* MEMBER NAME : BEAM
  1. General Information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Design Code** | **Unit System** | **Section** |  |  |  |
| IS 456 2000 | N,mm | 400x600 | 24.00MPa | 400MPa | 400MPa |

* 1. Forces and Reinforcement

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SECT.** |  |  |  | **Top Bar** | **Bot Bar** | **Stirrup** |
| **End(I)** | 250kN·m | 0.000kN·m | 0.000kN | 5-#8 | 5-#8 | 5-#3@250 |
| **Middle** | 0.000kN·m | 400kN·m | 0.000kN | 5-#8 | 5-#8 | 5-#3@250 |
| **End(J)** | 0.000kN·m | 0.000kN·m | 300kN | 5-#8 | 5-#8 | 5-#3@250 |



* 1. Check Bending Moment Capacity

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SECT.** | **End(I)** | | **Middle** | | **End(J)** | |
| **POS.** | **Top** | **Bot** | **Top** | **Bot** | **Top** | **Bot** |
|  | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 | 0.850 |
| **s(mm)** | 68.89 | 68.89 | 68.89 | 68.89 | 68.89 | 68.89 |
|  | 275 | 275 | 275 | 275 | 275 | 275 |
|  | 0.0186 | 0.0186 | 0.0186 | 0.0186 | 0.0186 | 0.0186 |
| **ρ** | 0.0118 | 0.0118 | 0.0118 | 0.0118 | 0.0118 | 0.0118 |
|  | 0.00350 | 0.000 | 0.000 | 0.00350 | 0.000 | 0.000 |
| **ø** | 0.900 | 0.900 | 0.900 | 0.900 | 0.900 | 0.900 |
|  | 0.0186 | 0.0186 | 0.0186 | 0.0186 | 0.0186 | 0.0186 |
|  | 436 | 436 | 436 | 436 | 436 | 436 |
| **Ratio** | 0.573 | 0.000 | 0.000 | 0.917 | 0.000 | 0.000 |

* 1. Check Shear Capacity

|  |  |  |  |
| --- | --- | --- | --- |
| **SECT.** | **End(I)** | **Middle** | **End(J)** |
| **ø** | 0.750 | 0.750 | 0.750 |
|  | 134 | 134 | 134 |
|  | 229 | 229 | 229 |
|  | 363 | 363 | 363 |
| **Ratio** | 0.000 | 0.000 | 0.826 |
|  | 269 | 269 | 269 |
|  | 269 | 269 | 346 |
|  | 269 | 269 | 269 |
| **s(mm)** | 250 | 250 | 250 |
| **Ratio** | 0.930 | 0.930 | 0.930 |