (
        + Layer 1 : 4 EA (
     3. Stirrup : 2-#5@100 (= 400mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 259mm,

s = 70.95 < 259mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Calculate design parameter
     2. Check space of rebar

        + 259mm,

s = 70.95 < 259mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Shear Capacity
     1. Calculate shear strength by concrete
        + d = 481mm
     2. Calculate required shear strength by shear reinforcement
        + Refer [11.4.5.3]

Vs.req < Vc2 → O.K

* + 1. Calculate shear strength by stirrup
    2. Calculate ratio of shear capacity
    3. Calculate spacing limits for reinforcement
* MEMBER NAME : B01 [ End(J) ]
  1. General Information
     1. Design Code : ACI318M-14
     2. Unit System : N, mm
  2. Material
     1. : 21.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 350 x 550mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Not Considered
     4. Splice Type : 0%



* 1. Moments and Forces
     1. : 0.000kN·m
     2. : 200kN·m
     3. : 0.000kN
  2. Reinforcement
     1. Top Bar : 4-#8 (
        + Layer 1 : 4 EA (
     2. Bot Bar : 4-#8 (
        + Layer 1 : 4 EA (
     3. Stirrup : 2-#5@200 (= 400mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 259mm,

s = 70.95 < 259mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Calculate design parameter
     2. Check space of rebar
        + Moment is zero. Skipped.
     3. Calculate required ratio of reinforcement
        + Moment is zero. Skipped.
     4. Calculate moment capacity
        + Moment is zero. Skipped.
  2. Check Shear Capacity
     1. Calculate shear strength by concrete
        + d = 481mm
     2. Calculate shear strength by stirrup
     3. Calculate ratio of shear capacity
     4. Calculate spacing limits for reinforcement