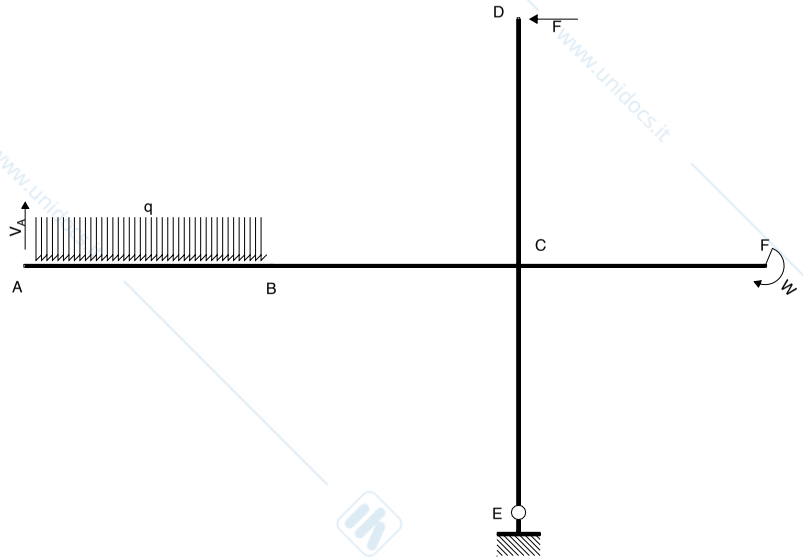
EQUILIBRIO Nome: SMMS.001



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

$-2V_Ab = -2Fb + W - 3/2qb^2$

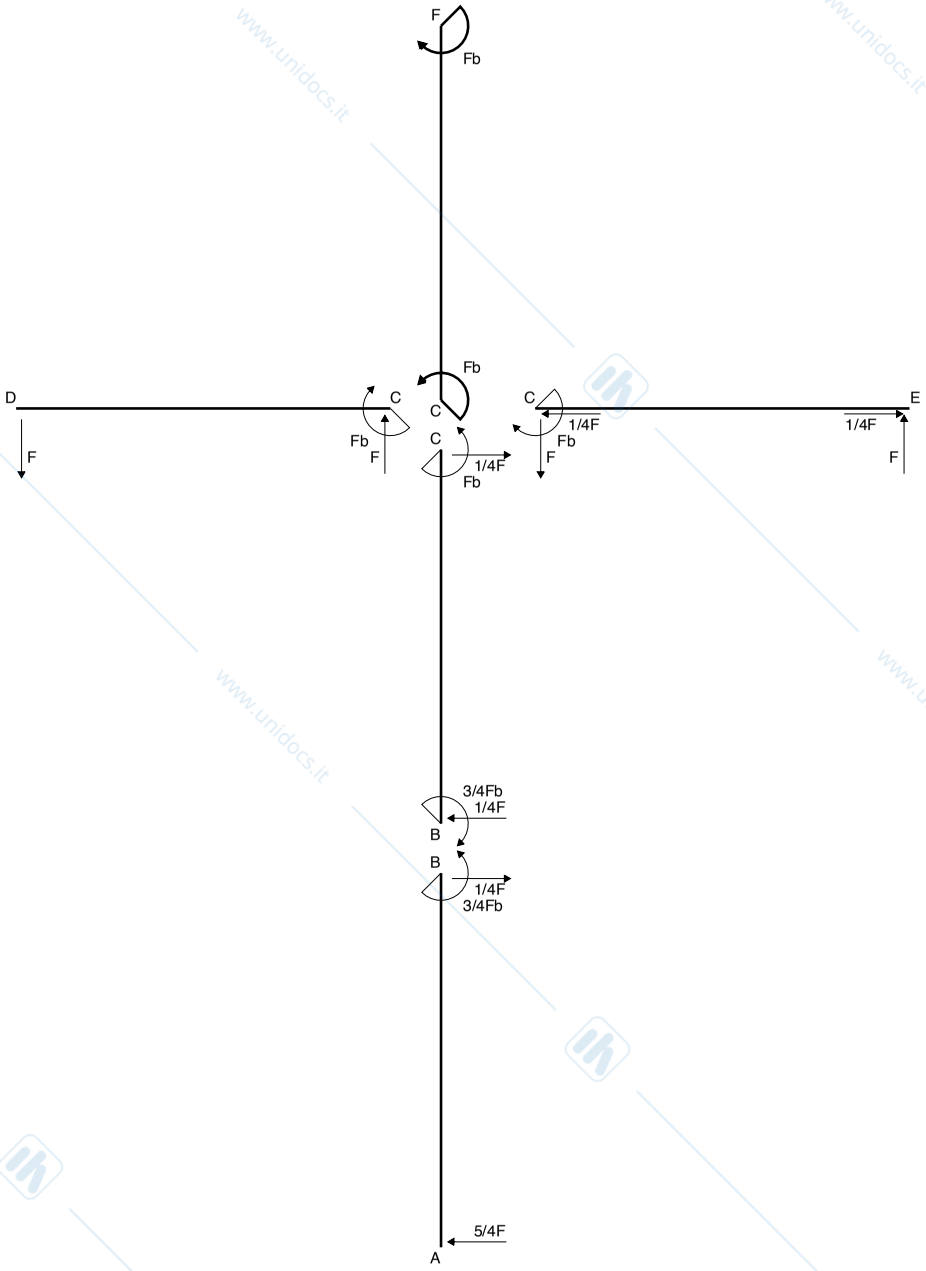
Matrice di equilibrio

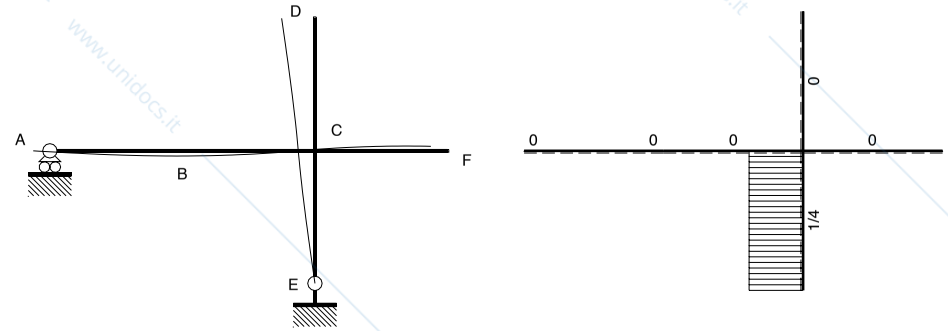
$$\begin{matrix} & [V_Ab] & & [Fb & W & qb^2] \\ \varphi_E & [-2] & = & [-2 & 1 & -3/2] \end{matrix}$$

Soluzione del sistema

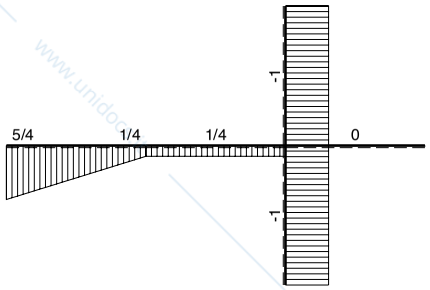
$$\begin{matrix} & [Fb & W & qb^2] \\ [V_Ab] & = & [1 & -1/2 & 3/4] \end{matrix}$$

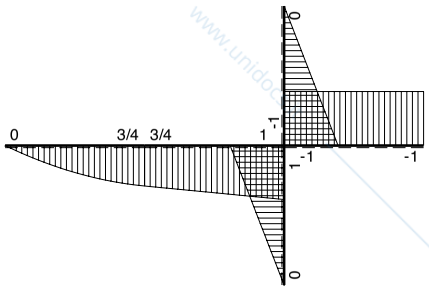
REAZIONI Nome: SMMS.001



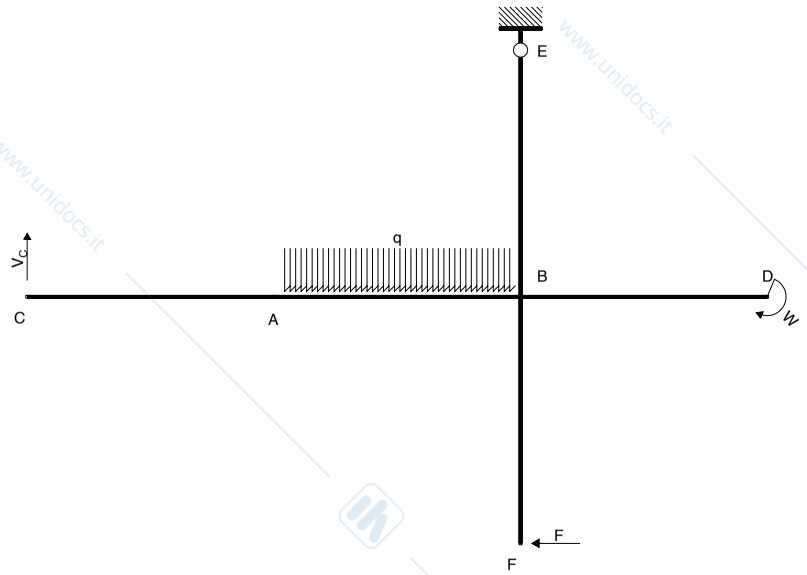


$\longmapsto 5\,Fb^3/EJ$





EQUILIBRIO Nome: SMMS.002



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

$-2V_Cb = 2Fb + W - 1/2qb^2$

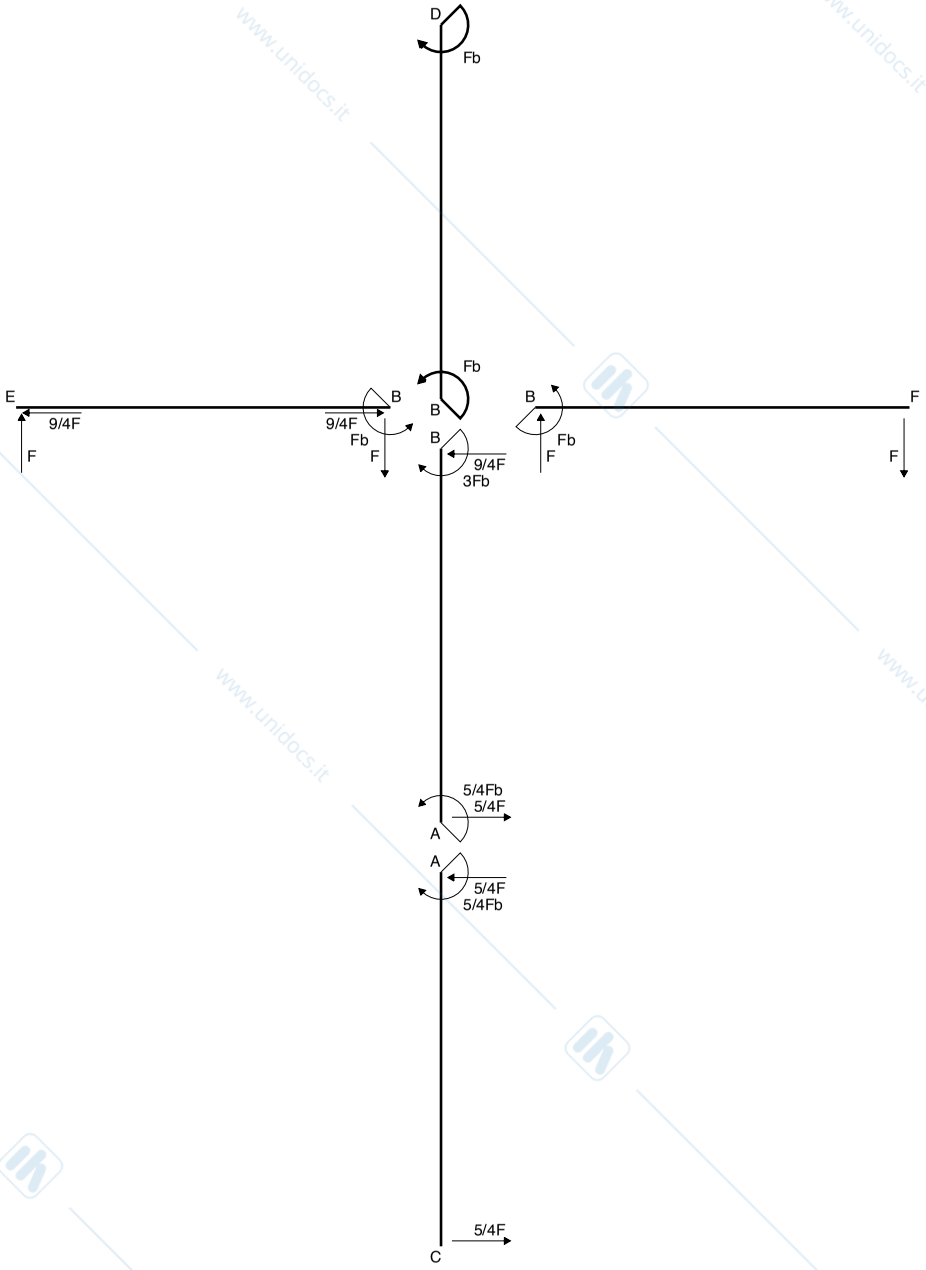
Matrice di equilibrio

$$[V_Cb] \quad [Fb \quad W \quad qb^2]$$
$$\varphi_E \begin{bmatrix} -2 \end{bmatrix} = \begin{bmatrix} 2 & 1 & -1/2 \end{bmatrix}$$

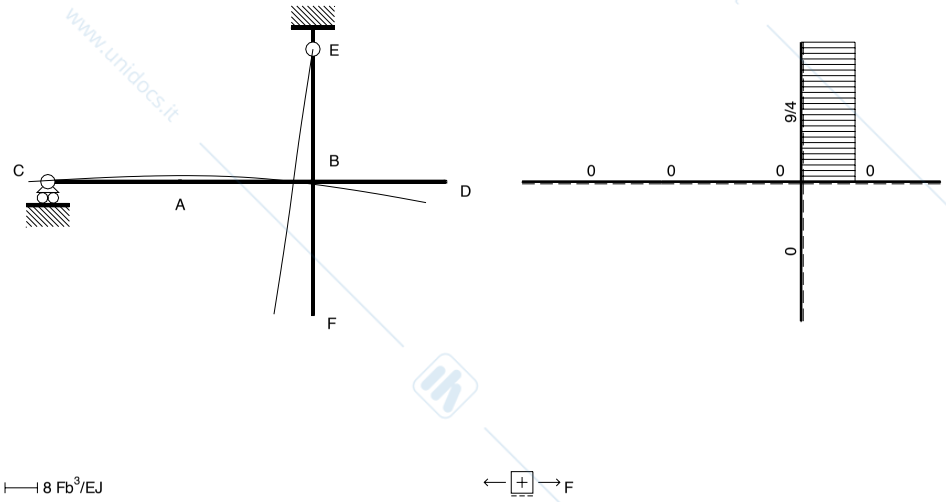
Soluzione del sistema

$$[Fb \quad W \quad qb^2]$$
$$[V_Cb] = \begin{bmatrix} -1 & -1/2 & 1/4 \end{bmatrix}$$

REAZIONI Nome: SMMS.002

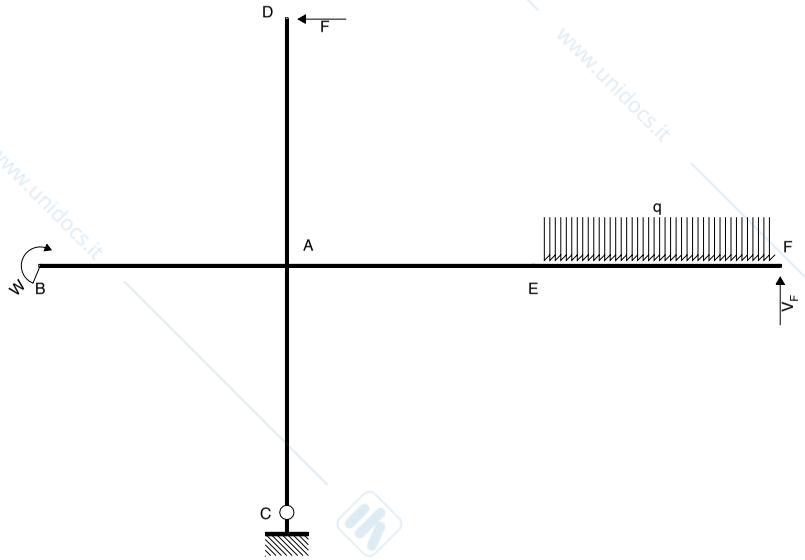


DEFORMATA E AZIONI INTERNE Nome: SMMS.002



PROCEDIMENTO E RISULTATI Nome: SMMS.002

EQUILIBRIO Nome: SMMS.003



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$2V_Fb = -2Fb + W + 3/2qb^2$

