

Figure 4.1: Theoretical Stress-Strain Plot of Concrete

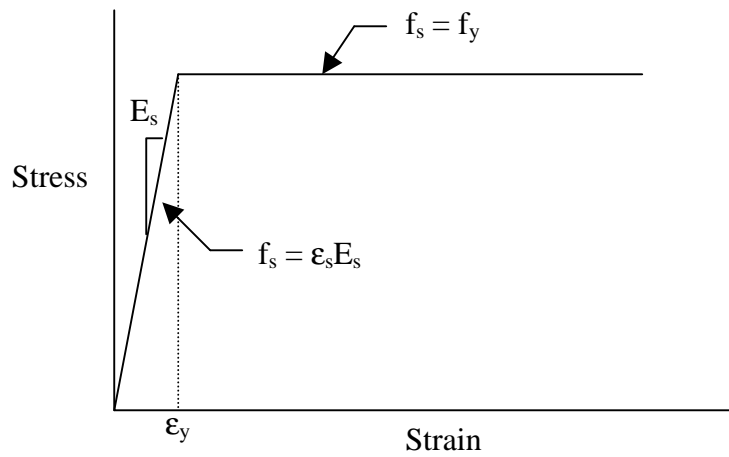


Figure 4.2: Theoretical Stress-Strain Plot of Steel Reinforcement

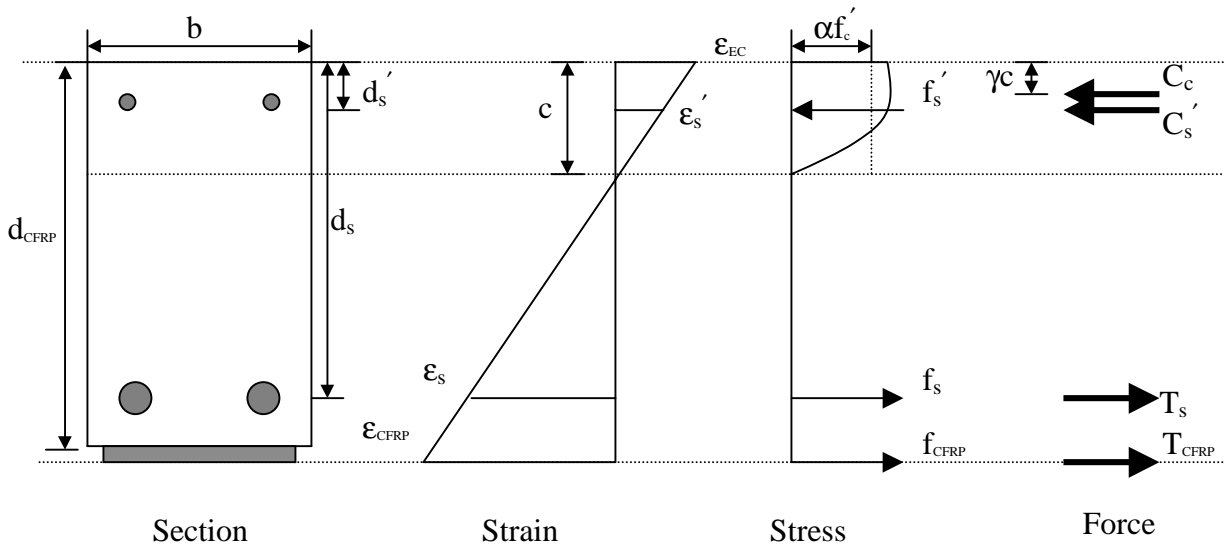


Figure 4.3: Strain, Stress, and Force Diagrams of CFRP Strengthened Concrete Beam

