

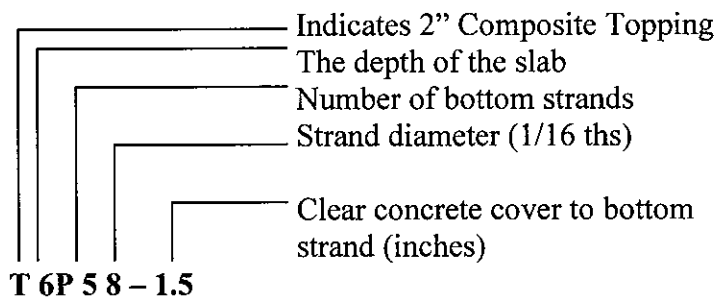
**The calculation basis for the hollow core slabs P6”...P20”**

- 1) Codes and rules: According to ACI, PCI and UBC
- 2) Concrete grade:
  - f ‘c=6000 psi @ 28 days (41.4 MPa) P6”...P13”
  - f ‘ci=3500 psi @ release (24.1 MPa) P6”...P13”
  - f ‘ci=3500 psi @ 28 days (24.1 MPa) P6”...P20”
  - f ‘c=7000 psi @ 28 days (48.3 MPa) p10” 10 1/2” strands
  - f ‘ci=4500 psi @ release (31.0 MPa) P10” 10 1/2” strands
  - f ‘c=7000 psi @ 28 days (48.3 MPa) P16”
  - f ‘ci=5000 psi @ release (34.5 Mpa) P 16”
- 3) Steel tendonds: Seven-wire strands fpu=270 ksi (1860 MPa) with low relaxation.
- 4) Live load deflection: Max. 1/250 This is shown in the tables with bold fonts.
- 5) Fire rating: Based on UBC Code and the following concrete cover
  - 1 Hr C<sub>c</sub>=1” (25.4 mm)
  - 2 Hr C<sub>c</sub>=1.5” (38.1 mm)
  - 3 Hr C<sub>c</sub>=2” (50.8 mm)
- 6) The ratio between flexural tensile and axial tensile strength differs from the code value 1.5. In the calculations following values have been used:

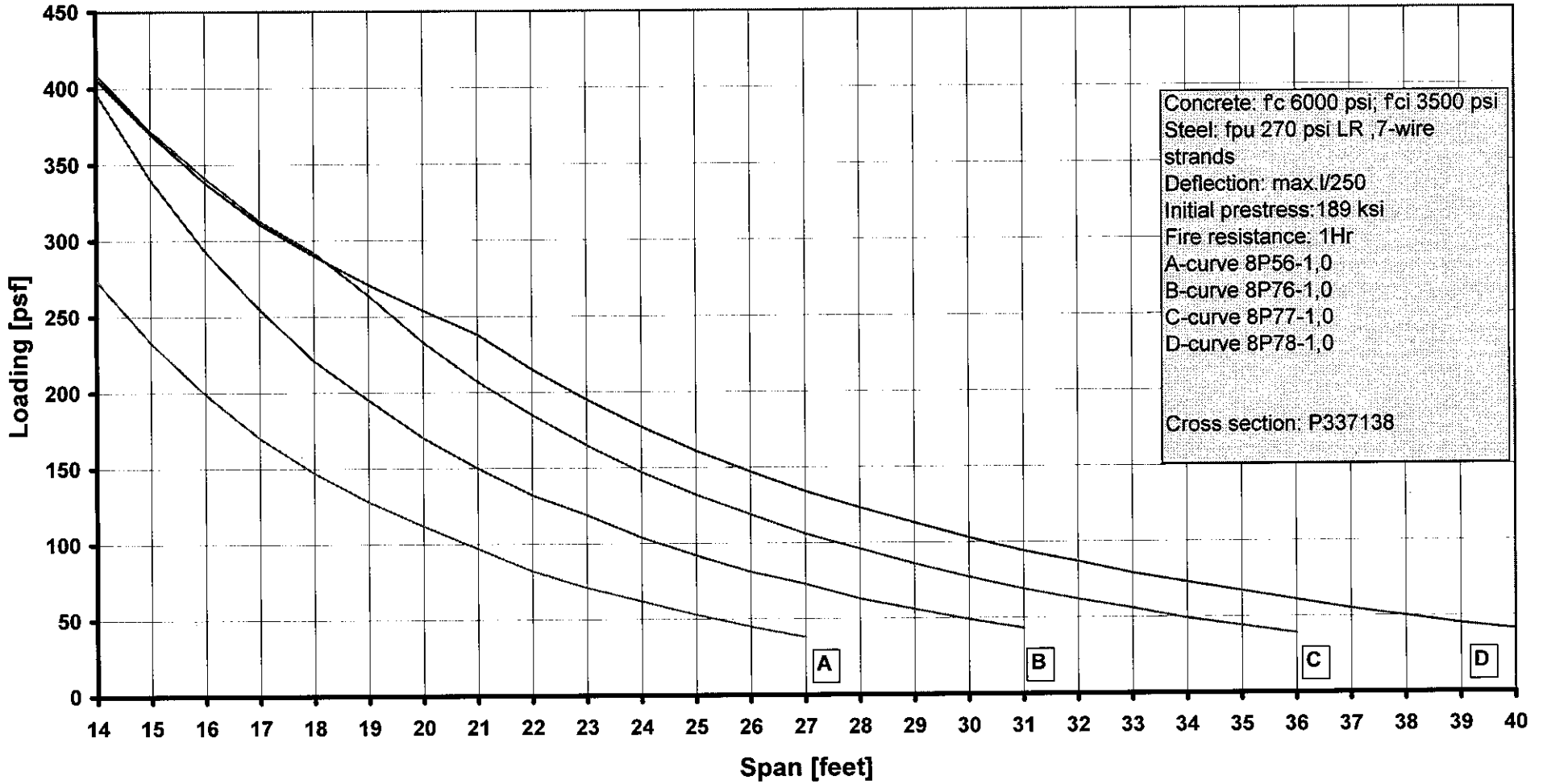
P6” the ratio is 1.5  
 P8” the ratio is 1.4  
 P10” the ratio is 1.35  
 P13” the ratio is 1.3  
 P16” the ratio is 1.2  
 P 20” the ratio is 1.1