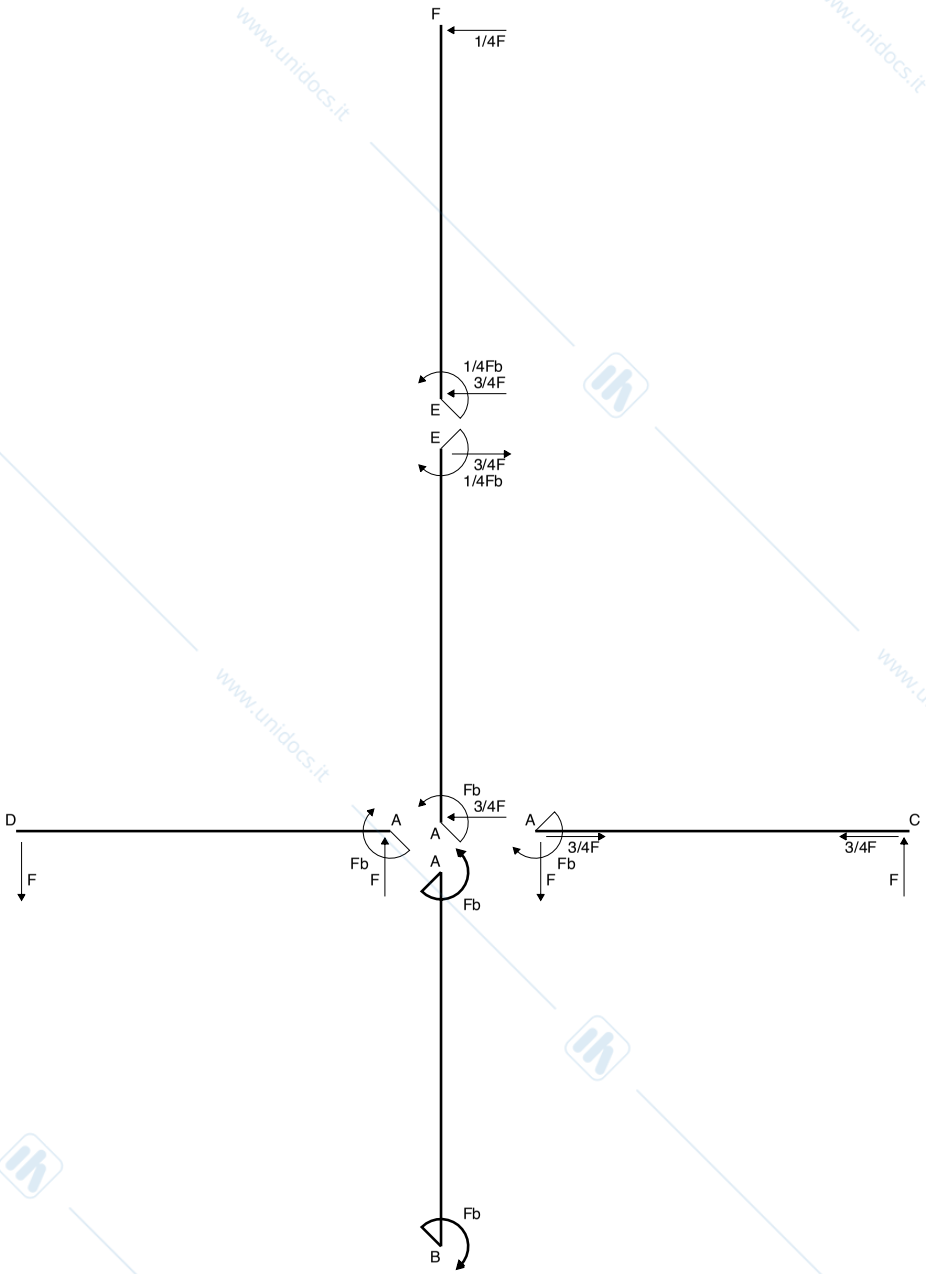
Matrice di equilibrio

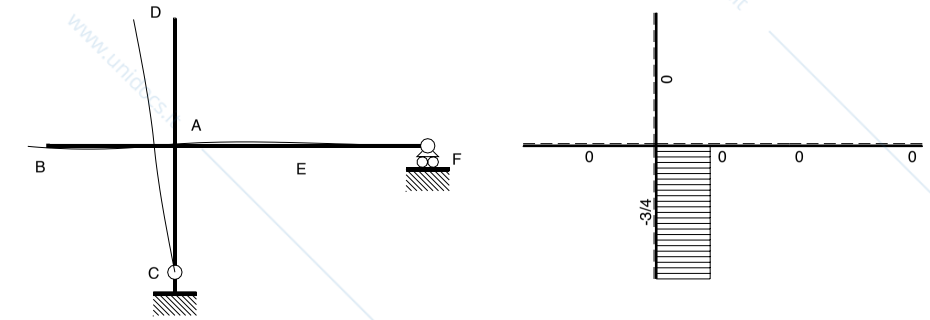
$$\begin{matrix} & [V_Fb] & & [Fb & W & qb^2] \\ \varphi_C & [\ 2\ ] & = & [-2 & 1 & 3/2] \end{matrix}$$

Soluzione del sistema

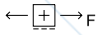
$$\begin{matrix} & [Fb & W & qb^2] \\ [\ V_Fb\ ] & = & [-1 & 1/2 & 3/4] \end{matrix}$$

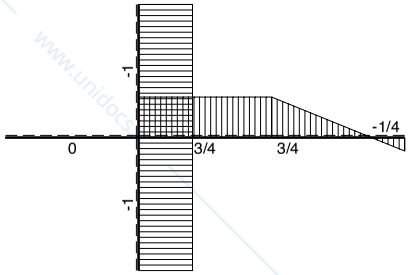
REAZIONI Nome: SMMS.003

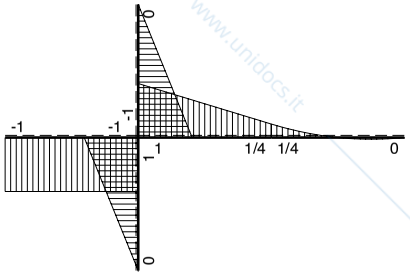




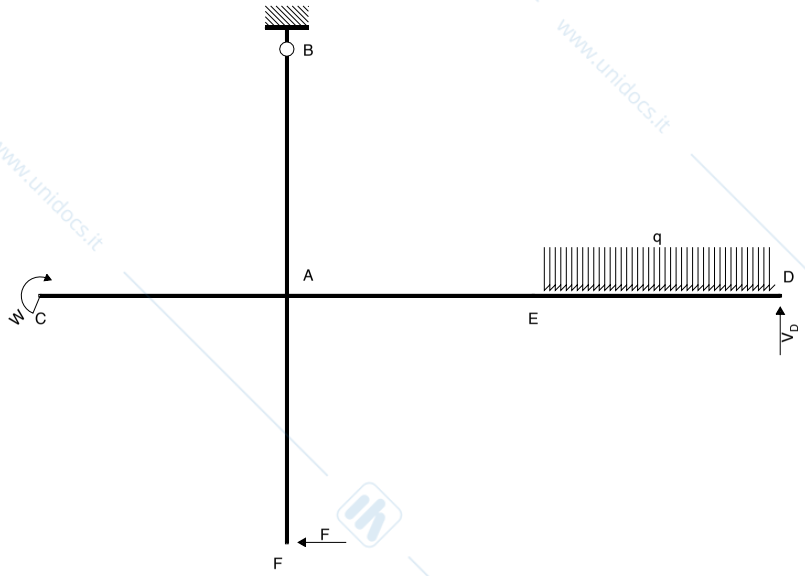
$\longmapsto 3\,Fb^3/EJ$







EQUILIBRIO Nome: SMMS.004



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a B

$2V_D b = 2Fb + W + 3/2qb^2$

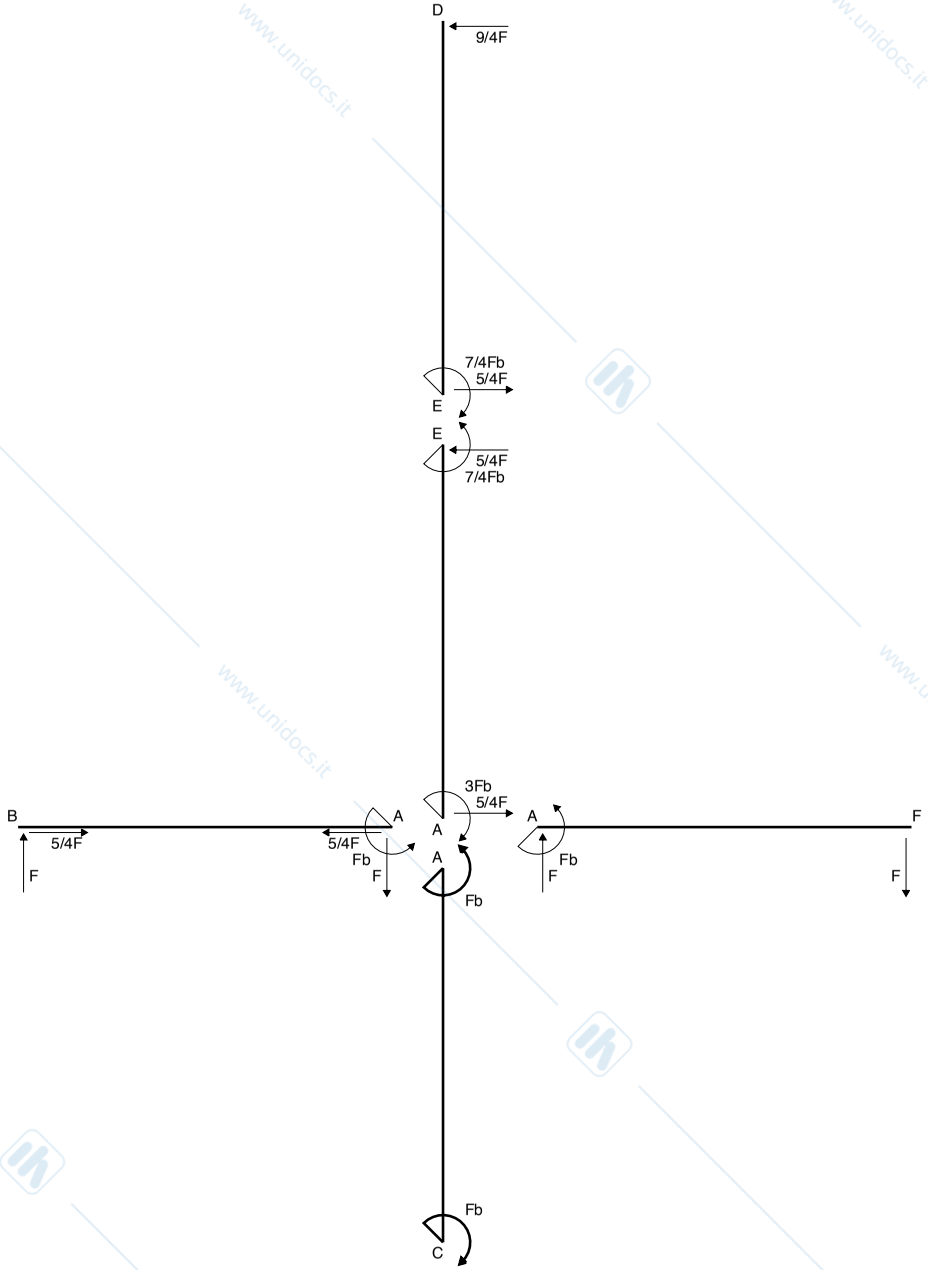
Matrice di equilibrio

$$\begin{matrix} & [V_D b] & [Fb & W & qb^2] \\ \varphi_B & [\ 2\ ] = & [\ 2 & 1 & 3/2] \end{matrix}$$

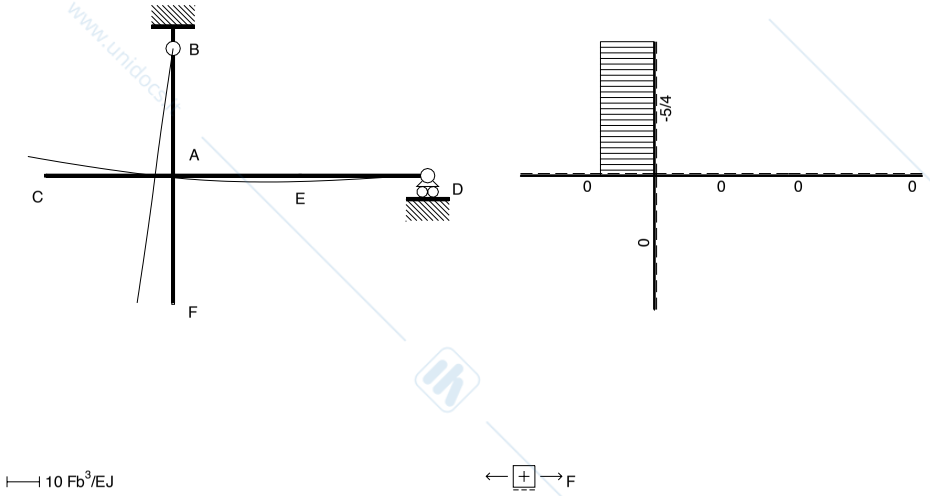
Soluzione del sistema

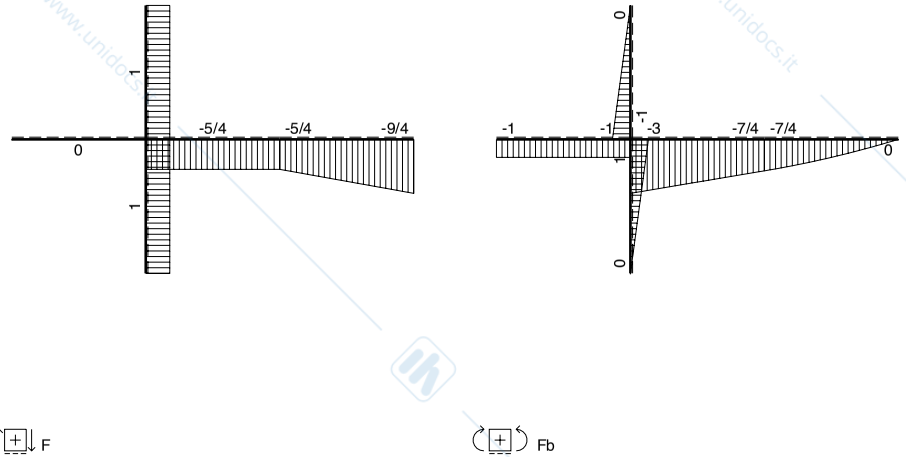
$$\begin{matrix} & [Fb & W & qb^2] \\ [\ V_D b\ ] = & [\ 1 & 1/2 & 3/4] \end{matrix}$$

REAZIONI Nome: SMMS.004



DEFORMATA E AZIONI INTERNE Nome: SMMS.004

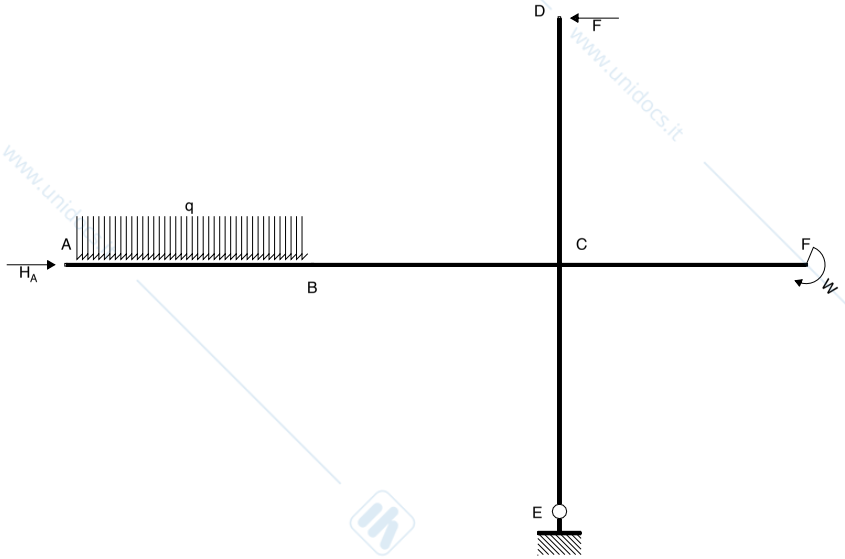




@ Adolfo Zavelani Rossi, Politecnico di Milano, vers.27.03.13 23.10.23

PROCEDIMENTO E RISULTATI Nome: SMMS.004

@ Adolfo Zavelani Rossi, Politecnico di Milano, vers.27.03.13 23.10.23



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

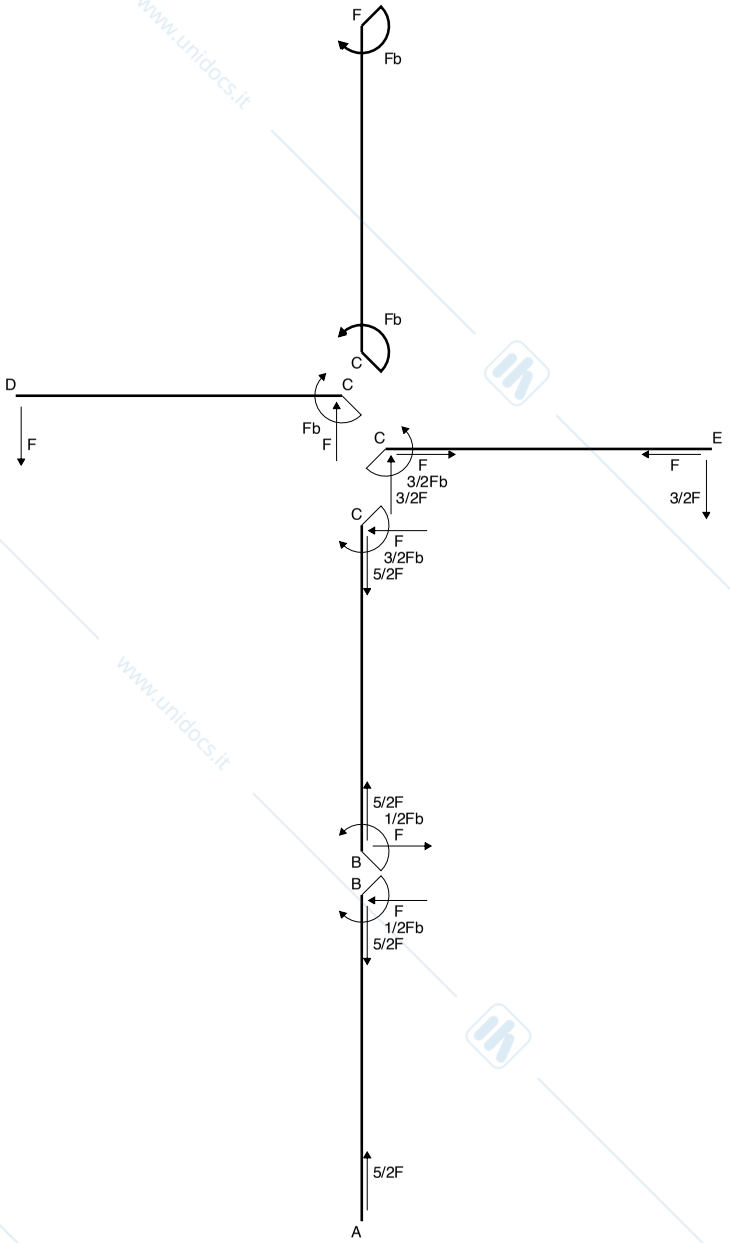
$-H_A b = -2Fb + W - 3/2qb^2$

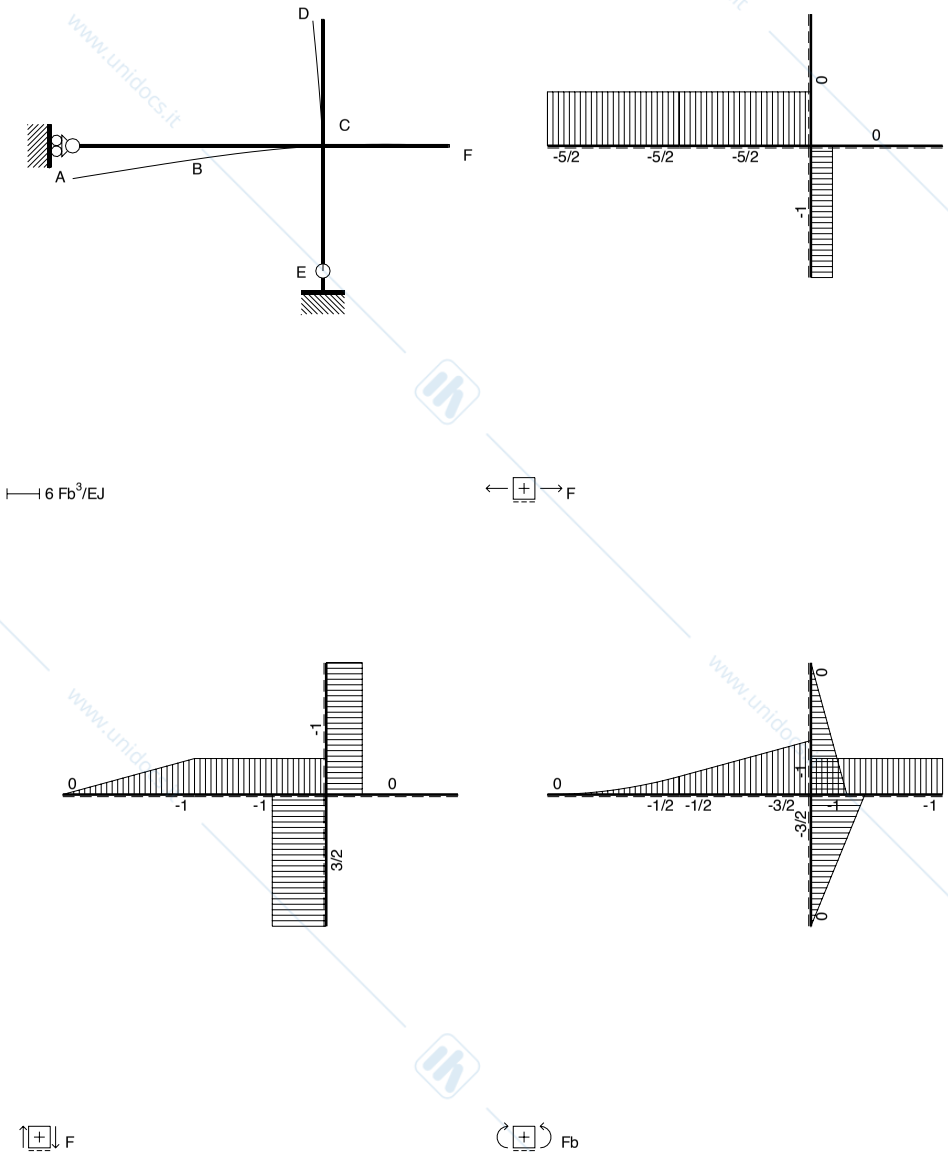
Matrice di equilibrio

$$\varphi_E \begin{bmatrix} H_A b \\ -1 \end{bmatrix} = \begin{bmatrix} Fb & W & qb^2 \\ -2 & 1 & -3/2 \end{bmatrix}$$