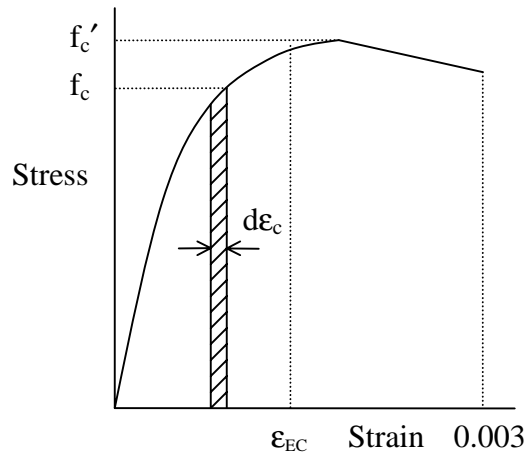


Figure 4.4: Integration of Concrete Stress-Strain Curve

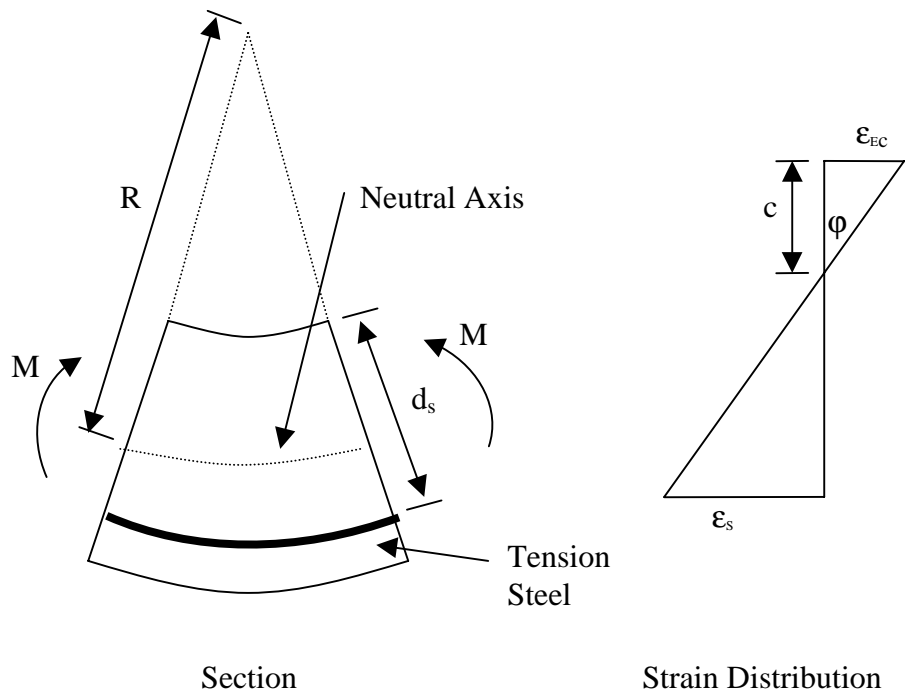


Figure 4.5: Rotation of Flexural Member

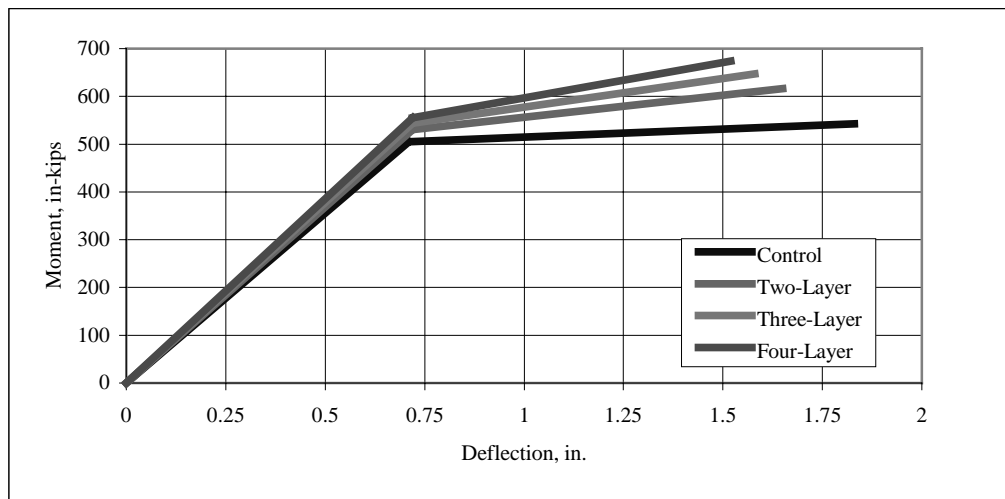


Figure 4.6: Theoretical Moment-Deflection Plots of 0°/90° CFRP Strengthened Beams

