

Quadro contributi PLV per iperstatica $X=H_{CF}$

\rightarrow	$M^x(x)$	$M^0(x)$	θ	$M^x M_0$	$M^x \theta$	$M^x M_x$	$\int M^x (M_0/EJ + \theta) dx$	$\int M^x M_x/EJ dx$
AB b	0	$-1/2qx^2$	0	0	0	0	0	0
BA b	0	$1/2Fb-Fx+1/2qx^2$	0	0	0	0	0	0
BC $\sqrt{5}b$	0	$1/2Fb-\sqrt{5}/10Fx$	0	0	0	0	0	0
AC 2b	0	$-Fx+1/2qx^2$	0	0	0	0	0	0
CA 2b	0	$Fx-1/2qx^2$	0	0	0	0	0	0
DB 2b	0	0	0	0	0	0	0	0
BD 2b	0	0	0	0	0	0	0	0
DE b	x	$-5/2Fx$	0	$-5/2Fx^2$	0	0	x^2	$1/3xb^3/EJ$
ED b	-b+x	$5/2Fb-5/2Fx$	0	$-5/2Fb^2+5Fbx-5/2Fx^2$	0	0	$b^2-2bx+x^2$	$1/3xb^3/EJ$
CD b	0	0	0	0	0	0	0	0
DC b	0	0	0	0	0	0	0	0
EF b	b	$-5/2Fb+5/2Fx$	$-Fb/EJ$	$-5/2Fb^2+5/2Fbx$	$-Fb^2/EJ$	b^2	b^2	Xb^3/EJ
FE b	-b	$5/2Fx$	Fb/EJ	$-5/2Fbx$	$-Fb^2/EJ$	b^2	b^2	$(-5/4-1)Fb^3/EJ$
FC b	b-x	0	0	0	0	0	$b^2-2bx+x^2$	$1/3xb^3/EJ$
CF b	-x	0	0	0	0	0	x^2	$5/3xb^3/EJ$
totali								$-37/12Fb^3/EJ$
								$37/20F$

Sviluppi di calcolo iperstatica

$$L_{DE}^{xx} = \int_0^b (x^2/b^2) b^2 1/EJ dx = [1/3 x^3/b^2]_0^b b^2 1/EJ$$

$$= (1/3 b) b^2 1/EJ = 1/3 b^3/EJ$$

$$L_{ED}^{xx} = \int_0^b (1 - 2x/b + x^2/b^2) b^2 1/EJ dx = [x - x^2/b + 1/3 x^3/b^2]_0^b b^2 1/EJ$$

$$= (b - b + 1/3 b) b^2 1/EJ = 1/3 b^3/EJ$$

$$L_{EF}^{xx} = \int_0^b (1) b^2 1/EJ dx = [x]_0^b b^2 1/EJ$$

$$= (b) b^2 1/EJ = b^3/EJ$$

$$L_{FE}^{xx} = \int_0^b (1) b^2 1/EJ dx = [x]_0^b b^2 1/EJ$$

$$= (b) b^2 1/EJ = b^3/EJ$$

$$L_{FC}^{xx} = \int_0^b (1 - 2x/b + x^2/b^2) b^2 1/EJ dx = [x - x^2/b + 1/3 x^3/b^2]_0^b b^2 1/EJ$$

$$= (b - b + 1/3 b) b^2 1/EJ = 1/3 b^3/EJ$$

$$L_{CF}^{xx} = \int_0^b (x^2/b^2) b^2 1/EJ dx = [1/3 x^3/b^2]_0^b b^2 1/EJ$$

$$= (1/3 b) b^2 1/EJ = 1/3 b^3/EJ$$

$$L_{DE}^{xo} = \int_0^b (-5/2 x^2/b^2) Fb^2 1/EJ dx = [-5/6 x^3/b^2]_0^b Fb^2 1/EJ$$

$$= (-5/6 b) Fb^2 1/EJ = -5/6 Fb^3/EJ$$

$$L_{ED}^{xo} = \int_0^b (-5/2 + 5x/b - 5/2 x^2/b^2) Fb^2 1/EJ dx = [-5/2 x + 5/2 x^2/b - 5/6 x^3/b^2]_0^b Fb^2 1/EJ$$

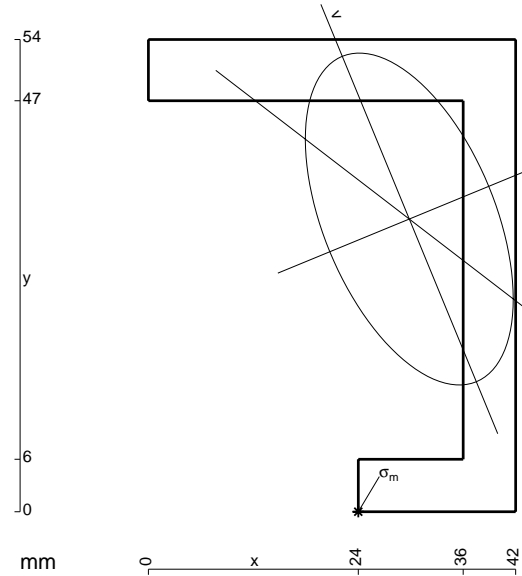
$$= (-5/2 b + 5/2 b - 5/6 b) Fb^2 1/EJ = -5/6 Fb^3/EJ$$

$$L_{EF}^{xo} = \int_0^b (-5/2 + 5/2 x/b) Fb^2 1/EJ dx + \int_0^b (-1) \theta dx = [-5/2 x + 5/4 x^2/b]_0^b Fb^2 1/EJ + [-x]_0^b \theta$$

$$= (-5/2 b + 5/4 b) Fb^2 1/EJ + (-b) \theta = -9/4 Fb^3/EJ$$

$$L_{FE}^{xo} = \int_0^b (-5/2 x/b) Fb^2 1/EJ dx + \int_0^b (1) \theta dx = [-5/4 x^2/b]_0^b Fb^2 1/EJ + [x]_0^b \theta$$

$$= (-5/4 b) Fb^2 1/EJ + (b) \theta = -9/4 Fb^3/EJ$$



- A = 648. mm²
- J_x = 233472. mm⁴
- J_y = 91566. mm⁴
- J_{xy} = -70365. mm⁴
- J_u = 262446. mm⁴
- J_v = 62591. mm⁴
- α = artg(2J_{xy}/(J_y-J_x))/2 = .3906
- c = cosα = .9247
- s = sinα = .3808
- x_g = 29.83 mm
- y_g = 33.47 mm
- N = -1665. N
- T_y = 2250. N
- M_x = 999000. Nmm
- x_m = 24. mm
- u_m = -18.14 mm
- v_m = -28.73 mm
- σ_m = N/A-Mcv/J_u-Msu/J_v = 208.8 N/mm²