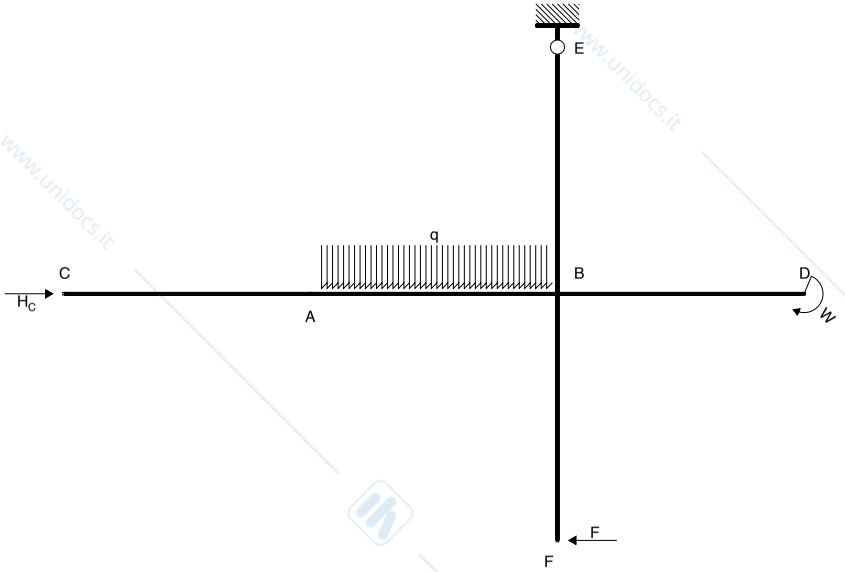
Soluzione del sistema

$$\begin{bmatrix} H_A b \end{bmatrix} = \begin{bmatrix} Fb & W & qb^2 \\ 2 & -1 & 3/2 \end{bmatrix}$$





EQUILIBRIO Nome: SMMS.006



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

$H_C b = 2Fb + W - 1/2 qb^2$

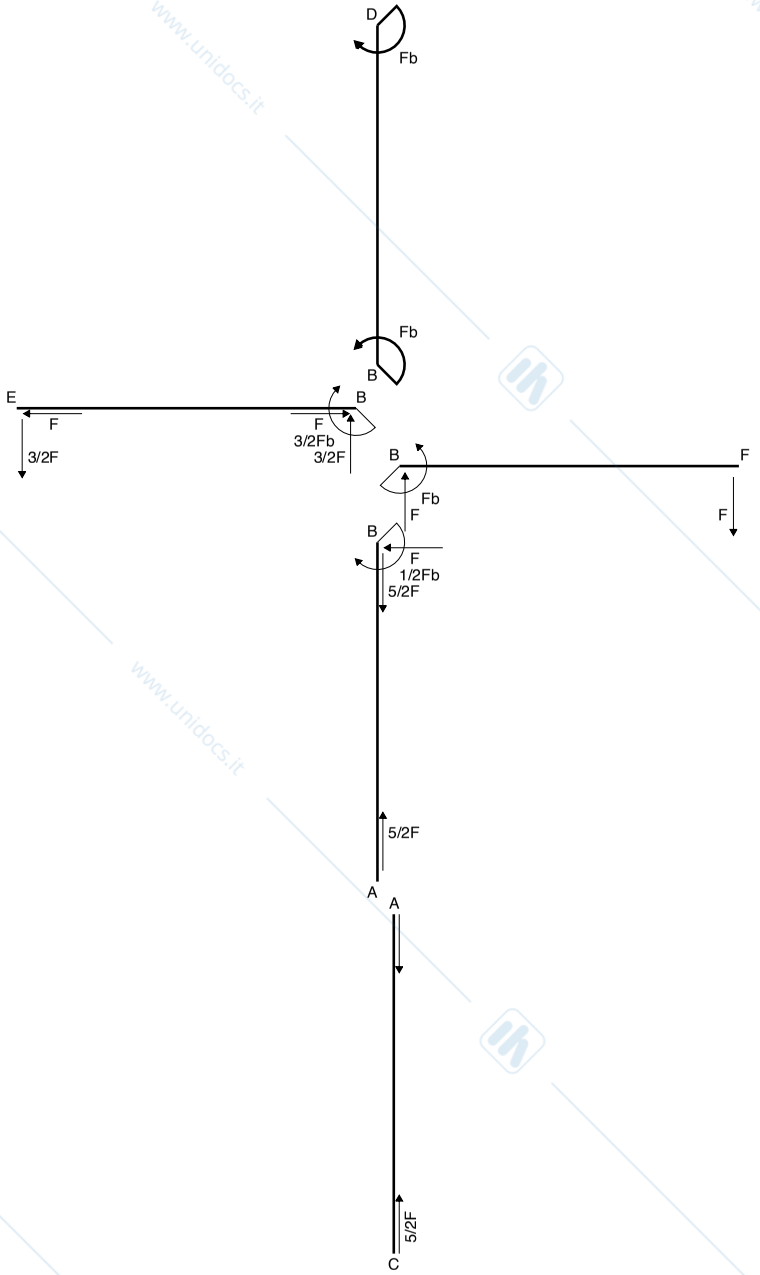
Matrice di equilibrio

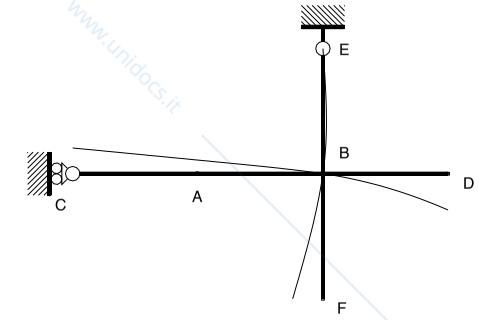
$$\varphi_E \begin{bmatrix} 1 \end{bmatrix} = \begin{bmatrix} 2 & 1 & -1/2 \end{bmatrix} \begin{bmatrix} Fb \\ W \\ qb^2 \end{bmatrix}$$

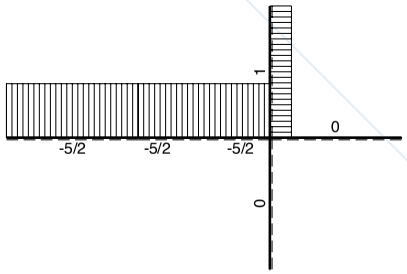
Soluzione del sistema

$$\begin{bmatrix} H_C b \end{bmatrix} = \begin{bmatrix} 2 & 1 & -1/2 \end{bmatrix} \begin{bmatrix} Fb \\ W \\ qb^2 \end{bmatrix}$$

REAZIONI Nome: SMMS.006

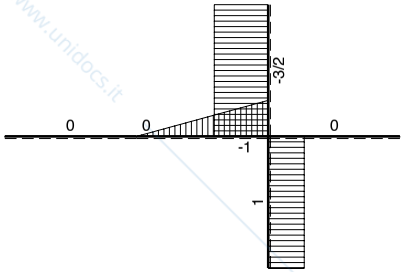


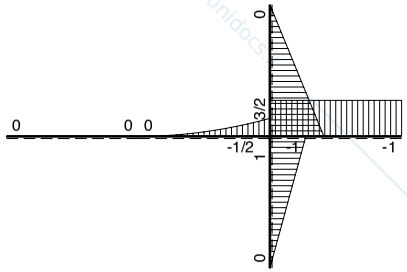




$\longmapsto 2\,Fb^3/EJ$

$\longleftarrow\boxplus\longrightarrow F$

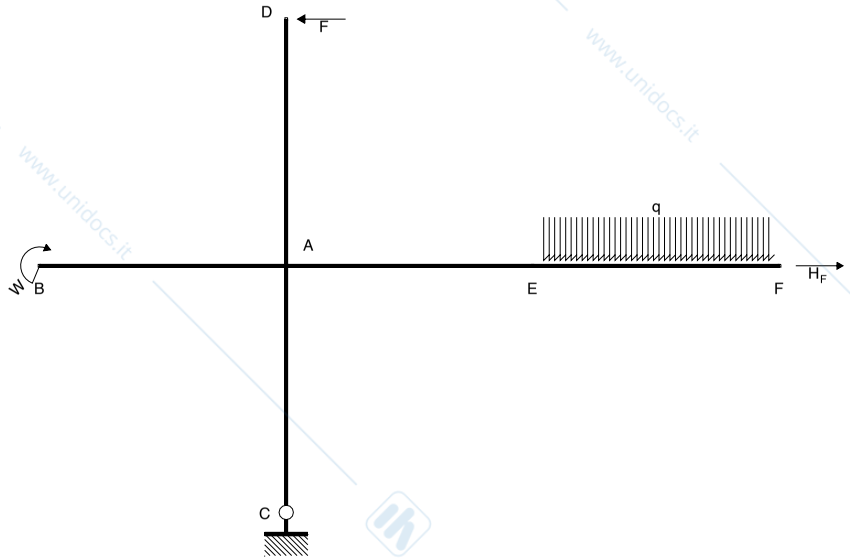




$\uparrow\boxplus\downarrow F$

$\circlearrowleft\boxplus\circlearrowright Fb$

EQUILIBRIO Nome: SMMS.007



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$-H_F b = -2Fb + W + 3/2qb^2$

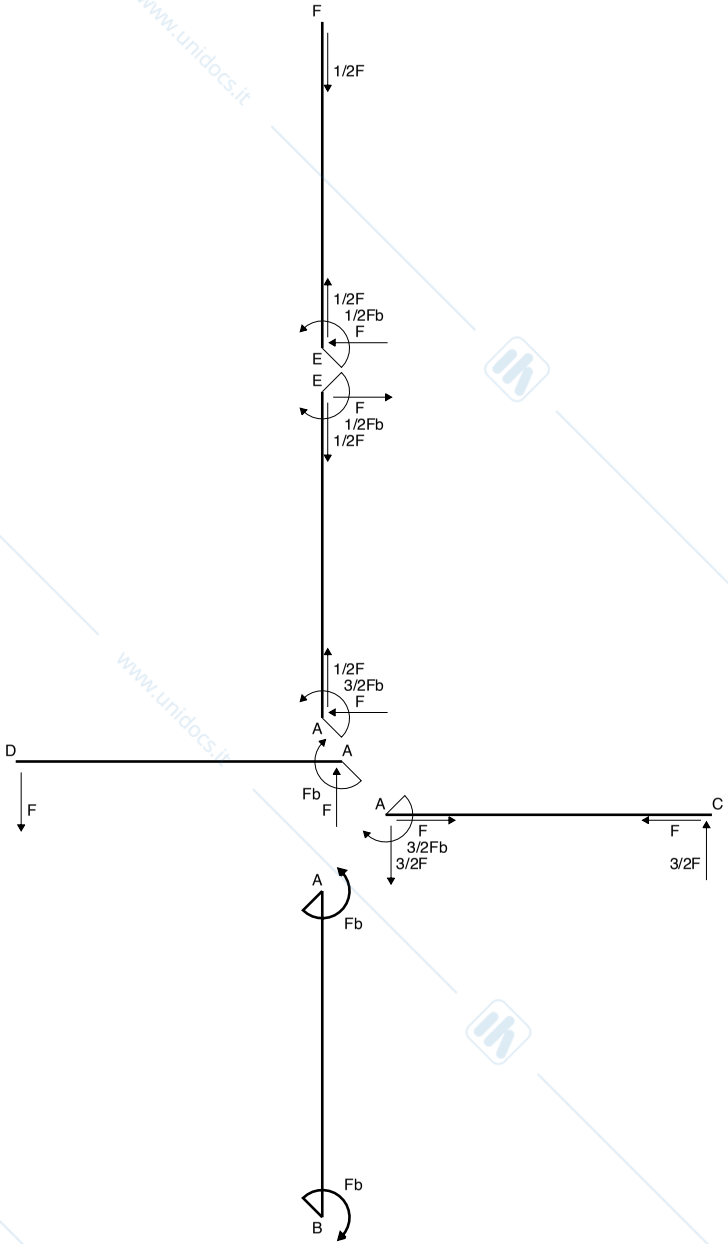
Matrice di equilibrio

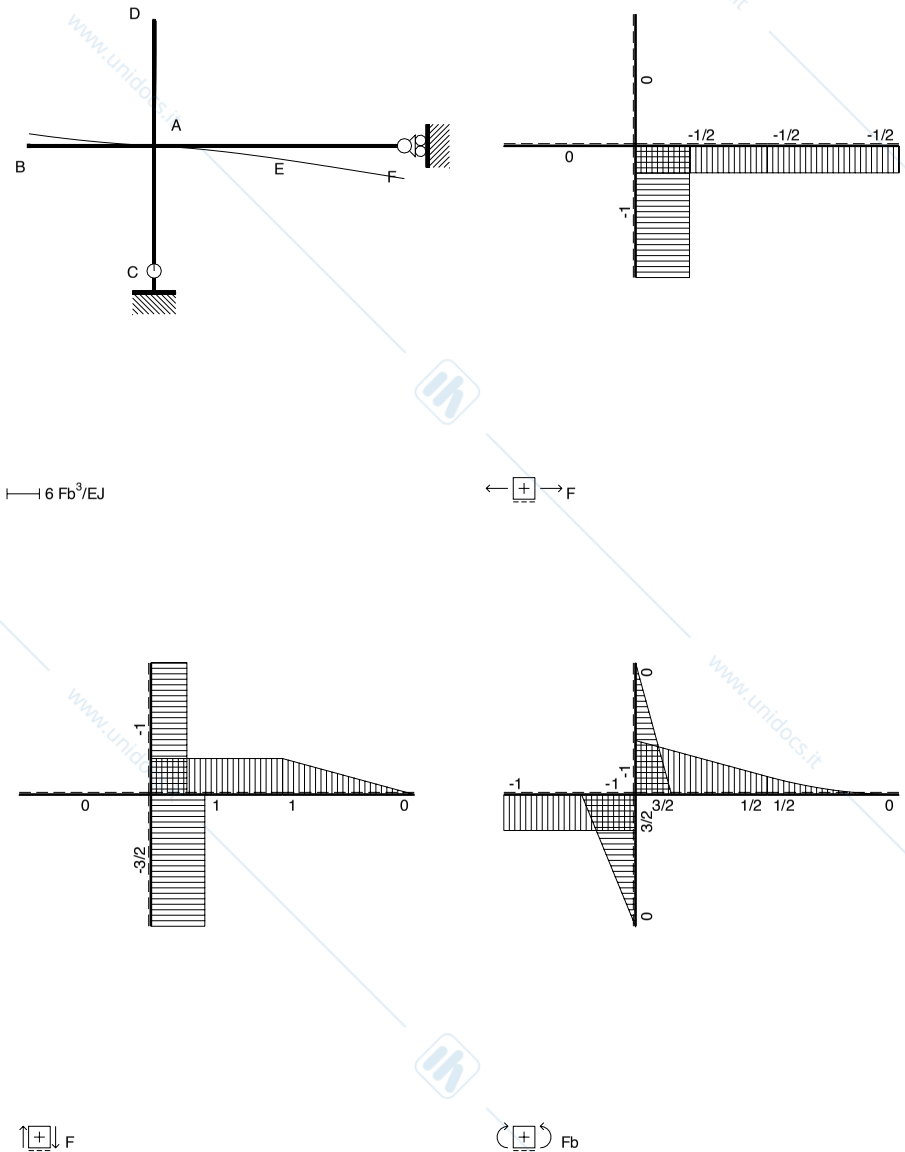
$$\varphi_C \begin{bmatrix} -1 \end{bmatrix} = \begin{bmatrix} Fb & W & qb^2 \\ -2 & 1 & 3/2 \end{bmatrix} \begin{matrix} [H_F b] \end{matrix}$$

Soluzione del sistema

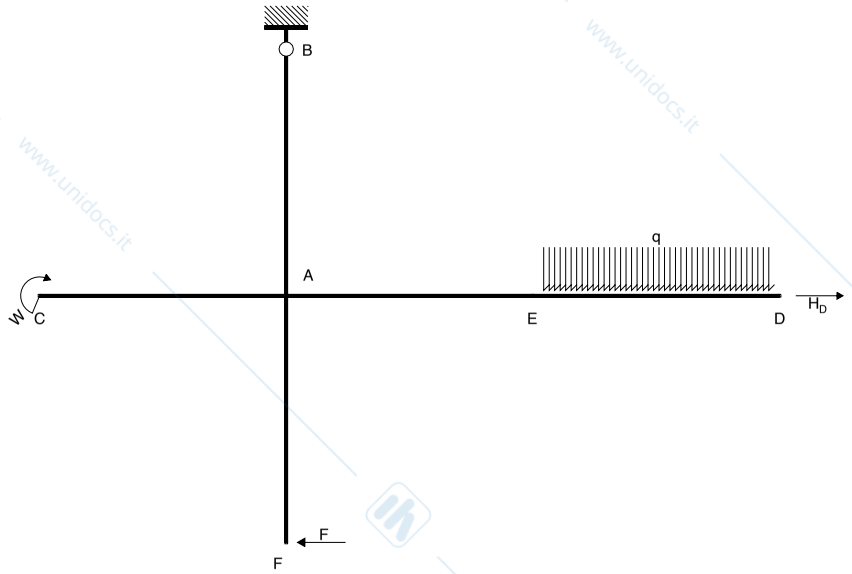
$$\begin{bmatrix} H_F b \end{bmatrix} = \begin{bmatrix} 2 & -1 & -3/2 \end{bmatrix} \begin{matrix} [Fb \quad W \quad qb^2] \end{matrix}$$

