

$GDL = 2 \cdot 3 = 6$

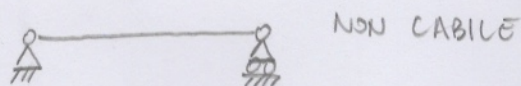
NODO	qDV
A	3
C	2
D	1
TOT	6

ISOSTATICA

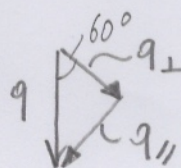
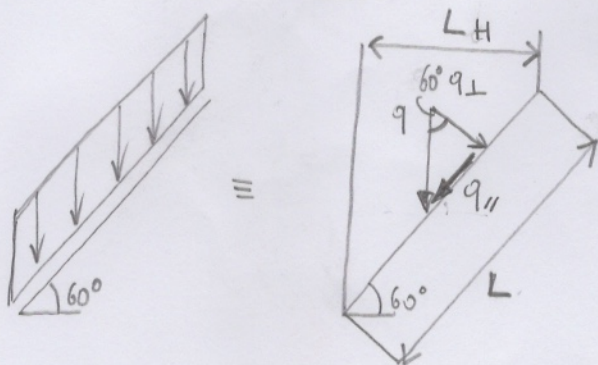
ANALISI CINEM.

TRATTO A-B-C INCASTRATO A TERRA → FISSO

TRATTO C-D



ANALISI CARICO DISTR.



$q_{\perp} = q \cdot \cos(60)$

$q_{\parallel} = q \cdot \sin(60)$

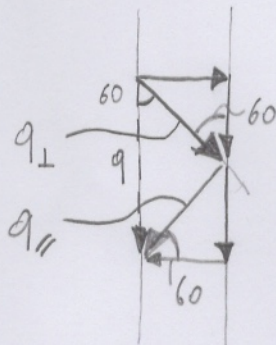
Calcolo i risultanti di q_{\perp} e q_{\parallel} , ad esso agiscono sulla lunghezza L

$R_{\perp} = q_{\perp} \cdot L = q \cdot \cos(60) \cdot L$

$R_{\parallel} = q_{\parallel} \cdot L = q \cdot \sin(60) \cdot L$

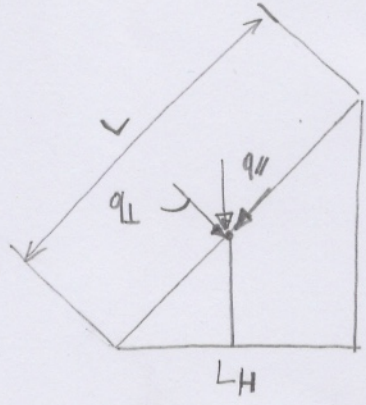
} Proietto in direzione verticale

Le componenti orizzontali sono uguali e opposte quindi quindi si annullano



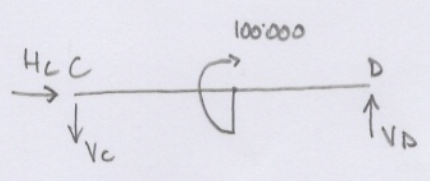
$R = q_{\perp} \cdot \cos(60) + q_{\parallel} \cdot \sin(60) =$
 $= q \cos^2(60) L + q \sin^2(60) L = qL$

dove pone il risultante? pone in $\frac{L}{2}$



$$\bar{x} = \frac{\int_0^L q_L \cdot x \, dx}{R} = \frac{\int_0^L x \cdot q \cdot c_{60} \, dx}{qL} = \frac{L^2 \cdot c_{60} \cdot q}{2 \cdot qL} = \frac{L \cdot c_{60}}{2} = \frac{LH}{2}$$

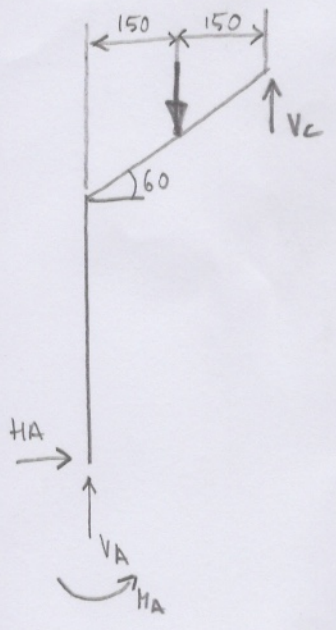
EQ $\leftarrow \begin{matrix} + \\ \uparrow \\ \rightarrow \end{matrix}$
TRATTO C-D



