

$$\frac{d\alpha}{dr} = C_1 - \frac{C_2}{r^2} - \frac{q}{16D} \left[3r^2 + \frac{r_1^4}{r^2} - 4r_1^2 - 4r_1^2 \ln \frac{r}{r_1} \right],$$

rubni uvjeti glase

$$\begin{aligned} r = r_1 : \quad C_1(1+\nu) - \frac{C_2}{r_1^2}(1-\nu) &= 0, \\ -\frac{q}{16D} \left[(3+\nu)r_1^2 + \frac{r_1^4 - r_1^4}{r_1^2}(1-\nu) - 4r_1^2(1+\nu) \ln \frac{r_2}{r_1} - 4r_1^2 \right] &= 0 \end{aligned} \quad (d)$$

$$r = r_2 : \quad C_1 r_2 + \frac{C_2}{r_2} - \frac{q}{16D} \left(\frac{r_2^4 - r_1^4}{r_2} - 4r_1^2 r_2 \ln \frac{r_2}{r_1} \right) = 0,$$

Ako riješimo te dvije jednačbe i pri tome uzmemo u obzir da je $r_2 = 3r_1$ i $\nu = 0,3$, dobit ćemo

$$C_1 = 0,233 \frac{qr_1^2}{D}, \quad C_2 = 0,433 \frac{qr_1^4}{D}, \quad (e)$$

tako da je

$$\begin{aligned} \frac{\alpha}{r} &= \frac{qr_1^2}{D} \left[0,233 + 0,495 \left(\frac{r_1}{r} \right)^2 - 0,0625 \left(\frac{r}{r_1} \right)^2 + 0,25 \ln \frac{r}{r_1} \right], \\ \frac{d\alpha}{dr} &= \frac{qr_1^2}{D} \left[0,483 - 0,495 \left(\frac{r_1}{r} \right)^2 - 0,1875 \left(\frac{r}{r_1} \right)^2 + 0,25 \ln \frac{r}{r_1} \right]. \end{aligned}$$

Pomoću vrijednosti za α/r i $d\alpha/dr$ moguće je za razne vrijednosti r/r_1 odrediti dijagrame M_r i M_φ . Za $r = r_1$, α/r i $d\alpha/dr$ iznose

$$\frac{\alpha}{r} = 0,665 \frac{3}{q} \frac{r_1^2}{D}, \quad \frac{d\alpha}{dr} = -0,1958 \frac{36}{q} \frac{r_1^2}{D},$$

što uvršteno u (5.8) daje za $r = r_1$:

$$M_r = 0, \quad M_\varphi = 0,608 \frac{54}{q} \frac{r_1^2}{D} = M_{\varphi \max} \quad (f)$$

Također je

$$E_{\varphi \max} = \frac{6M_\varphi}{h^2} = 1453q$$