REAZIONI Nome: SMMS.007





EQUILIBRIO Nome: SMMS.008



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a B

$H_D b = 2Fb + W + 3/2qb^2$

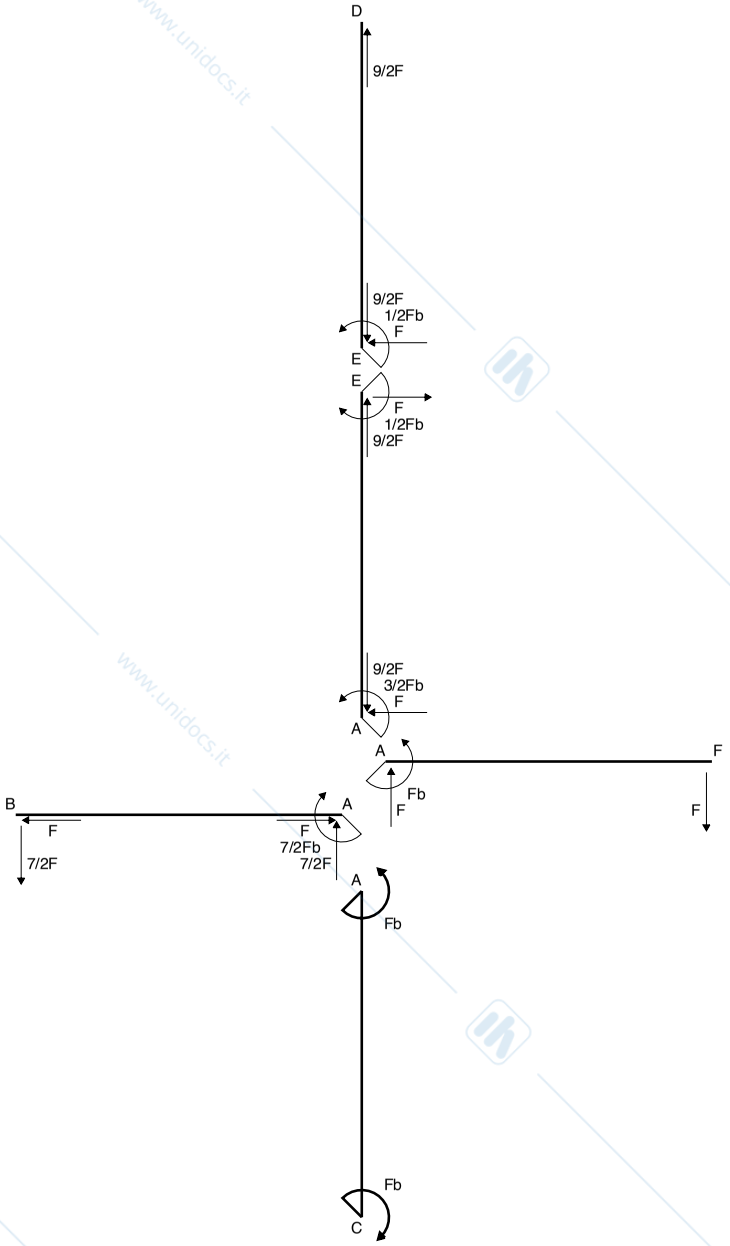
Matrice di equilibrio

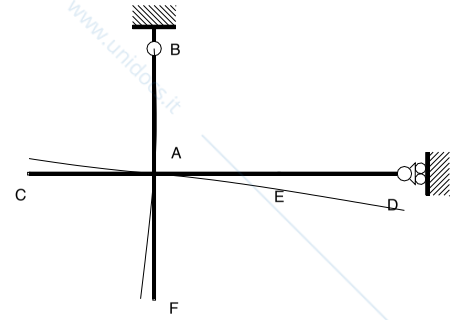
$$\begin{matrix} & [H_D b] & & [Fb & W & qb^2] \\ \varphi_B & [\ 1\ ] & = & [\ 2 & 1 & 3/2] \end{matrix}$$

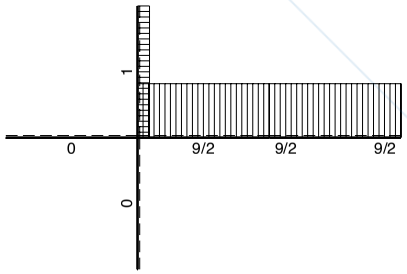
Soluzione del sistema

$$\begin{matrix} & [Fb & W & qb^2] \\ [\ H_D b\ ] & [\ 2 & 1 & 3/2] \end{matrix}$$

REAZIONI Nome: SMMS.008

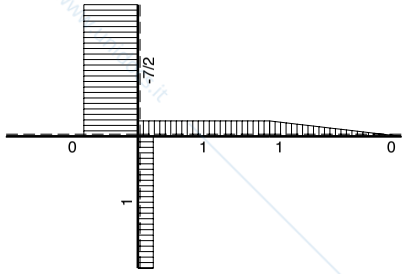


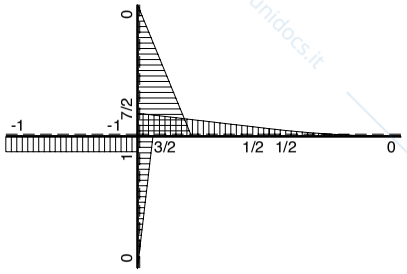




$\longmapsto$ 8 Fb^3/EJ

$\longleftarrow\boxed{+}\longrightarrow$ F

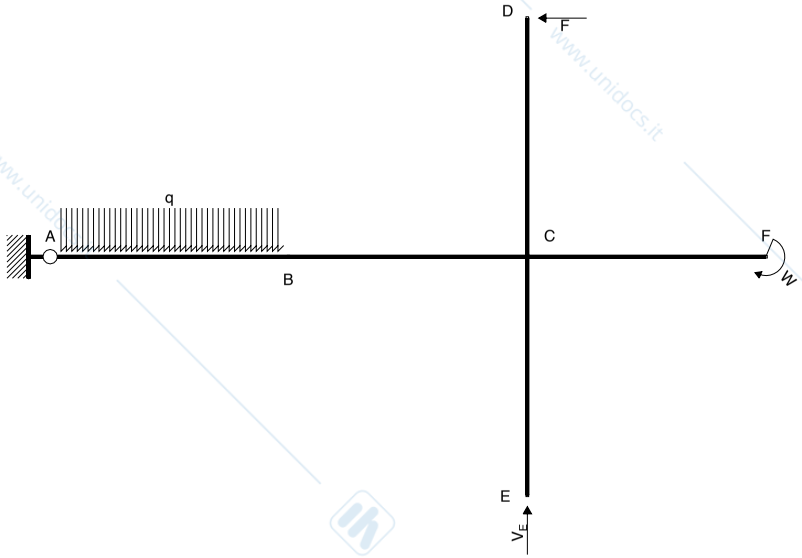




$\uparrow\boxed{+}\downarrow$ F

$\circlearrowleft\boxed{+}\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.009



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a A

$2V_E b = -Fb + W + 1/2 qb^2$

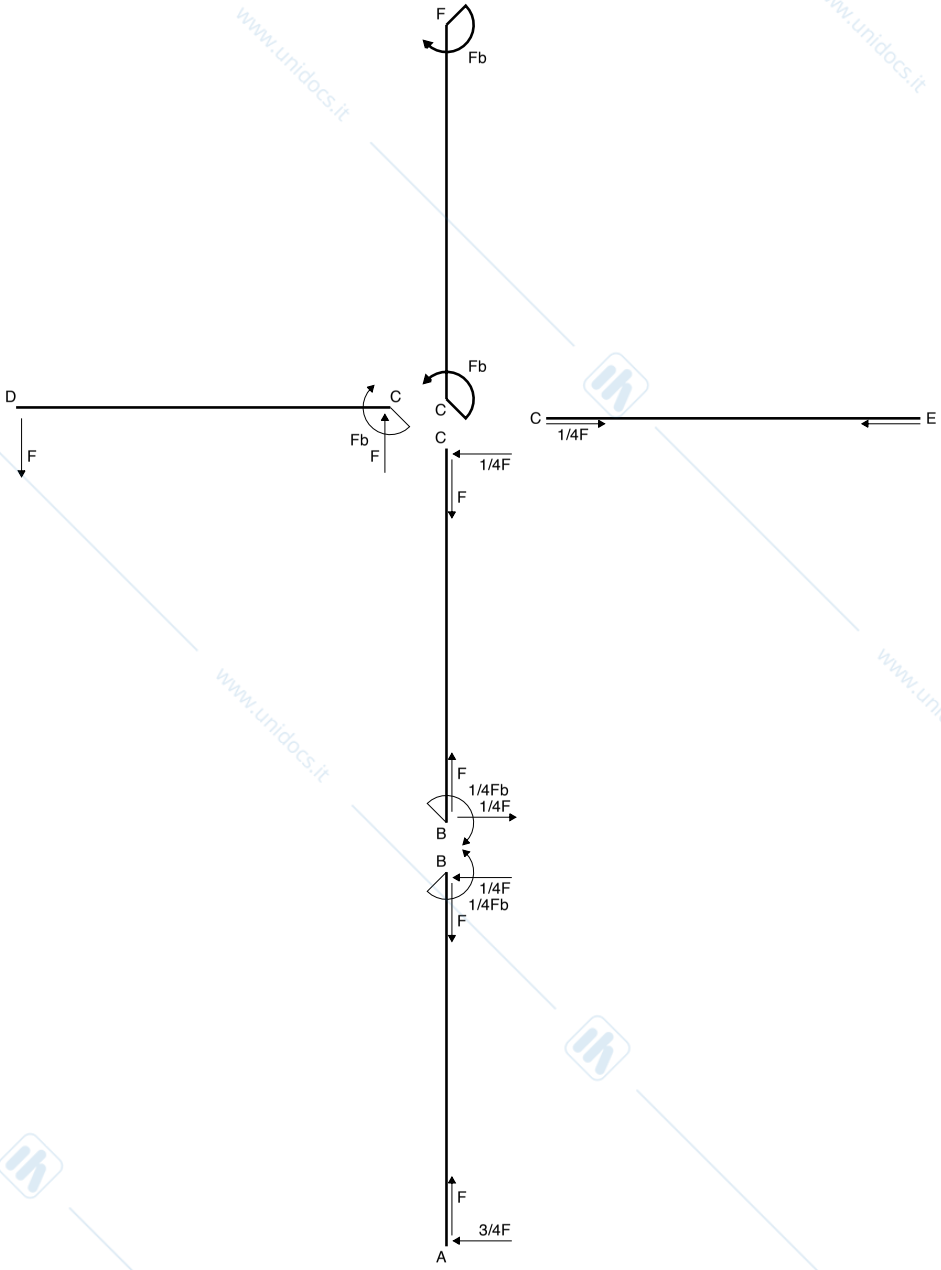
Matrice di equilibrio

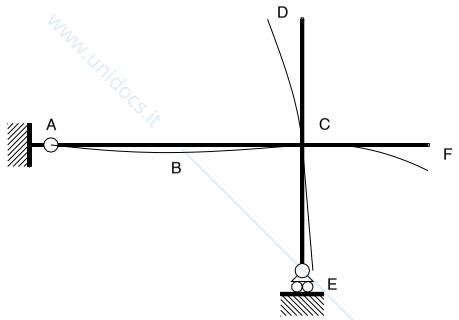
$$\begin{matrix} & [V_E b] & & [Fb & W & qb^2] \\ \varphi_A & [\ 2\ ] & = & [-1 & 1 & 1/2] \end{matrix}$$

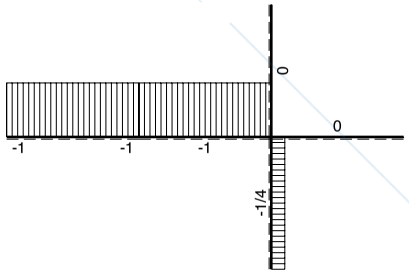
Soluzione del sistema

$$\begin{matrix} & [Fb & W & qb^2] \\ [V_E b] & = & [-1/2 & 1/2 & 1/4] \end{matrix}$$

REAZIONI Nome: SMMS.009

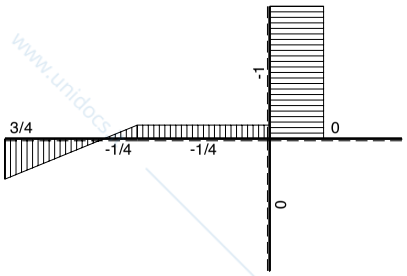


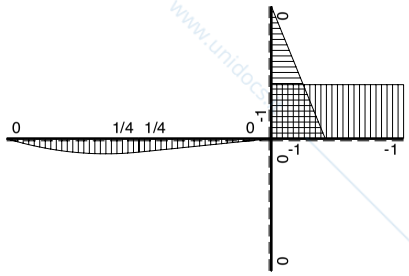




1 Fb^3/EJ

F

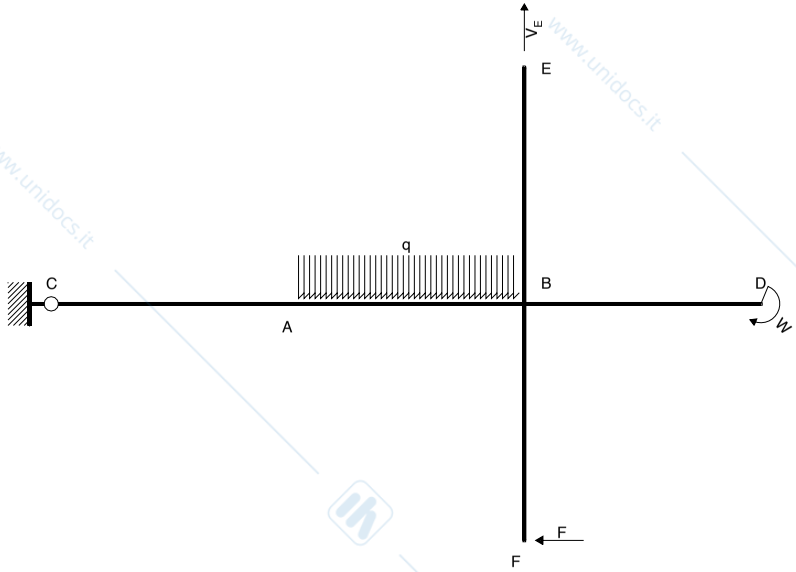




F

Fb

EQUILIBRIO Nome: SMMS.010



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$2V_E b = Fb + W + 3/2 qb^2$

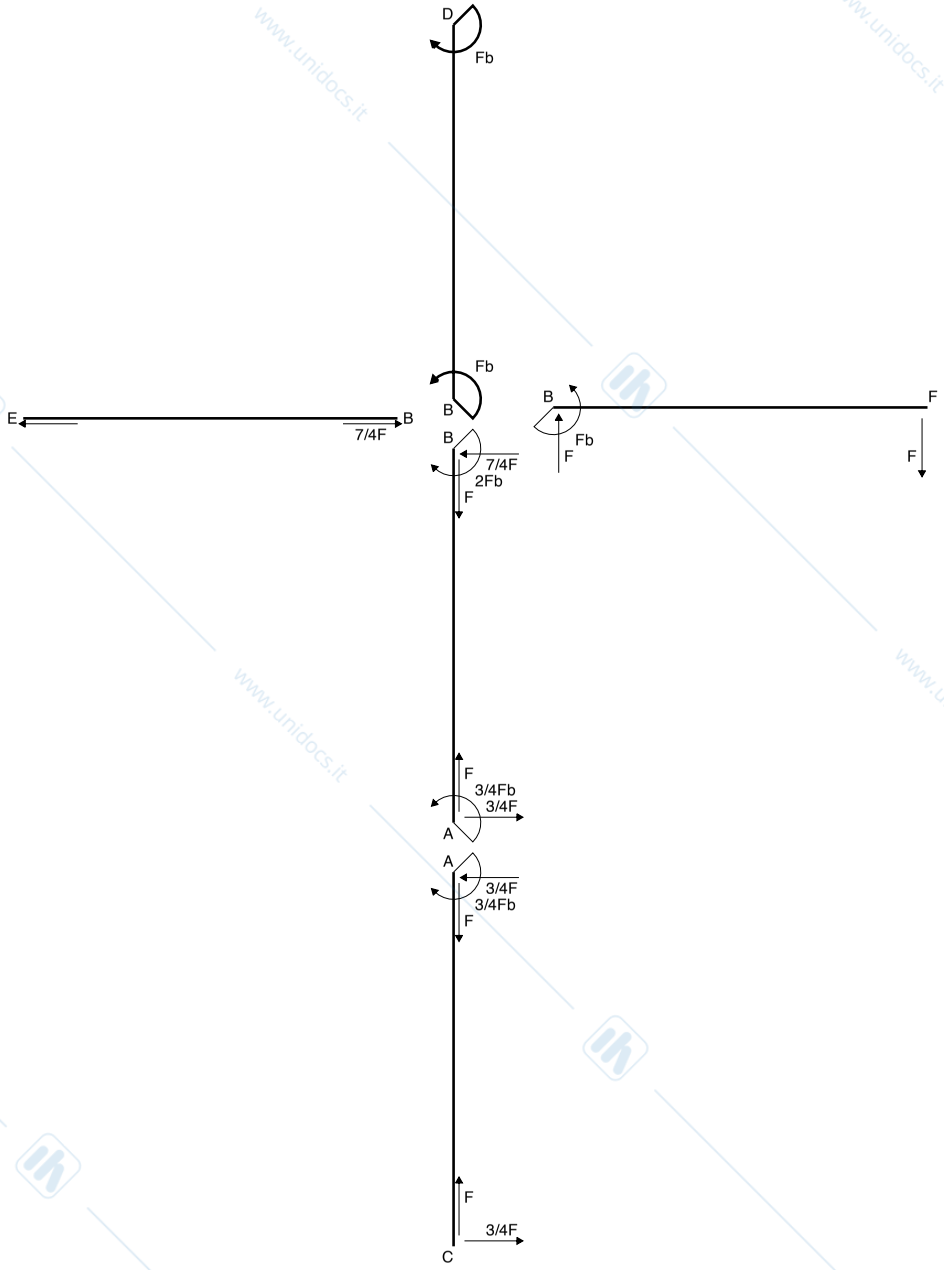
Matrice di equilibrio

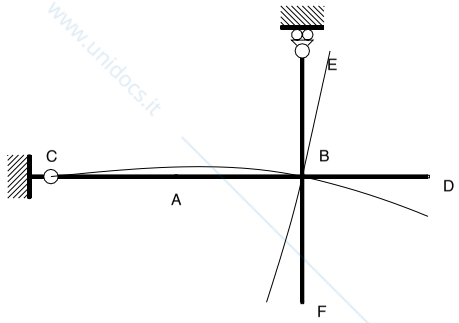
$$\begin{matrix} & [V_E b] & [Fb & W & qb^2] \\ \varphi_C & [\ 2\ ] & = [\ 1 & 1 & 3/2] \end{matrix}$$

