* MEMBER NAME : B01 [ End(I) ]
  1. General Information
     1. Design Code : ACI318-11M
     2. Unit System : N, mm
  2. Material
     1. : 24.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 400 x 600mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Considered
     4. Splice Type : 50%



* 1. Moments and Forces
     1. : 0.00500kN·m
     2. : 0.0001000kN·m
     3. : 0.000kN
  2. Reinforcement
     1. Top Bar : 4-#8 (
        + Layer 1 : 4 EA (
     2. Bot Bar : 2-#8 (
        + Layer 1 : 2 EA (
     3. Stirrup : 2-#3@250 (= 142mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 275mm,

s = 276 > 275mm → N.G

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - a = 52.12mm
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Calculate design parameter
     2. Check space of rebar

        + 275mm,

s = 91.85 < 275mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - a = 77.67mm
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Shear Capacity
     1. Calculate shear strength by concrete
        + d = 538mm
     2. Calculate shear strength by stirrup
     3. Calculate ratio of shear capacity (s = 250mm)
* MEMBER NAME : B01 [ Middle ]
  1. General Information
     1. Design Code : ACI318-11M
     2. Unit System : N, mm
  2. Material
     1. : 24.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 400 x 600mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Considered
     4. Splice Type : 50%



* 1. Moments and Forces
     1. : 0.000kN·m
     2. : 0.00500kN·m
     3. : 0.000kN
  2. Reinforcement
     1. Top Bar : 2-#8 (
        + Layer 1 : 2 EA (
     2. Bot Bar : 4-#8 (
        + Layer 1 : 4 EA (
     3. Stirrup : 2-#3@250 (= 142mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 275mm,

s = 91.85 < 275mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - a = 77.67mm
       - 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 = 538mm
     2. Calculate shear strength by stirrup
     3. Calculate ratio of shear capacity (s = 250mm)
* MEMBER NAME : B01 [ End(J) ]
  1. General Information
     1. Design Code : ACI318-11M
     2. Unit System : N, mm
  2. Material
     1. : 24.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 400 x 600mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Considered
     4. Splice Type : 50%



* 1. Moments and Forces
     1. : 0.00500kN·m
     2. : 0.0001000kN·m
     3. : 0.000kN
  2. Reinforcement
     1. Top Bar : 4-#8 (
        + Layer 1 : 4 EA (
     2. Bot Bar : 2-#8 (
        + Layer 1 : 2 EA (
     3. Stirrup : 2-#3@250 (= 142mm²)
  3. Check Bending Moment Capacity (Positive)
     1. Calculate design parameter
     2. Check space of rebar

        + 275mm,

s = 276 > 275mm → N.G

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - a = 52.12mm
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Calculate design parameter
     2. Check space of rebar

        + 275mm,

s = 91.85 < 275mm → O.K

* + 1. Calculate required ratio of reinforcement
       - = 0.0035
    2. Check ratio of tensile reinforcement
    3. Calculate moment capacity
       - a = 77.67mm
       - ø = 0.900
    4. Calculate ratio of moment capacity
  1. Check Shear Capacity
     1. Calculate shear strength by concrete
        + d = 538mm
     2. Calculate shear strength by stirrup
     3. Calculate ratio of shear capacity (s = 250mm)