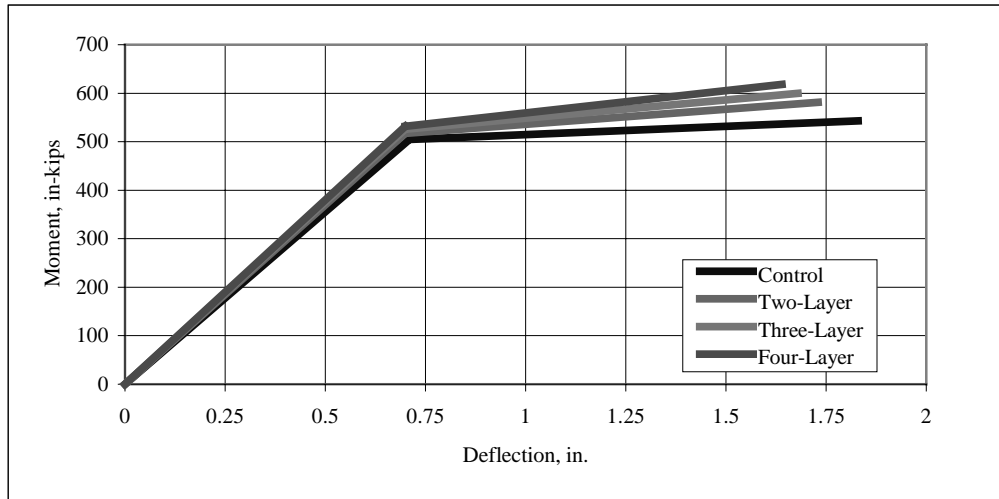


Figure 4.7: Theoretical Moment-Deflection Plots of $\pm 45^\circ$ CFRP Strengthened Beams

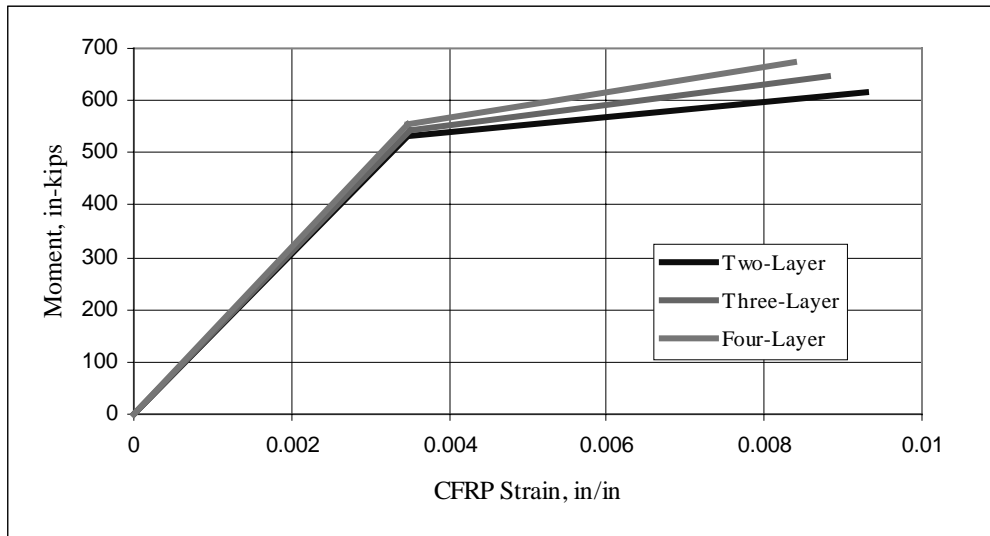


Figure 4.8: Theoretical Moment-CFRP Strain Plots of $0^\circ/90^\circ$ CFRP Strengthened Beams