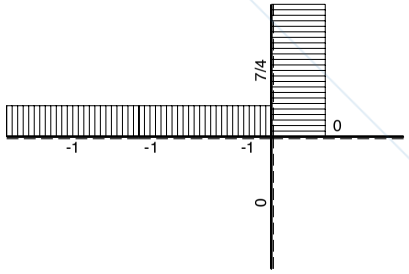
Soluzione del sistema

$$\begin{matrix} & [Fb & W & qb^2] \\ [\ V_E b\ ] & = [1/2 & 1/2 & 3/4] \end{matrix}$$

REAZIONI Nome: SMMS.010

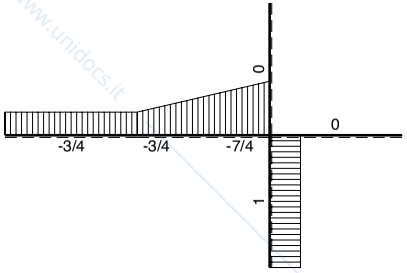


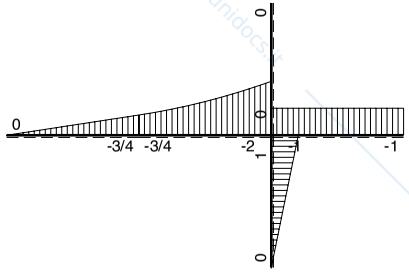




$\longmapsto$ 3 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

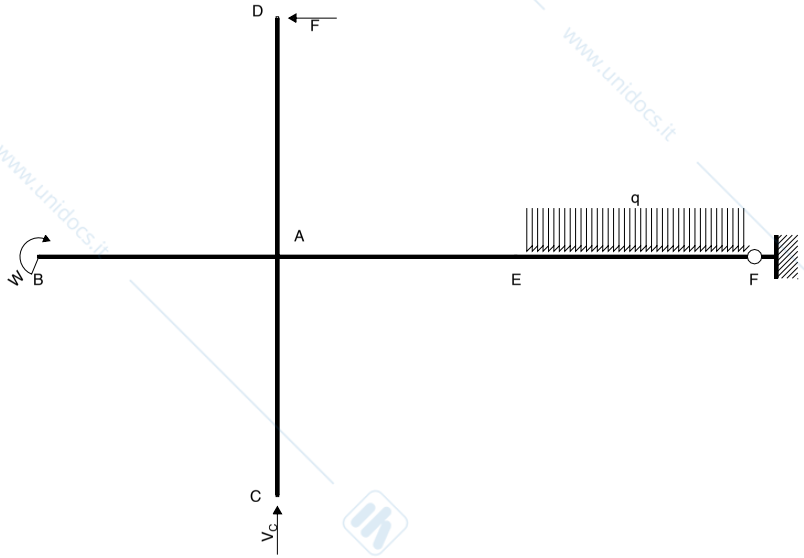




$\uparrow\boxplus\downarrow$ F

$\circlearrowleft\boxplus\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.011



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a F

$-2V_Cb = -Fb + W - 1/2qb^2$

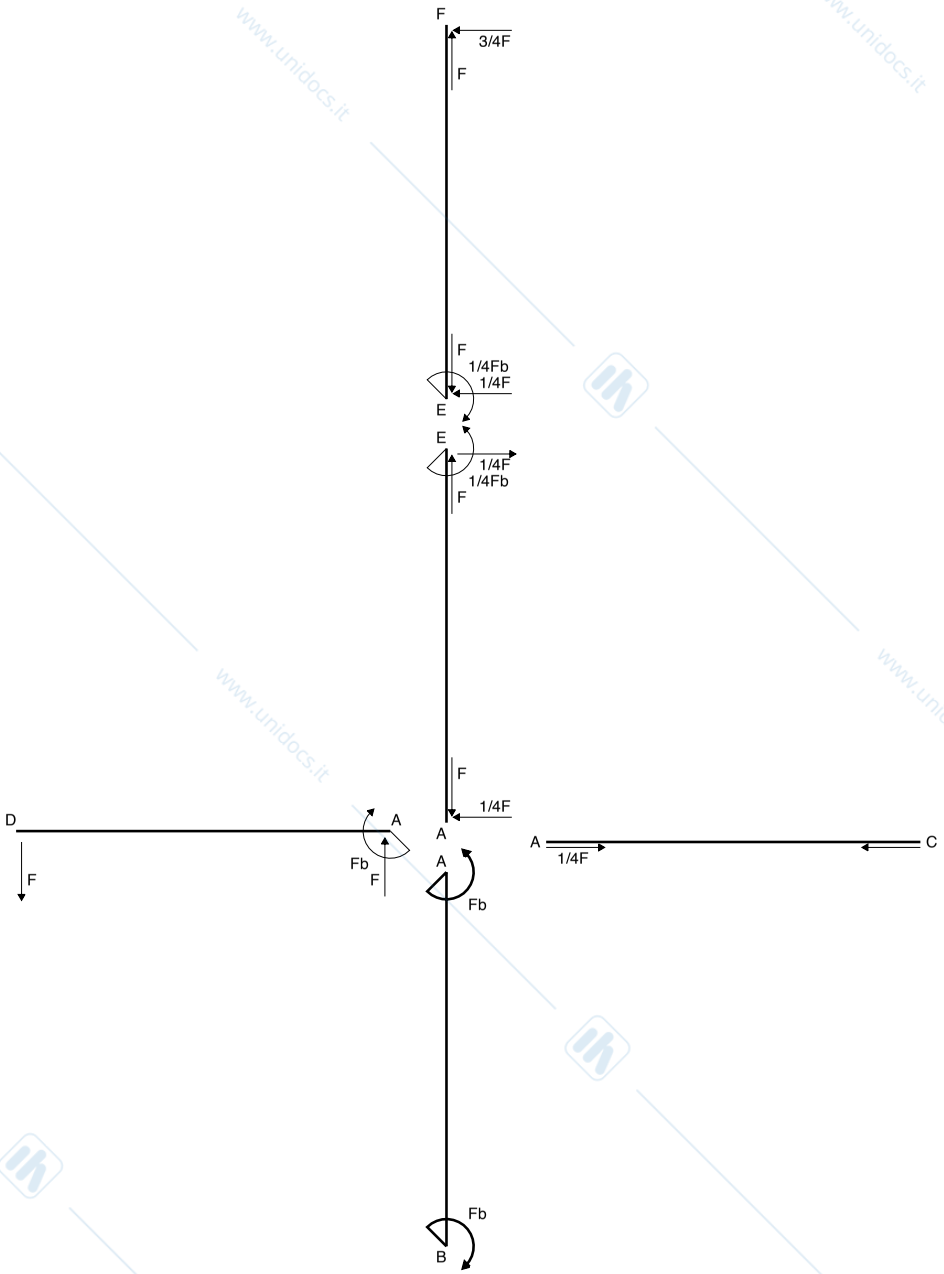
Matrice di equilibrio

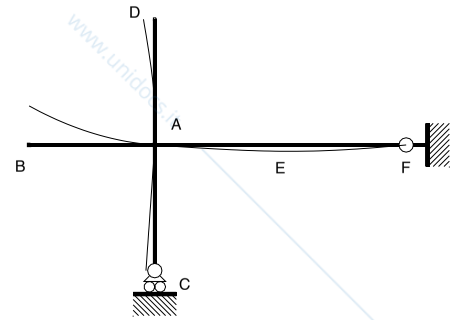
$$\varphi_F \begin{bmatrix} [V_Cb] \\ -2 \end{bmatrix} = \begin{bmatrix} [Fb & W & qb^2] \\ -1 & 1 & -1/2 \end{bmatrix}$$

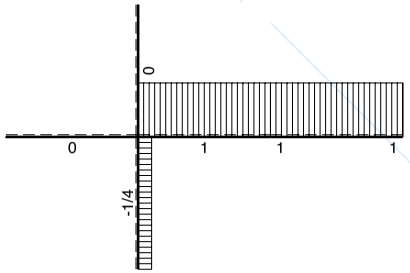
Soluzione del sistema

$$\begin{bmatrix} [Fb & W & qb^2] \\ [V_Cb] & 1/2 & -1/2 & 1/4 \end{bmatrix}$$

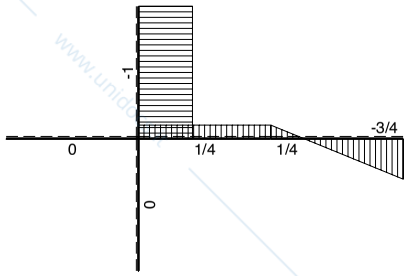
REAZIONI Nome: SMMS.011

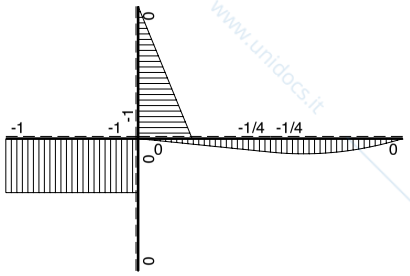




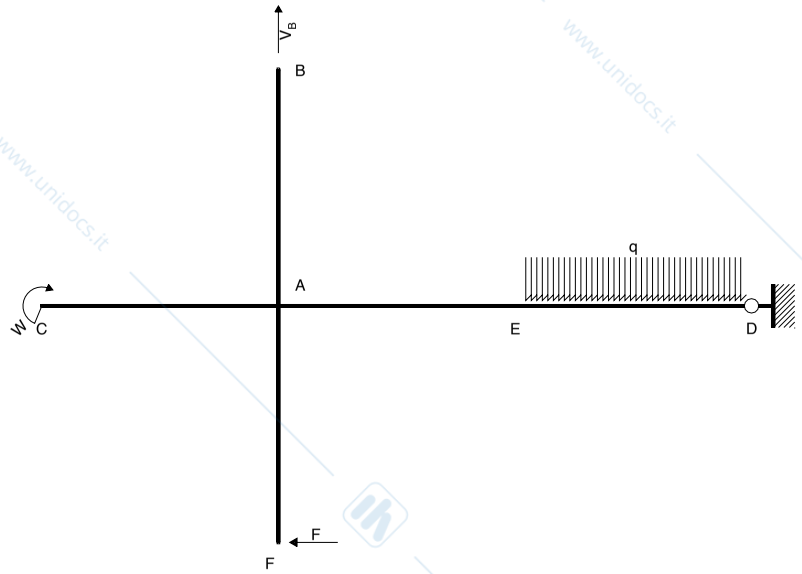


$\longmapsto$ 1.2 Fb^3/EJ





EQUILIBRIO Nome: SMMS.012



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a D

$-2V_B b = Fb + W - 1/2 qb^2$

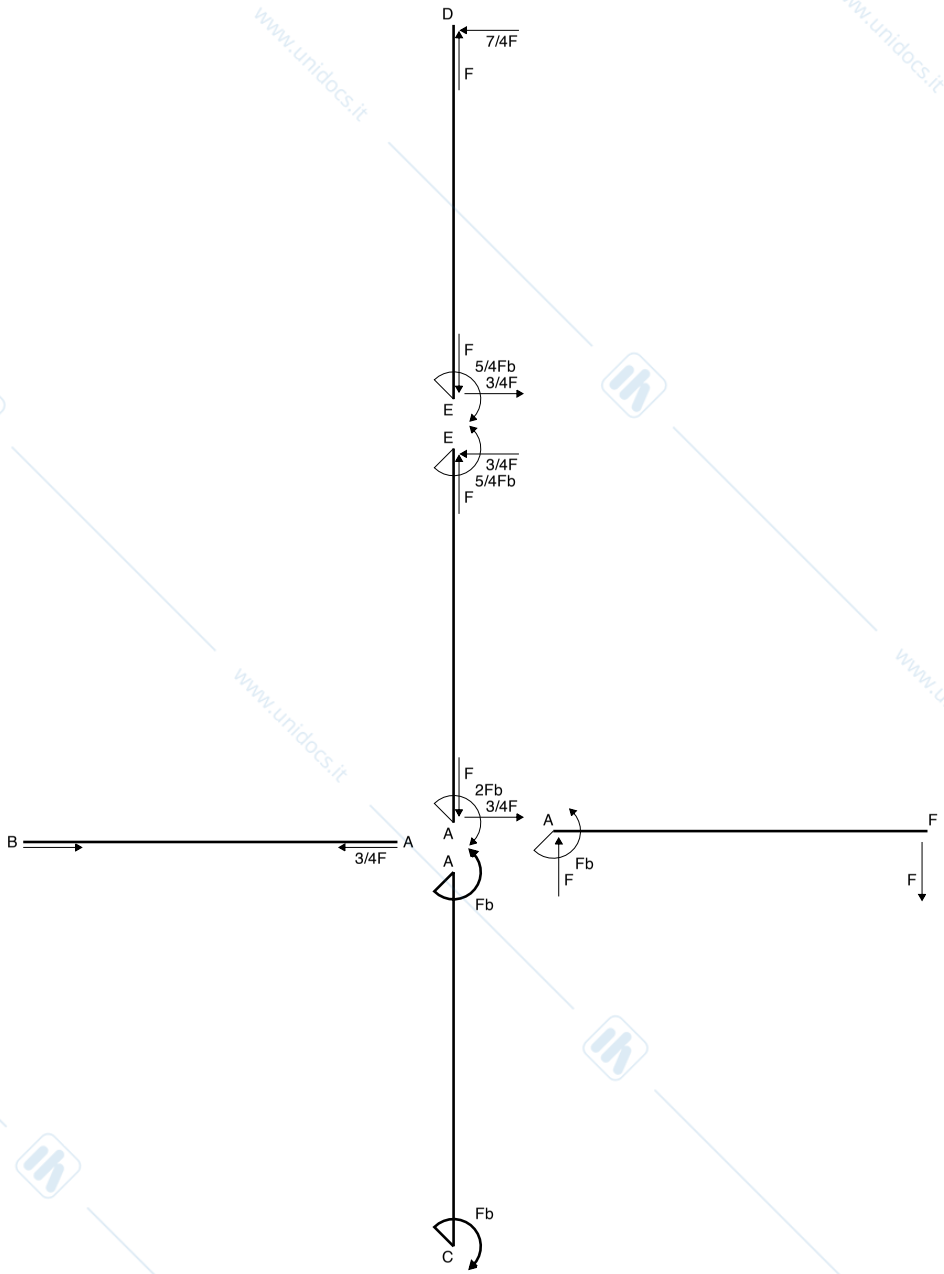
Matrice di equilibrio

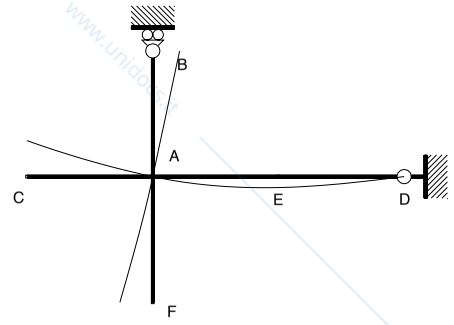
$$\varphi_D \begin{bmatrix} [V_B b] \\ -2 \end{bmatrix} = \begin{bmatrix} [Fb & W & qb^2] \\ 1 & 1 & -1/2 \end{bmatrix}$$

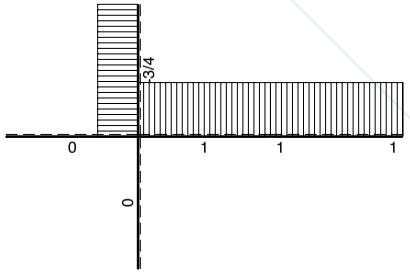
Soluzione del sistema

$$\begin{bmatrix} [Fb & W & qb^2] \\ V_B b \end{bmatrix} = \begin{bmatrix} -1/2 & -1/2 & 1/4 \end{bmatrix}$$

REAZIONI Nome: SMMS.012

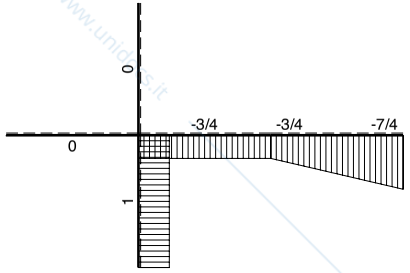


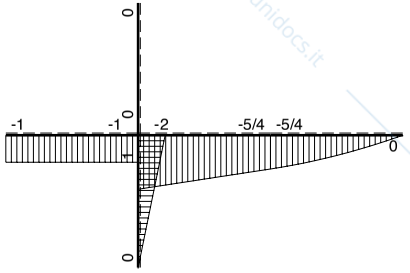




$\longmapsto$ 4 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

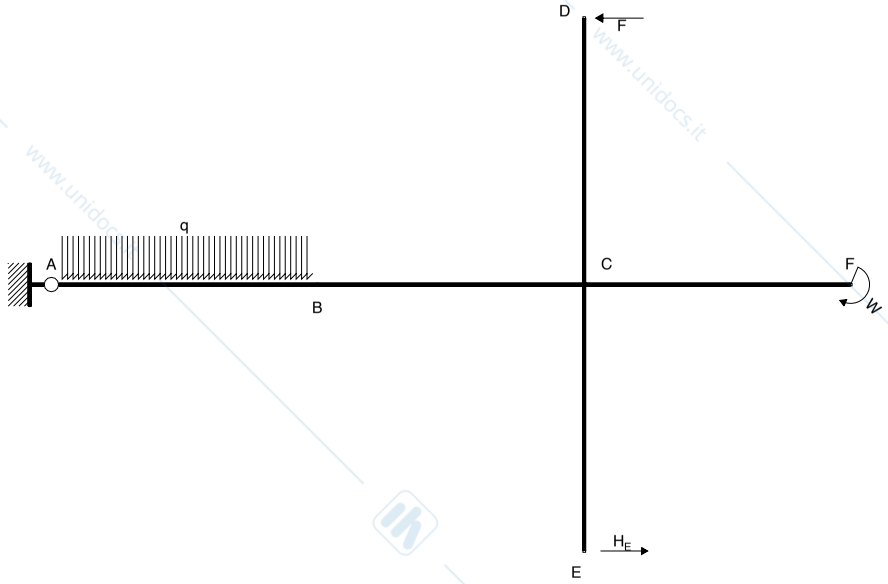




$\uparrow\boxplus\downarrow$ F

$\circlearrowleft\boxplus\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.013



