Figure 2.6.2  Design strength interaction curves for precast, reinforced concrete columns

**CRITERIA**
1. CONCRETE $f_c = 5000$ psi
2. REINFORCEMENT $f_y = 60,000$ psi
3. CURVES SHOWN FOR FULL DEVELOPMENT OF REINFORCEMENT
4. HORIZONTAL PORTION OF CURVE IS THE MAXIMUM FOR TIED COLUMNS $= 0.80 \phi P_m$
5. $\phi$ Varies linearly from 0.9 for tension-controlled sections to 0.7 for compression-controlled sections in accordance with ACI 318-95 Sect. B.9.3.2.

**USE OF CURVES**
1. ENTER AT LEFT WITH APPLIED FACTORED AXIAL LOAD, $P_u$
2. ENTER AT BOTTOM WITH APPLIED MAGNIFIED FACTORED MOMENT, $8M_u$
3. INTERSECTION POINT MUST BE TO THE LEFT OF CURVE INDICATING REQUIRED REINFORCEMENT.

**NOTATION**
- $\phi P_n$ = DESIGN AXIAL STRENGTH
- $\phi M_n$ = DESIGN FLEXURAL STRENGTH
- $\phi P_o$ = DESIGN AXIAL STRENGTH AT ZERO ECCENTRICITY
- $A_g$ = GROSS AREA OF THE COLUMN
- $\delta$ = MOMENT MAGNIFIER (SECT. 10.11-10.13, ACI 318-95)

THE INTERACTION CURVES HAVE BEEN SMOOTHED FOR PLOTTING PURPOSES. EXACT CALCULATED VALUES MAY BE SLIGHTLY DIFFERENT.