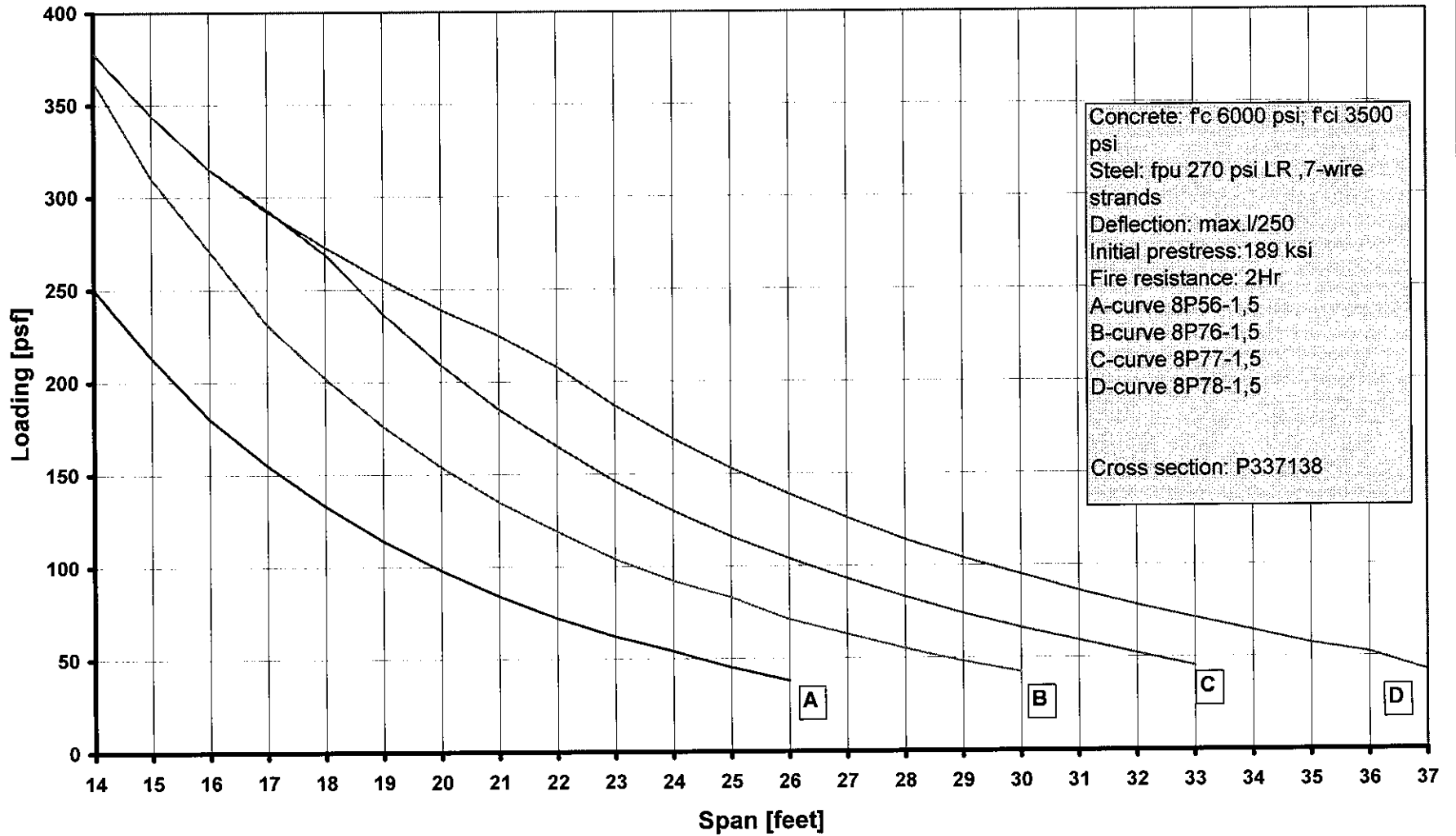
- 7) Initial prestress:
  - opo=189 ksi (1302 MPa) P6”...P13”
  - opo=160 ksi (1103 MPa) P10”...strands 10 1/2”
  - opo=160 ksi (1103 MPa) P16”

- 8) Series example:



**Capacity curves P8" / 203**  
According to ACI / UBC







### Capacity curves P8" / 203+Topping 2" According to ACI / UBC