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a A

$H_E b = -Fb + W + 1/2 qb^2$

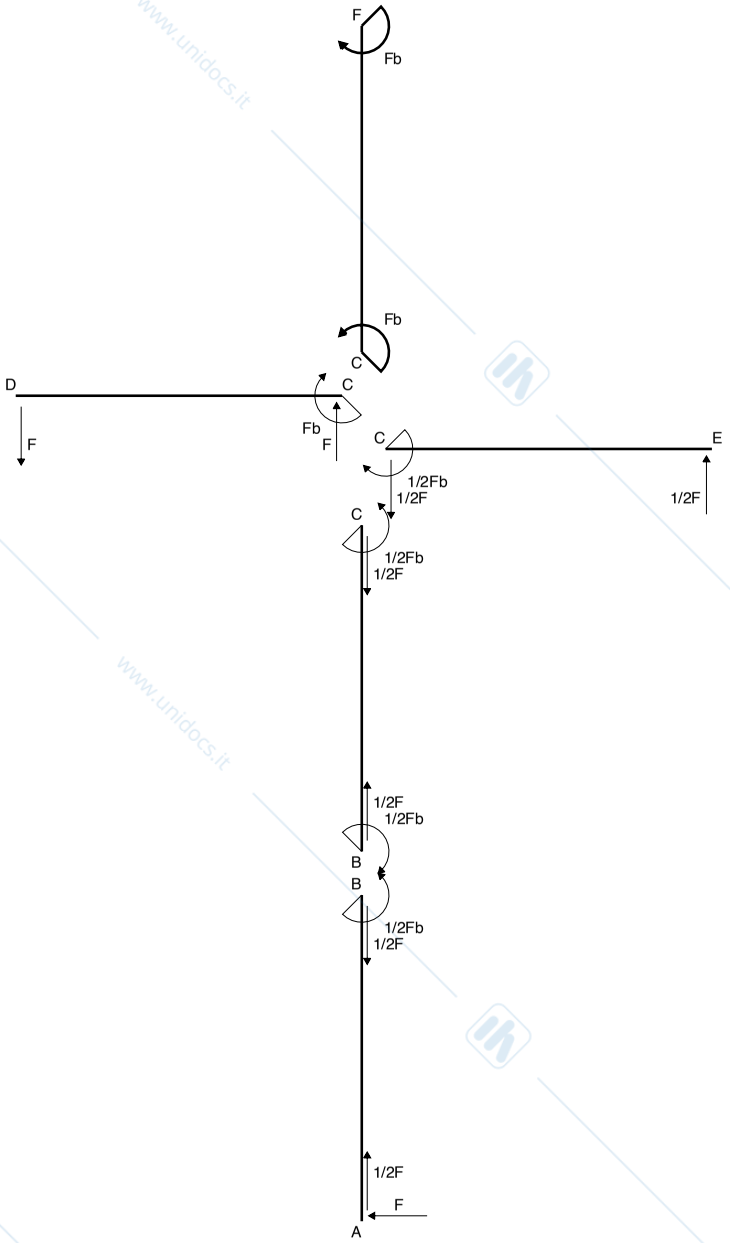
Matrice di equilibrio

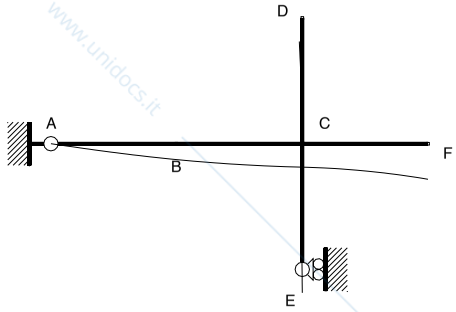
$$\varphi_A \begin{bmatrix} 1 \end{bmatrix} = \begin{bmatrix} H_E b \end{bmatrix} \begin{bmatrix} -1 & 1 & 1/2 \end{bmatrix} \begin{bmatrix} Fb & W & qb^2 \end{bmatrix}$$

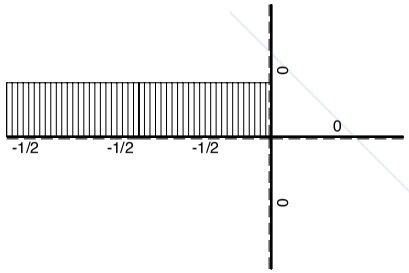
Soluzione del sistema

$$\begin{bmatrix} H_E b \end{bmatrix} = \begin{bmatrix} -1 & 1 & 1/2 \end{bmatrix} \begin{bmatrix} Fb & W & qb^2 \end{bmatrix}$$

REAZIONI Nome: SMMS.013

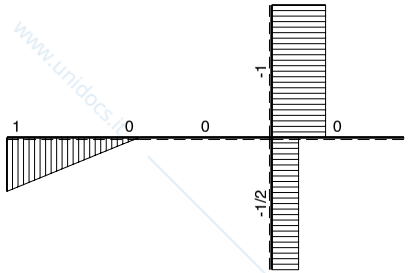


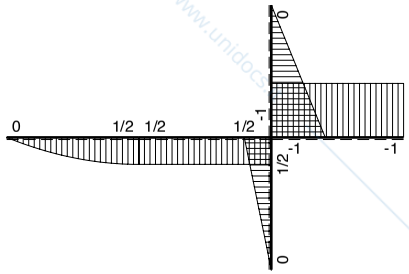




$\longmapsto$ 4 Fb^3/EJ

$\longleftarrow\boxed{+}\longrightarrow$ F

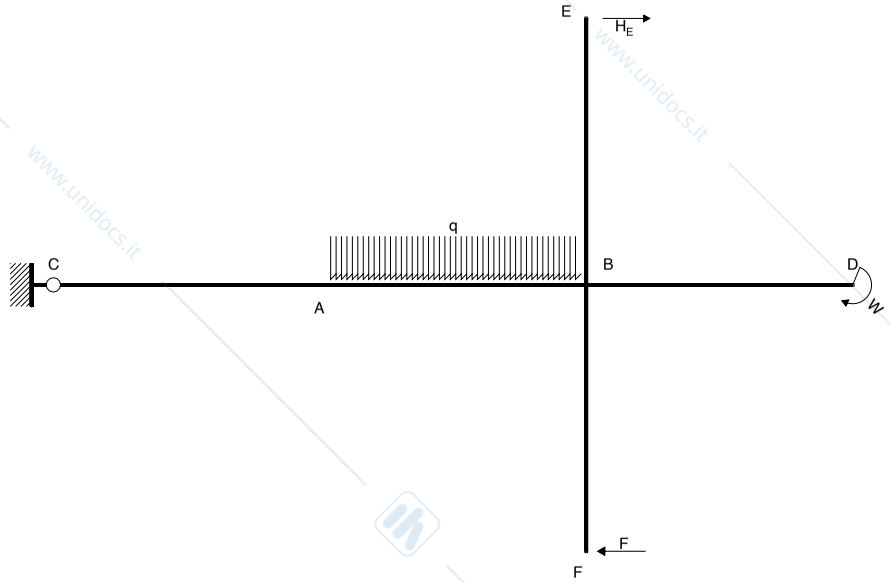




$\uparrow\boxed{+}\downarrow$ F

$\circlearrowleft\boxed{+}\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.014



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$-H_E b = Fb + W + 3/2 q b^2$

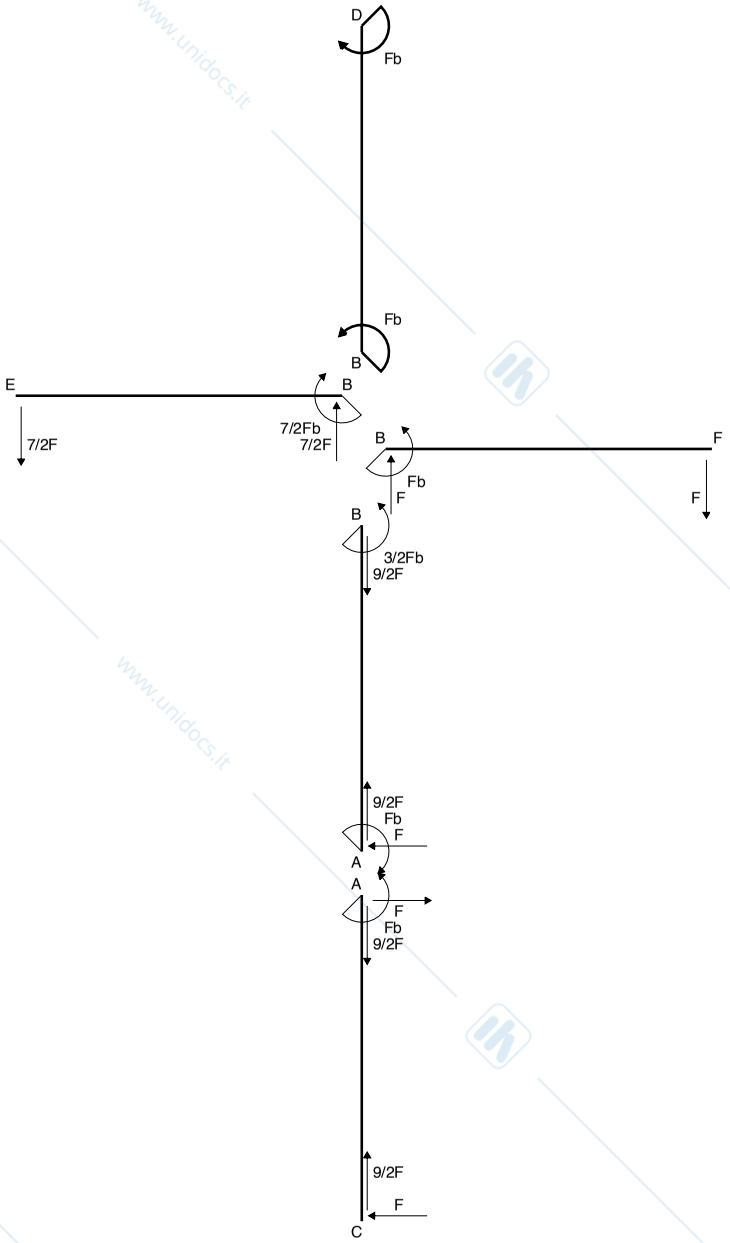
Matrice di equilibrio

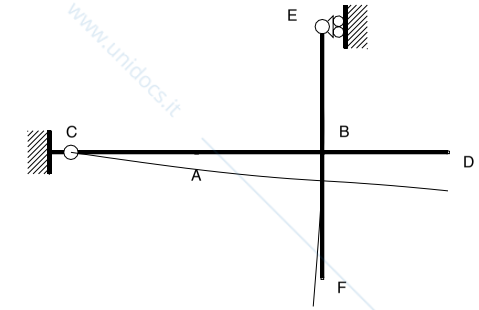
$$\varphi_C \begin{bmatrix} -1 \end{bmatrix} = \begin{bmatrix} 1 & 1 & 3/2 \end{bmatrix} \begin{matrix} [H_E b] \\ [Fb \quad W \quad qb^2] \end{matrix}$$

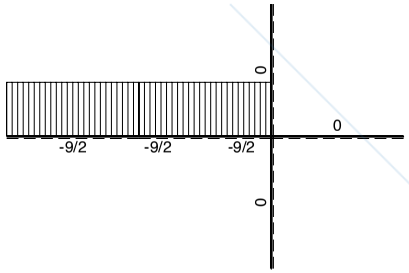
Soluzione del sistema

$$\begin{bmatrix} H_E b \end{bmatrix} = \begin{bmatrix} -1 & -1 & -3/2 \end{bmatrix} \begin{matrix} [Fb \quad W \quad qb^2] \end{matrix}$$

REAZIONI Nome: SMMS.014

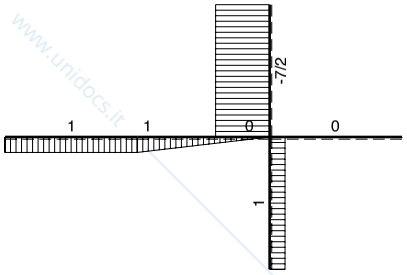


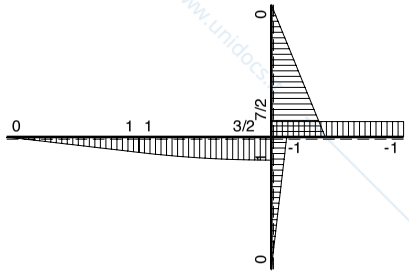




$\longmapsto$ 12 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

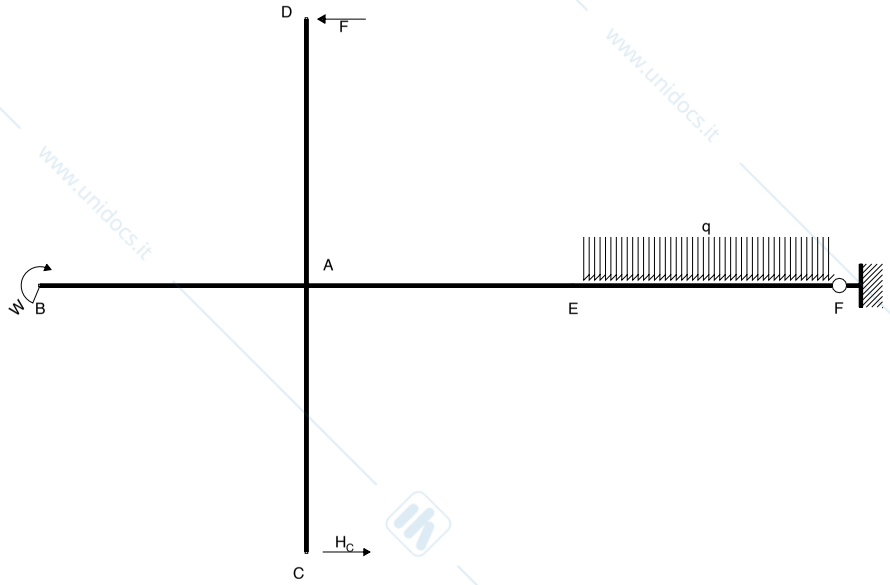




$\uparrow\boxplus\downarrow$ F

$\circlearrowleft\boxplus\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.015



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a F

$H_C b = -Fb + W - 1/2 qb^2$

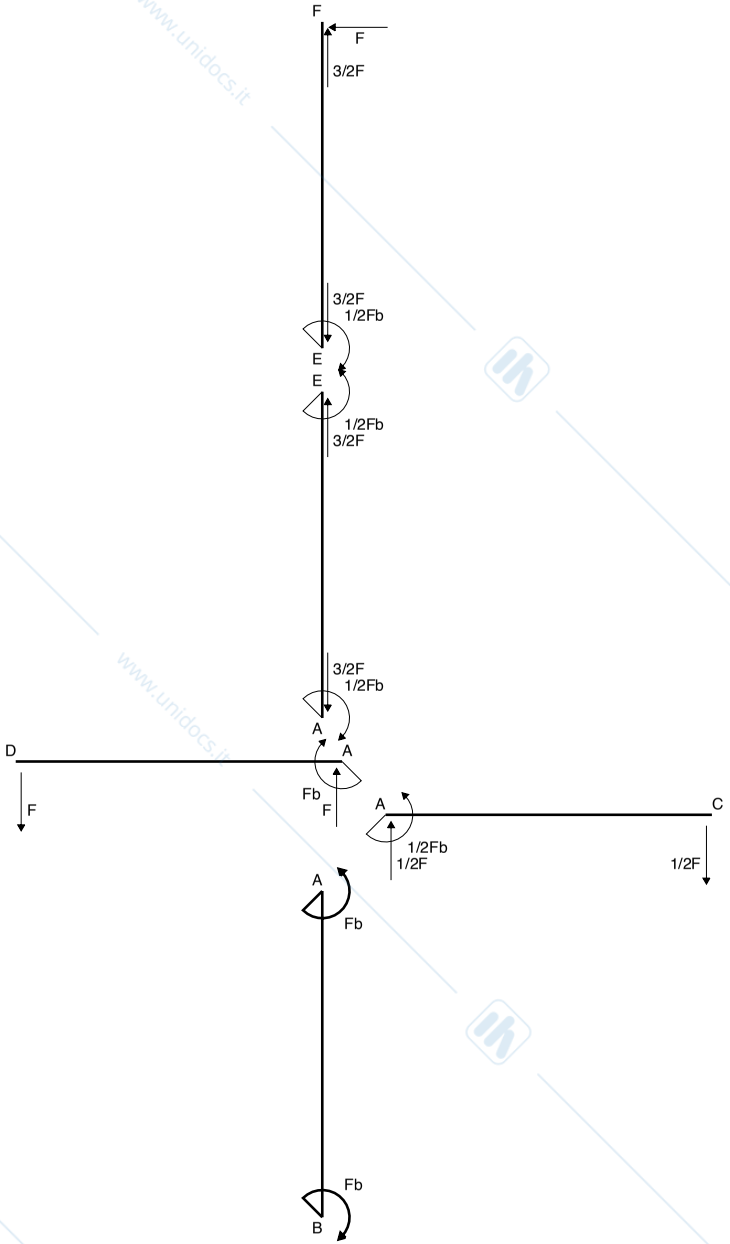
Matrice di equilibrio

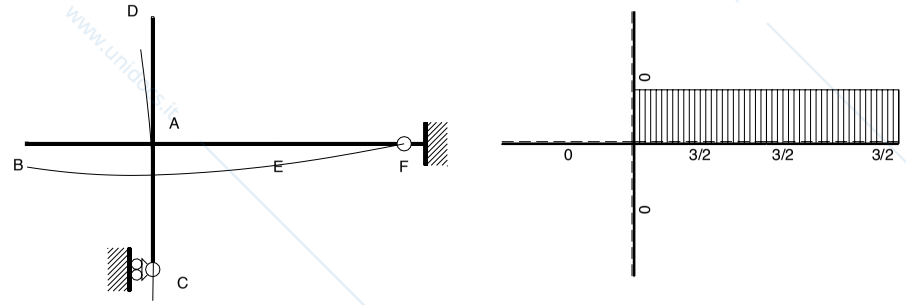
$$[H_C b] \quad [Fb \quad W \quad qb^2]$$
$$\varphi_F \begin{bmatrix} 1 \end{bmatrix} = \begin{bmatrix} -1 & 1 & -1/2 \end{bmatrix}$$

Soluzione del sistema

$$[Fb \quad W \quad qb^2]$$
$$[H_C b] = \begin{bmatrix} -1 & 1 & -1/2 \end{bmatrix}$$

