* BEAM MEMBER : [ DOUBLE REINFORCEMENT ]
  1. General Information
     1. Design Code : ECP 203-2007
     2. Unit System : N, mm
  2. Material
     1. : 25.00MPa
     2. : 400MPa
     3. : 400MPa
  3. Section
     1. Section Size : 400 x 600mm (R-Section)
     2. Cover : 40.00mm
     3. Compression Bar : Not Considered
     4. Splice Type : 0%

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* 1. Moments and Forces
     1. : 0 N·mm
     2. : 200000000 N·mm
     3. : 500000 N
  2. Reinforcement
     1. Area of steel :

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* + 1. Minimum Area of Steel

=675

* + 1. Maximum Area of Steel

= 0.004278

= 0.010837

=2600

* 1. Check Bending Moment Capacity
     1. Calculate moment capacity single Reinforcement (ECP 203-200 - 4-1) [page no 5-4]

N . mm

* + 1. Calculate max moment capacity single Reinforcement (ECP 203-200 - 4-4) [page no 5-4]

* 1. Check Shear Capacity
     1. Calculate shear strength by concrete

* + 1. shear strength check as per code

* + 1. Calculate shear strength by stirrup
       - S mm S mm



* + 1. Calculate of shear capacity by stirrup
    2. Require area steel for stirrups

=274.86

* + 1. Minimum area steel for stirrups

* 1. Skin Reinforcement
     1. Check for skin reinforcement

* + 1. Vertical side reinforcement

* + 1. Vertical side reinforcement

* 1. Check for the deflection
     1. Crack Moment

* + 1. Moment carrying by Beam

* + 1. Instant Deflection

=0.5536 mm

* + 1. Long term deflection

=1.1505 mm

Code check mm