Die Statik im Stahlbetonbau

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Berlin [u.a.], 1956

Lösung für gerade Stäbe mit stetig veränderlichem Jh/J

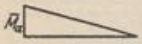
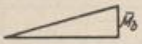
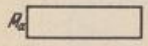
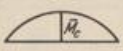
urn:nbn:de:hbz:466:1-74292

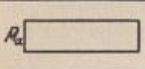
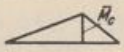
Lösung für gerade Stäbe mit stetig veränderlichem J_h/J.

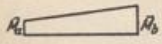
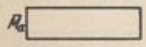
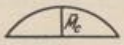
Tabelle 13a. $\int_0^l M\,\overline{M}\,\frac{J_c}{J}\,dx$ für symmetrisches, stetig veränderliches $\frac{J_h}{J}$.

$$\frac{J_h}{J} = \zeta = 1 - (1 - n)\,(1 - 2\,\xi)^2$$

$$\xi = \frac{x}{l} \qquad \xi' = \frac{x'}{l} \qquad l' = l\,\frac{J_c}{J_h}$$

	$\frac{1}{15} M_a \overline{M}_a (3 + 2n)\, l'$		$\frac{1}{30} M_a \overline{M}_b (4 + n)\, l'$
	$\frac{1}{6} M_a \overline{M}_a (2 + n)\, l'$		$\frac{1}{15} M_a \overline{M}_c (4 + n)\, l'$
	$\frac{1}{30} M_a \overline{M}_c [(4 + n)(1 + \xi') + 2(1 - n)\,\xi'^2 (3\,\xi - 1)]\, l'$		

	$\frac{1}{3} M_a \overline{M}_a l' (2 + n)$		$\frac{1}{6} M_a \overline{M}_c [(2 + n) + 2(1 - n)\,\omega_R]\, l'$

	$\frac{1}{30} [2 (M_a \overline{M}_a + M_b \overline{M}_b)(3 + 2n) + (M_a \overline{M}_b + M_b \overline{M}_a)(4 + n)]\, l'$		
	$\frac{1}{6} (M_a + M_b) \overline{M}_a (2 + n)\, l'$		$\frac{1}{15} (M_a + M_b) \overline{M}_c (4 + n)\, l'$

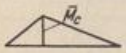
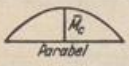
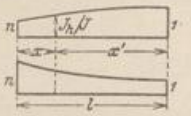
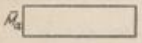
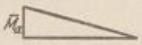
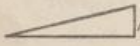
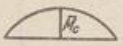
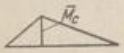
	$\frac{1}{15} M_c \overline{M}_c [(4 + n)(1 + \omega_R) - 3(1 - n)\,\omega_R^2]\, l'$
	$\frac{8}{105} M_c \overline{M}_c (n + 6)\, l'$

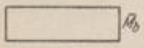
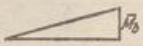
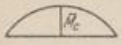
Tabelle 13b. $\int_0^l M \overline{M} \frac{J_c}{J} dx$ für unsymmetrisches, stetig veränderliches $\frac{J_h}{J}$.

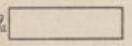
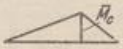


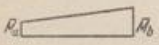
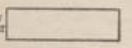
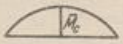
$$\frac{J_h}{J} = \zeta = 1 - (1 - n)(1 - \xi)^2$$

$$\xi = \frac{x}{l} \qquad \xi' = \frac{x'}{l} \qquad l' = l \frac{J_c}{J_h}$$

	$\frac{1}{4} M_a \overline{M}_a (1 + n) l'$		$\frac{1}{15} M_a \overline{M}_a (2 + 3n) l'$
	$\frac{1}{60} M_a \overline{M}_b (7 + 3n) l'$		$\frac{1}{15} M_a \overline{M}_c (3 + 2n) l'$
	$\frac{1}{60} M_a \overline{M}_c (1 + \xi')[10 - 3(1 - n)(1 + \xi'^2)] l'$		

	$\frac{1}{12} M_b \overline{M}_b (5 + n) l'$		$\frac{1}{30} M_b \overline{M}_b (9 + n) l'$
	$\frac{1}{60} M_b \overline{M}_c \{10(1 + \xi) - (1 - n)[3(1 + \xi)(1 + \xi^2) - 10\xi^2]\} l'$		
	$\frac{1}{15} M_b \overline{M}_c (4 + n) l'$		

	$\frac{1}{3} M_a \overline{M}_a (2 + n) l'$		$\frac{1}{12} M_a \overline{M}_c [6 - (1 - n)(3\xi' + \xi^2)] l'$

	$\frac{1}{60} 4 \overline{M}_a M_a (2 + 3n) + (\overline{M}_a M_b + \overline{M}_b M_a)(7 + 3n) + 2 \overline{M}_b M_b (9 + n)] l'$		
	$\frac{1}{12} \overline{M}_a [3 M_a (1 + n) + M_b (5 + n)] l'$		$\frac{1}{15} \overline{M}_c [M_a (3 + 2n) + M_b (4 + n)] l'$

	$\frac{1}{15} M_c \overline{M}_c \{5(1 + \omega_R) - (1 - n)[1 + \xi' + \omega_R (\xi' + 2\xi'^2)]\} l'$		
	$\frac{8}{105} M_c \overline{M}_c (5 + 2n) l'$		