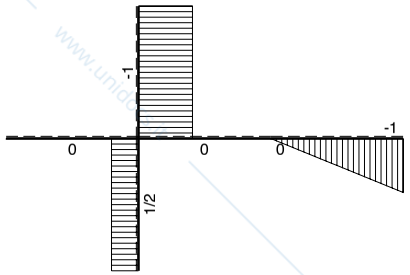
REAZIONI Nome: SMMS.015

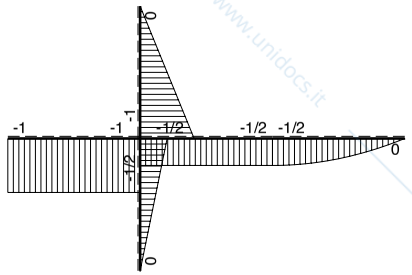




$\longmapsto 3\,Fb^3/EJ$

$\longleftarrow \boxplus \longrightarrow F$

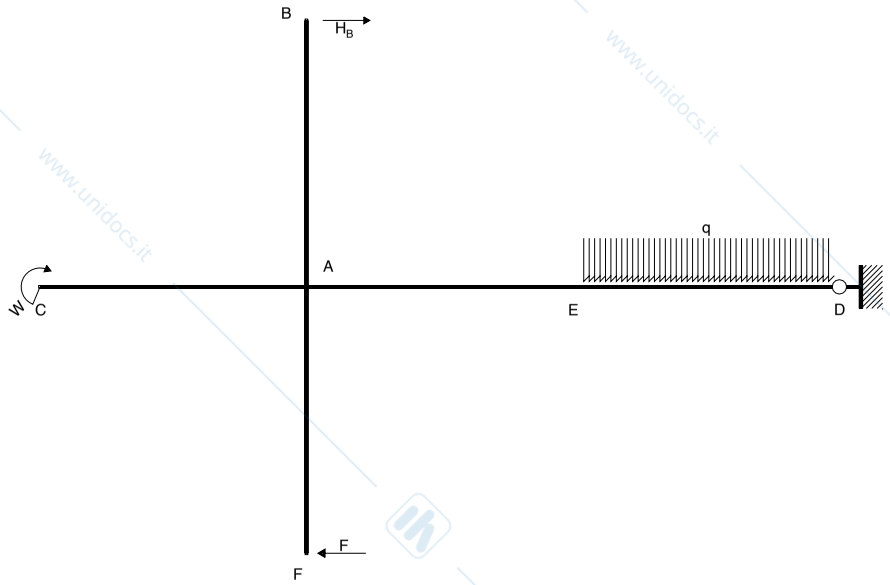




$\uparrow\boxplus\downarrow F$

$\circlearrowleft\boxplus\circlearrowright Fb$

EQUILIBRIO Nome: SMMS.016



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a D

$-H_B b = Fb + W - 1/2 qb^2$

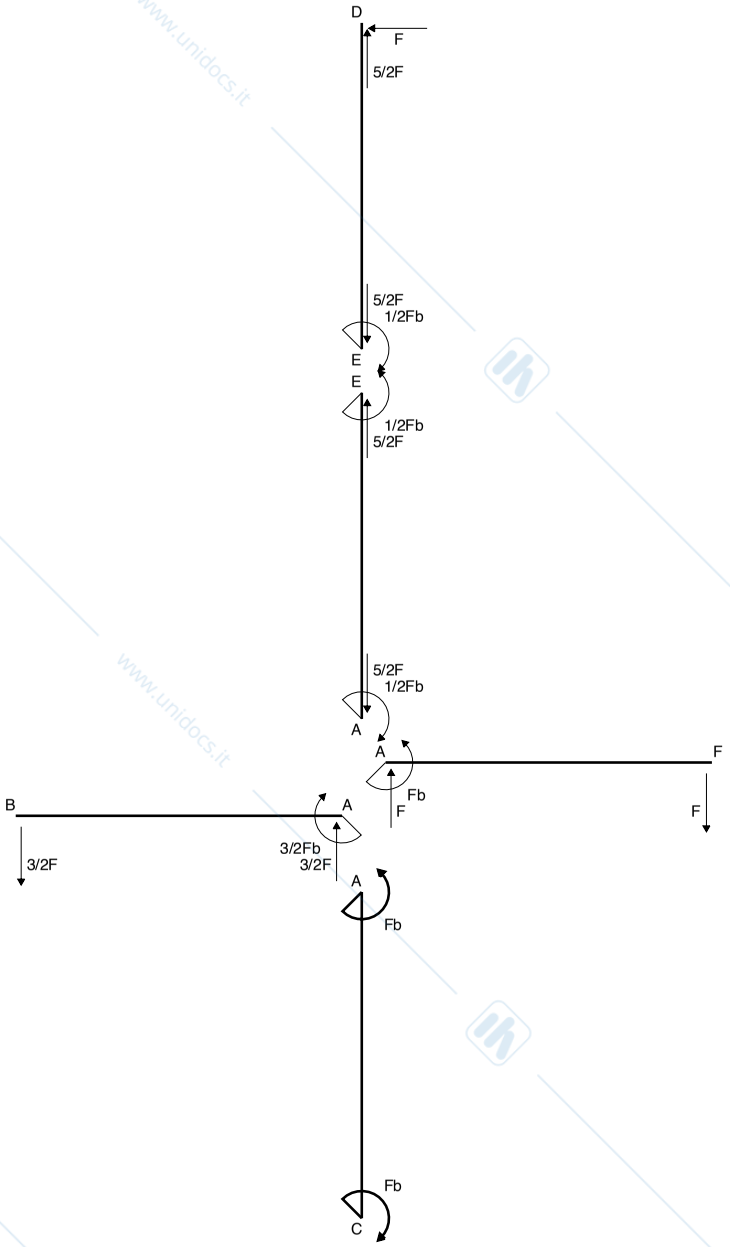
Matrice di equilibrio

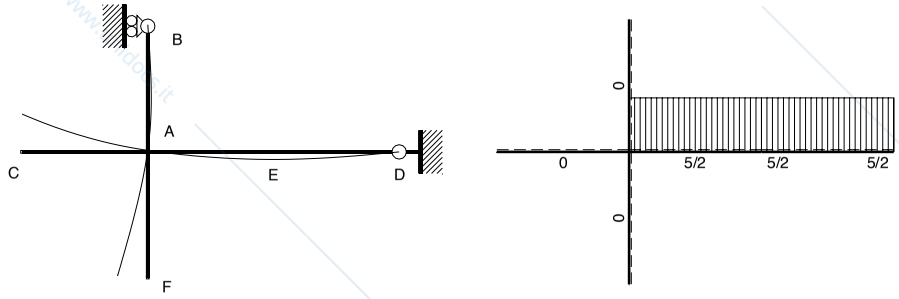
$$[H_B b] \quad [Fb \quad W \quad qb^2]$$
$$\varphi_D \begin{bmatrix} -1 \end{bmatrix} = \begin{bmatrix} 1 & 1 & -1/2 \end{bmatrix}$$

Soluzione del sistema

$$[Fb \quad W \quad qb^2]$$
$$[H_B b] = [-1 \quad -1 \quad 1/2]$$

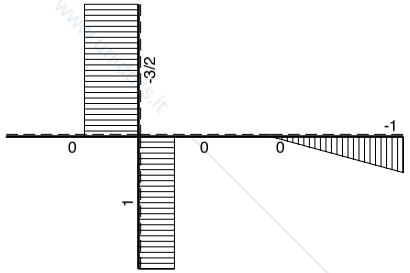
REAZIONI Nome: SMMS.016

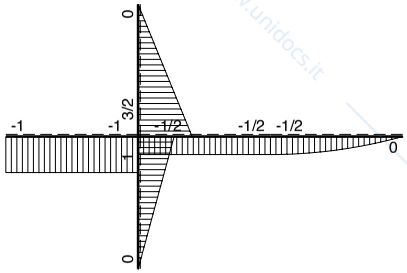




$\longmapsto$ 2 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

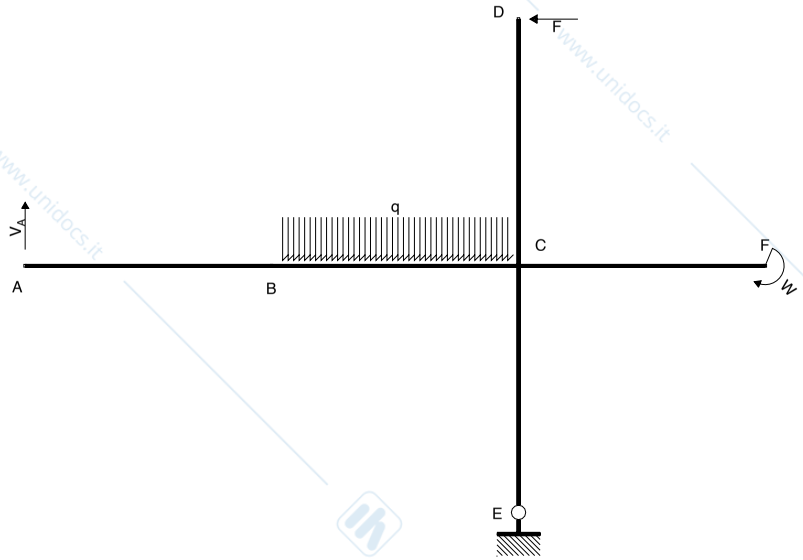




$\uparrow\boxplus\downarrow$ F

$\circlearrowleft\boxplus\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.017



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

$-2V_Ab = -2Fb + W - 1/2qb^2$

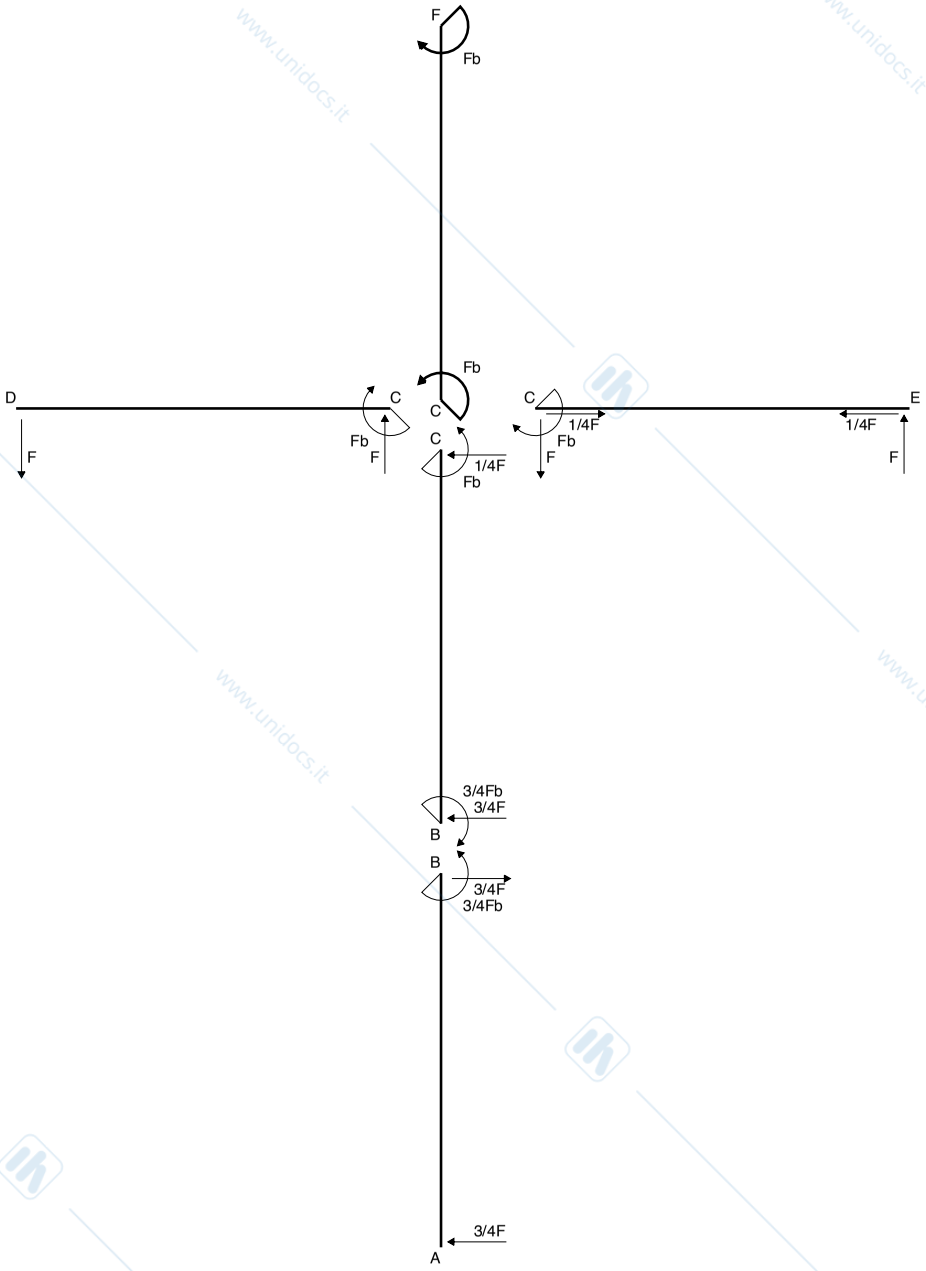
Matrice di equilibrio

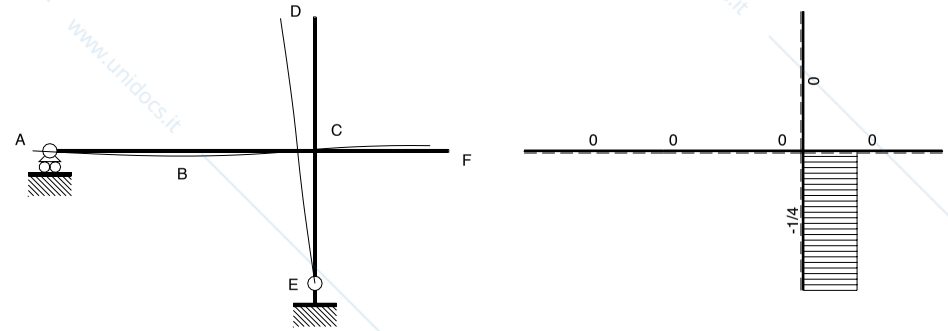
$$\begin{matrix} & [V_Ab] & & [Fb & W & qb^2] \\ \varphi_E & [-2] & = & [-2 & 1 & -1/2] \end{matrix}$$

Soluzione del sistema

$$\begin{matrix} & [Fb & W & qb^2] \\ [V_Ab] & = & [1 & -1/2 & 1/4] \end{matrix}$$

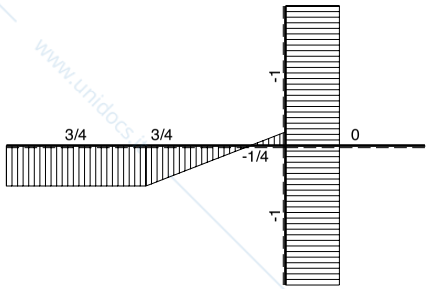
REAZIONI Nome: SMMS.017

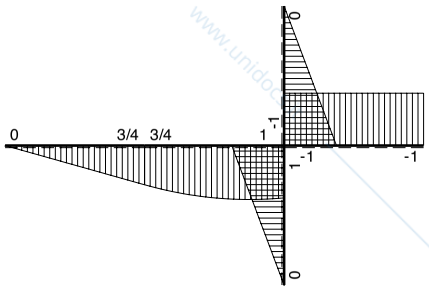




$\longmapsto$ 5 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

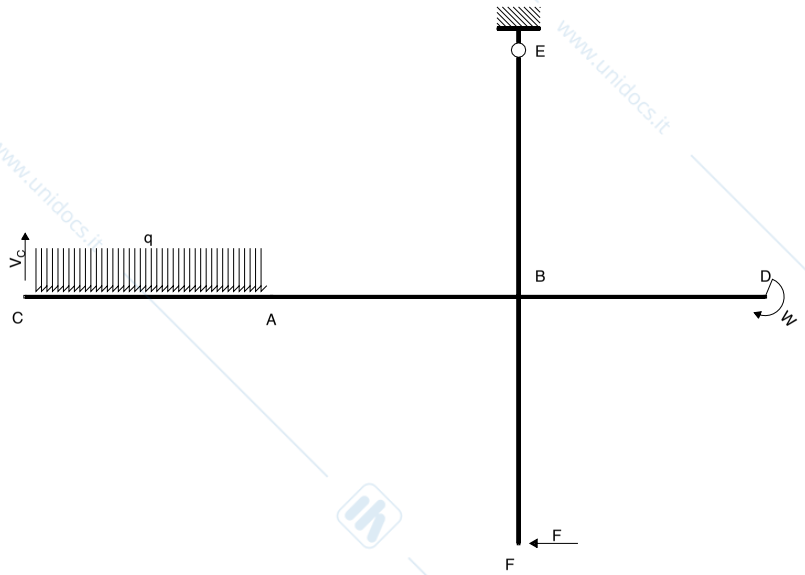




$\uparrow\boxplus\downarrow$ F

$\circlearrowleft\boxplus\circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.018