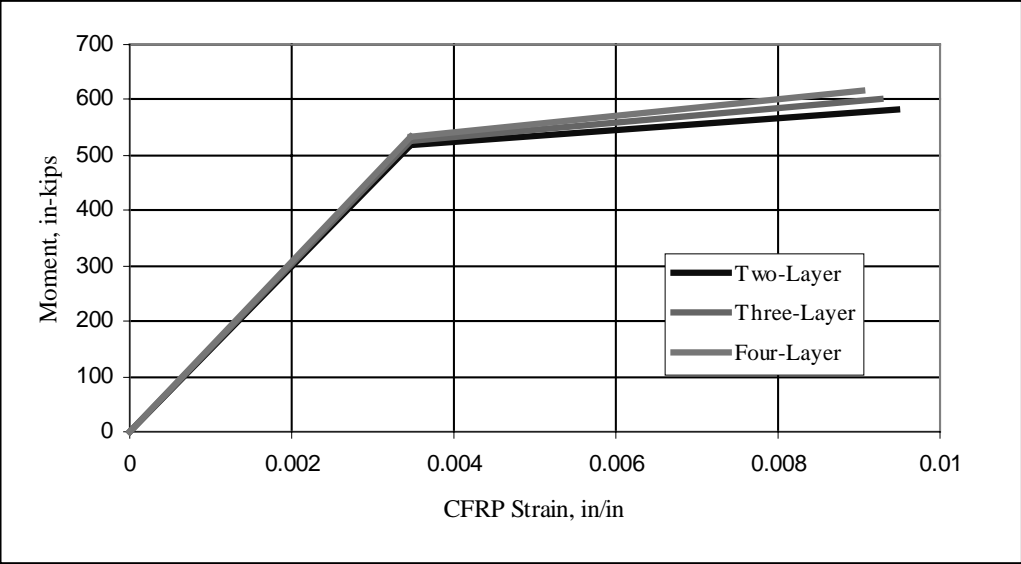


Figure 4.9: Theoretical Moment-CFRP Strain Plots of $\pm 45^\circ$ CFRP Strengthened Beams

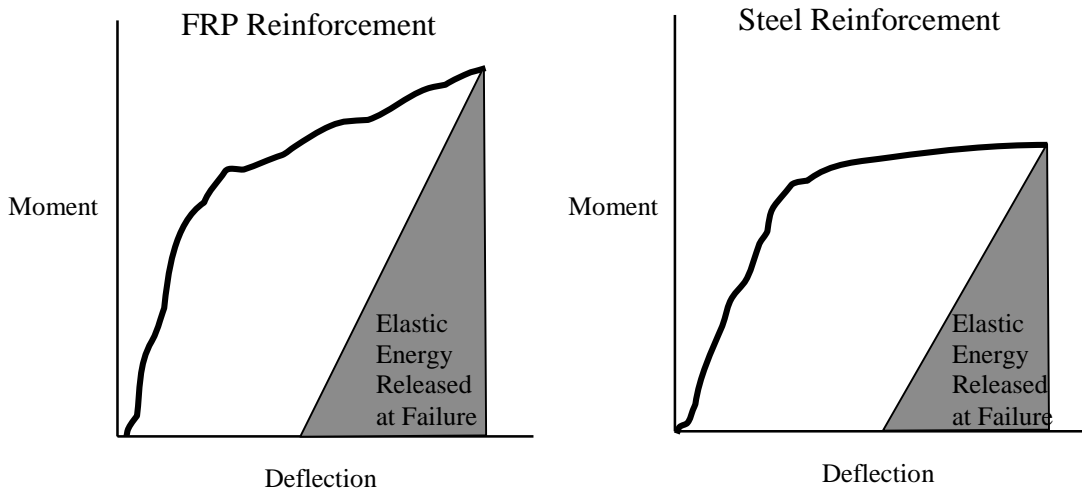


Figure 4.10: Comparison of Elastic Energy Released at Failure

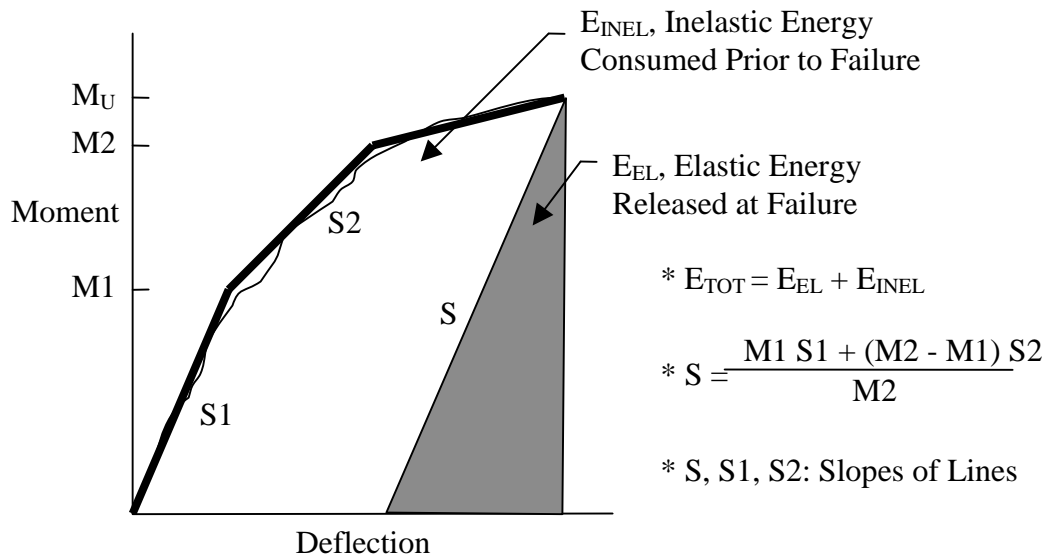


Figure 4.11: Approximation Process for Energy Method