* 1. General Information
     1. Design Code : IS 456 2000
     2. Unit System : N, mm
  2. Material
     1. : 20.00MPa
     2. : 415MPa
     3. : 415MPa
  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 **[ANNEX G 1.1]**

= 200 kN

* + 1. Calculate required ratio of reinforcement  **[26.5.1.1]**
    2. Check ratio of tensile reinforcement
       - 0.0075
    3. Calculate moment capacity **[ANNEX G 1.1]**
    4. Calculate ratio of moment capacity
  1. Check Bending Moment Capacity (Negative)
     1. Check space of rebar
        + Moment is zero. Skipped.
     2. Calculate required ratio of reinforcement
        + Moment is zero. Skipped.
     3. Calculate moment capacity
        + Moment is zero. Skipped.
  2. Check Shear Capacity
     1. Calculate shear strength by concret
        + d = 550 mm
        + **[40.4 c] [T table 19]**
        + for Shear
     2. Calculate shear strength by stirrup
        + **[40.4 c]**
     3. Calculate shear strength by stirrup
        + = 114  **[26.5.1.6]**
     4. Calculate ratio of shear capacity
     5. Calculate spacing limits for reinforcement
        + Staken = 200