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a E

$-2V_Cb = 2Fb + W - 3/2qb^2$

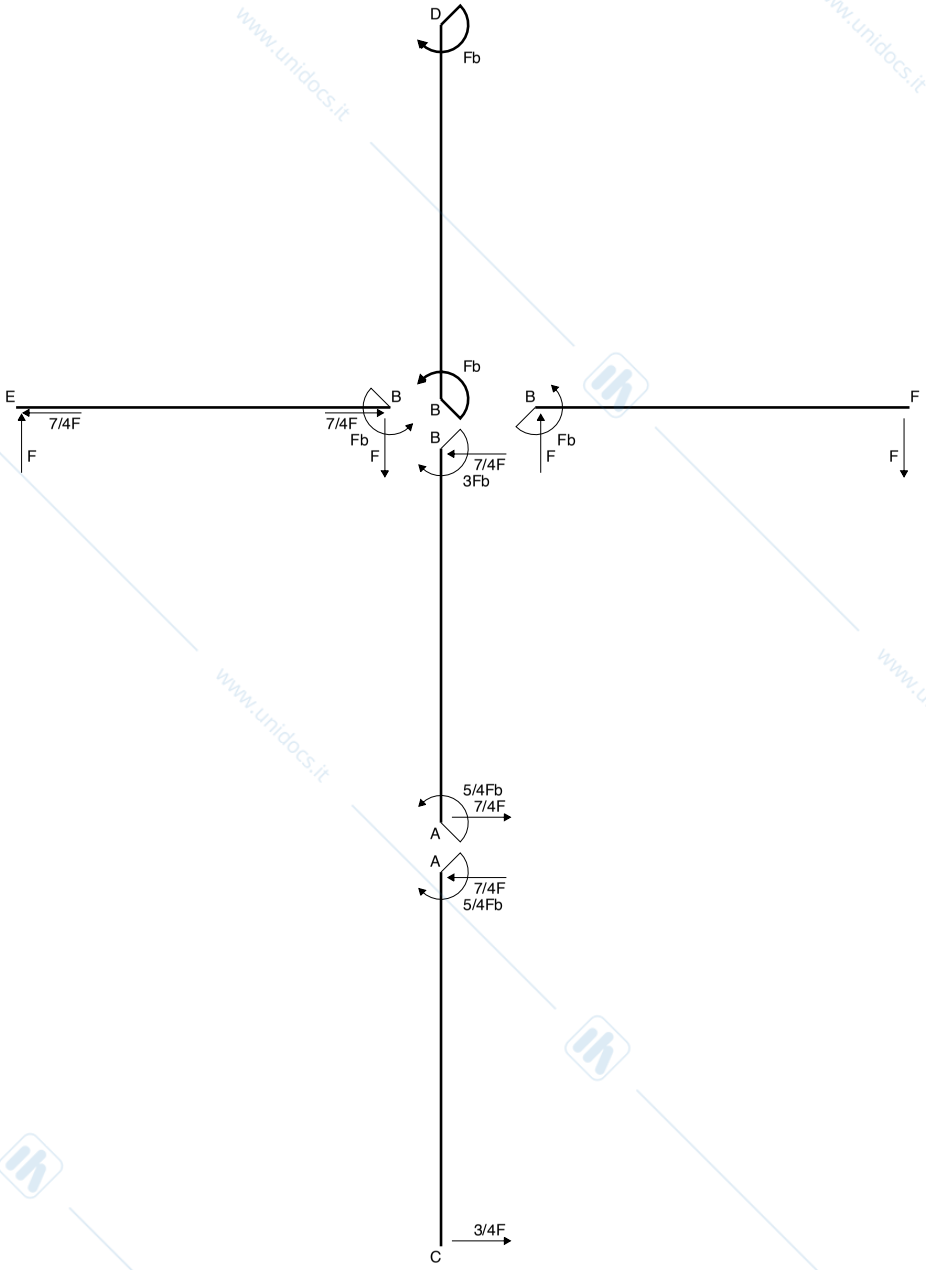
Matrice di equilibrio

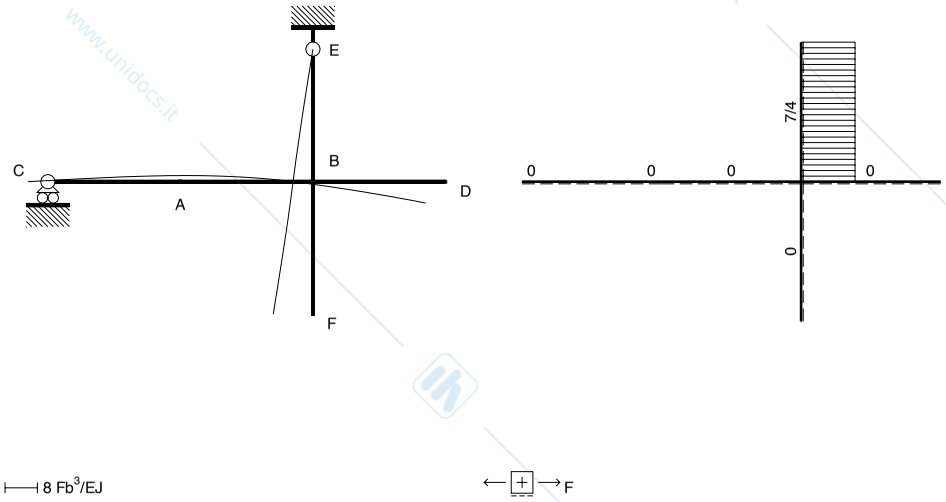
$$\begin{matrix} & [V_Cb] & & [Fb & W & qb^2] \\ \varphi_E & [-2] & = & [2 & 1 & -3/2] \end{matrix}$$

Soluzione del sistema

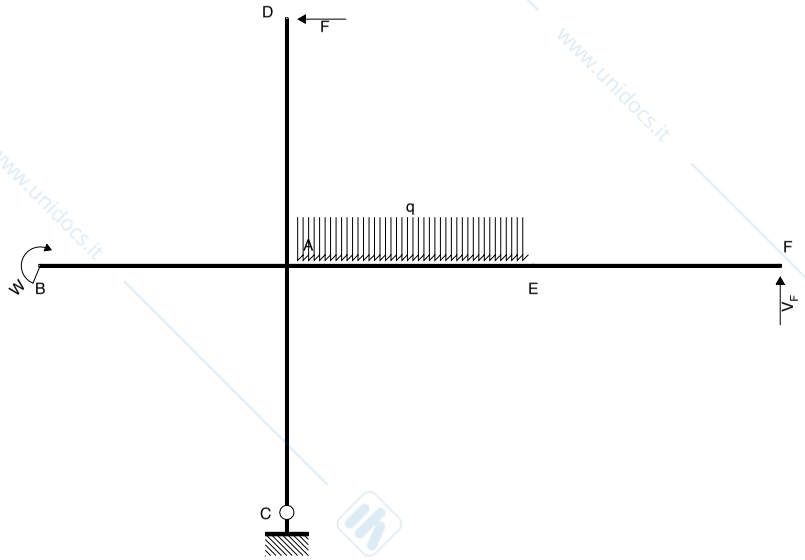
$$\begin{matrix} & [Fb & W & qb^2] \\ [V_Cb] & = & [-1 & -1/2 & 3/4] \end{matrix}$$

REAZIONI Nome: SMMS.018





EQUILIBRIO Nome: SMMS.019



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a C

$2V_Fb = -2Fb + W + 1/2qb^2$

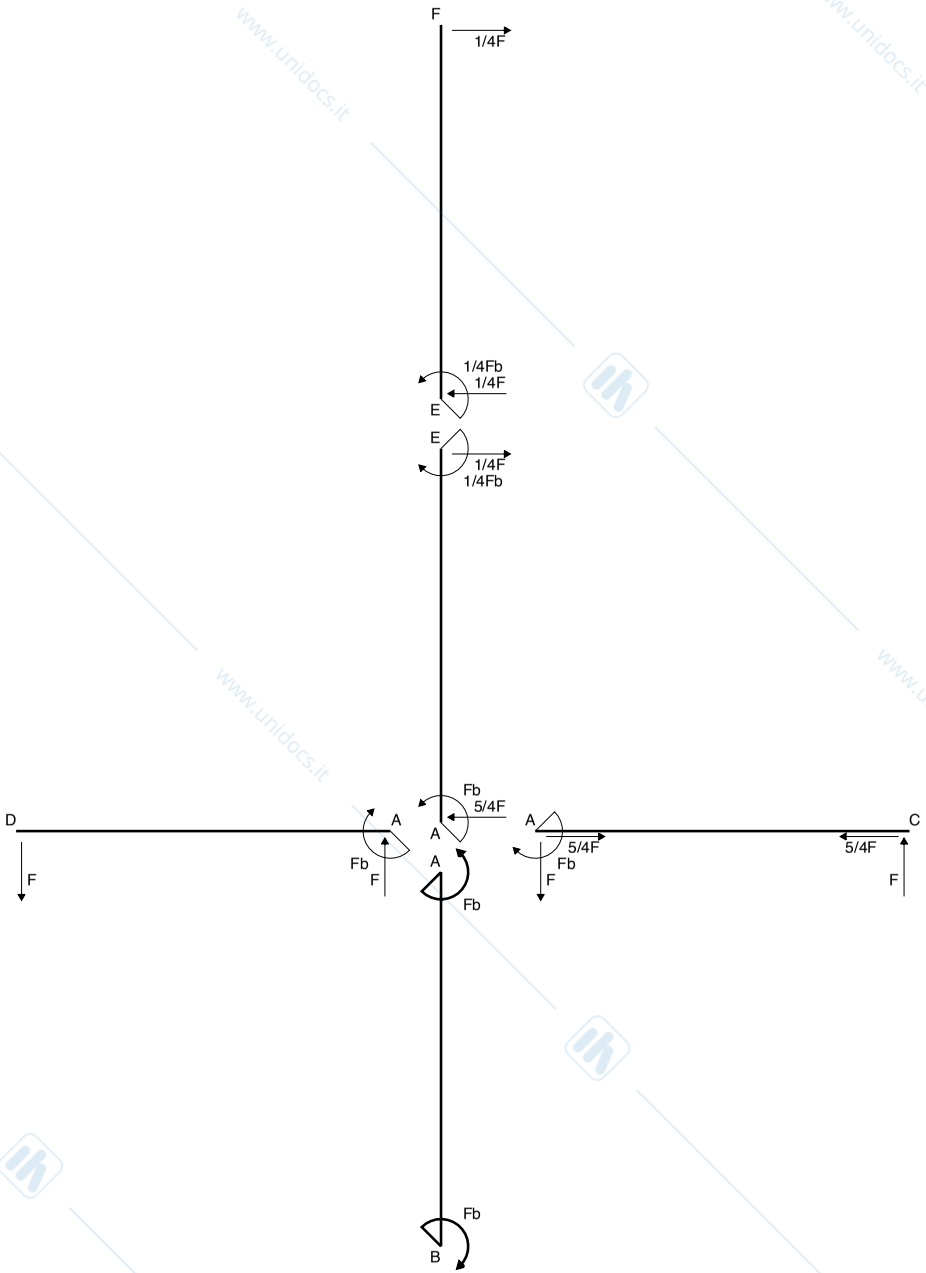
Matrice di equilibrio

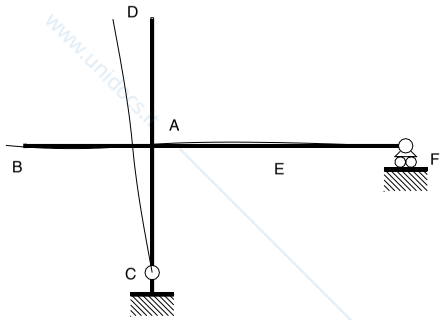
$$\begin{matrix} & [V_Fb] & & [Fb & W & qb^2] \\ \varphi_C & [\ 2\ ] & = & [-2 & 1 & 1/2] \end{matrix}$$

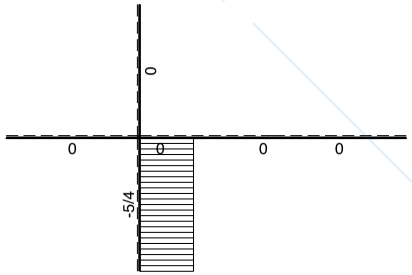
Soluzione del sistema

$$\begin{matrix} & [Fb & W & qb^2] \\ [\ V_Fb\ ] & = & [-1 & 1/2 & 1/4] \end{matrix}$$

REAZIONI Nome: SMMS.019

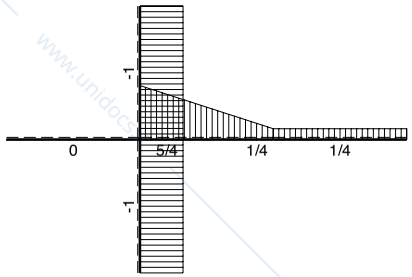


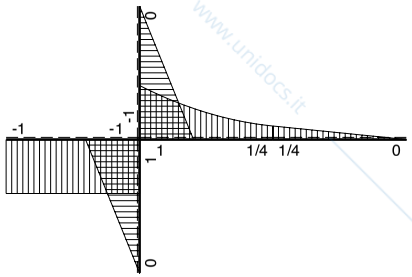




$\longmapsto$ 3 Fb^3/EJ

$\longleftarrow \boxplus \longrightarrow$ F

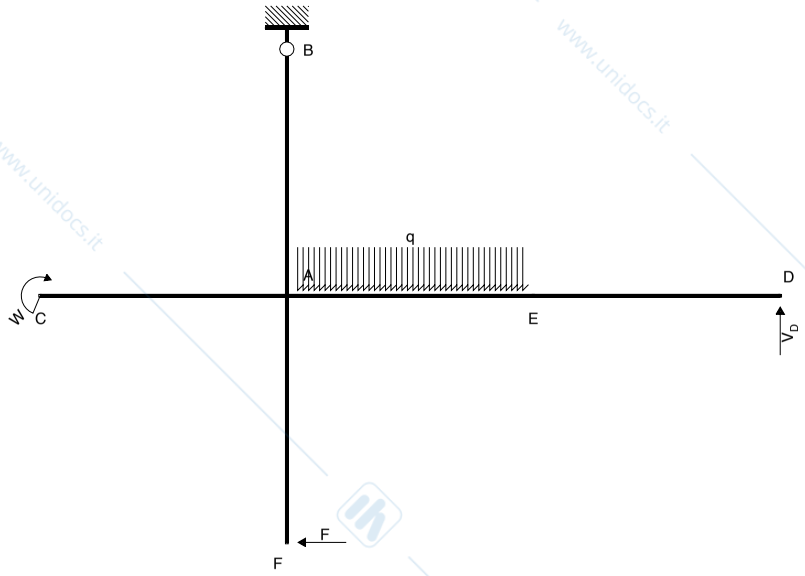




$\uparrow\downarrow \boxplus$ F

$\circlearrowleft \boxplus \circlearrowright$ Fb

EQUILIBRIO Nome: SMMS.020



EQUAZIONI DI EQUILIBRIO

Rotazione globale intorno a B

$2V_Db = 2Fb + W + 1/2qb^2$

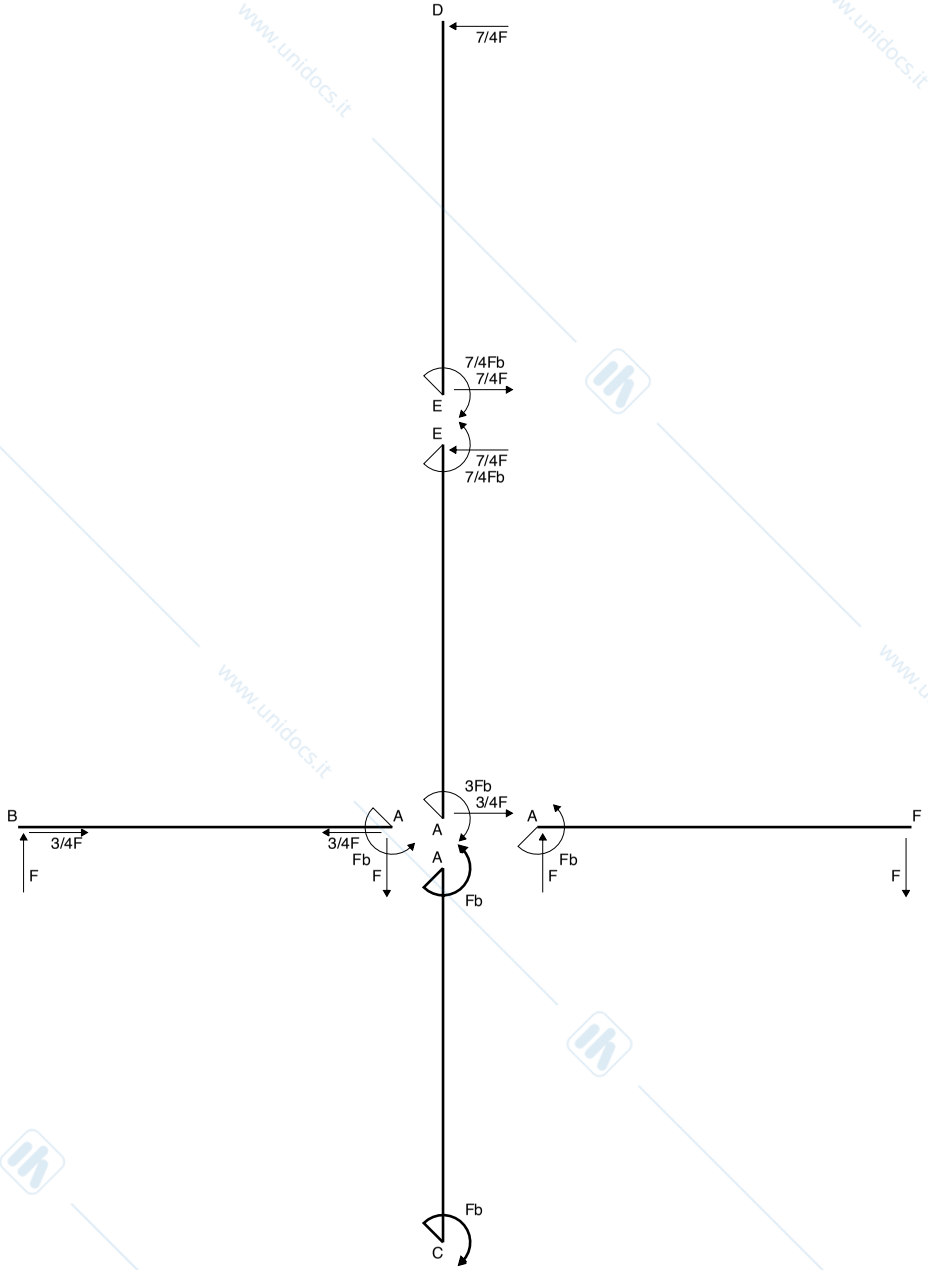
Matrice di equilibrio

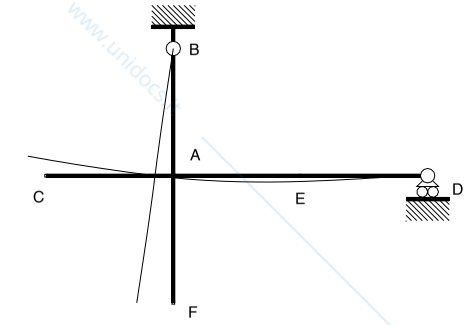
$$\begin{matrix} & [V_Db] & & [Fb & W & qb^2] \\ \varphi_B & [\ 2\ ] & = & [\ 2 & 1 & 1/2] \end{matrix}$$

Soluzione del sistema

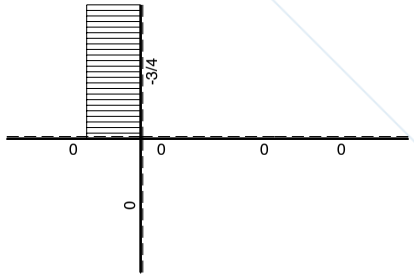
$$\begin{matrix} & [Fb & W & qb^2] \\ [\ V_Db\ ] & = & [\ 1 & 1/2 & 1/4] \end{matrix}$$

REAZIONI Nome: SMMS.020





10 Fb³/EJ



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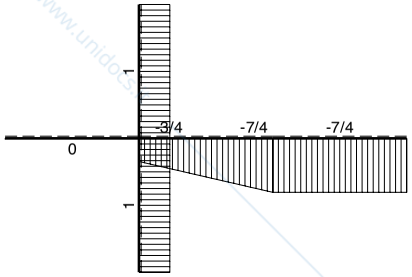

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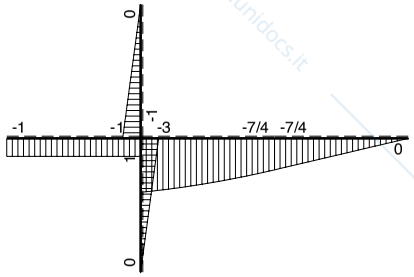

Fb