

CHAPTER 5: STRUCTURAL ANALYSIS

5.1 GENERAL

It shall be in accordance with JSCE Standard Specification (Design), 5.1.

5.2 CALCULATION OF SECTIONAL FORCES IN ULTIMATE LIMIT STATE

It shall be in accordance with JSCE Standard Specification (Design), 5.2. Redistribution of bending moment due to plastic deformation of structures shall not be considered in general.

[COMMENT]:

Allowance for redistribution of bending moment due to plastic deformation of structures is normally permitted in statically indeterminate structures incorporating continuous beams, rigid frames, continuous slabs etc. However, as yielding does not take place when CFRM is used, unless special constraining reinforcement is placed in the concrete, the structure cannot be expected to yield. For this reason, redistribution of bending moments due to plastic deformation of structures shall not be considered in general. If the rate of rigidity loss due to the appearance of cracking varies greatly between different members, the effects of redistribution of bending moments due to cracking sometimes cannot be ignored. In such cases, redistribution of bending moments due to cracking must be allowed for in calculation of section forces.

5.3 CALCULATION OF SECTIONAL FORCES AND DEFORMATION IN SERVICEABILITY LIMIT STATE

It shall be in accordance with JSCE Standard Specification (Design), 5.3.

5.4 CALCULATION OF SECTIONAL FORCES IN FATIGUE LIMIT STATE

It shall be in accordance with JSCE Standard Specification (Design), 5.4.