$\rightarrow H_C = \phi$
 $\uparrow V_C = V_D$

$\curvearrowright V_D \cdot 400 - 100'000 = \phi \quad V_D = \frac{100'000}{400} = 250N$

TRATTO A-BC



$\rightarrow H_A = \phi$

$\bullet V_A = 9'600 - V_C = 5750N$

A) $M_A - 9'600 \cdot 150 + V_C \cdot 300 = \phi$

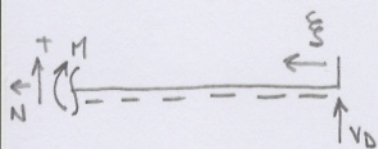
$\bullet M_A = 9'600 \cdot 150 - V_C \cdot 300 = 825000 \text{ Nmm}$

Verifica $H_A = \phi$

C) $9'600 \cdot 150 + H_A \cdot 600 (1 + \sin(60)) - V_A \cdot 300 + H_A = \phi$

$H_A = \frac{V_A \cdot 300 - 9'600 \cdot 150 - M_A}{600(1 + \sin(60))} = \phi \quad \underline{\underline{\text{VERIFICATO}}}$

TRATTO C-D

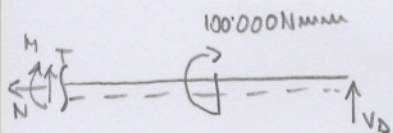


$0 < \xi < 200$

$N = \emptyset$

$T = -V_D = -250N$

$M = 250 \cdot \xi \begin{cases} M(0) = \emptyset \\ M(200) = 50'000 \text{ Nmm} \end{cases}$



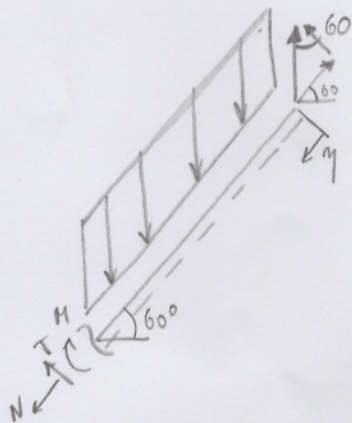
$200 < \xi < 400$

$N = \emptyset$

$T = -250N$

$M = -100'000 + V_D \cdot \xi \begin{cases} M(200) = -50'000 \text{ Nmm} \\ M(400) = \emptyset \end{cases}$

TRATTO C-B



$0 < \eta < 600$

$N = V_C \cdot s_{60} - q \cdot s_{60} \cdot \eta \begin{cases} N(0) = 216.5064 \\ N(600) = -4979.6461 \text{ N} \end{cases}$

$N = \emptyset \quad \eta^* = \frac{V_C \cdot s_{60}}{q \cdot s_{60}} = 25 \text{ mm}$

$T = -V_C \cdot c_{60} + q \cdot c_{60} \cdot \eta \begin{cases} T(0) = -125N \\ T(600) = 2875N \end{cases}$

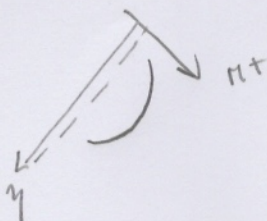
$T = \emptyset \quad \eta^* = \frac{V_C \cdot c_{60}}{q \cdot c_{60}} = 25 \text{ mm}$

$M = +V_C \cdot c_{60} \cdot \eta - q \cdot c_{60} \cdot \frac{\eta^2}{2} \begin{cases} M(0) = \emptyset \\ M(600) = -825000 \text{ Nmm} \end{cases}$

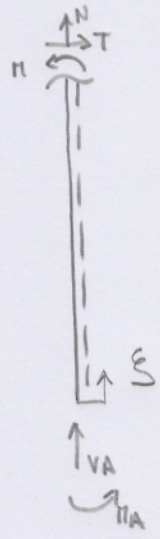
$\frac{dM}{d\eta} = -T(\eta) \quad M \text{ stationario in } \eta^* = 25 \quad H(\eta^*) = 1562.5 \text{ Nmm}$

$M = \emptyset \text{ in } \eta (V_C \cdot c_{60} - q \cdot c_{60} \cdot \frac{\eta}{2}) \quad \eta = \emptyset \quad \eta = \frac{V_C \cdot c_{60}}{q \cdot c_{60}} \cdot 2 = 50 \text{ mm}$

$\frac{d^2M}{d\eta^2} = -q \cdot c_{60} < \emptyset \quad \text{CONCAVA}$



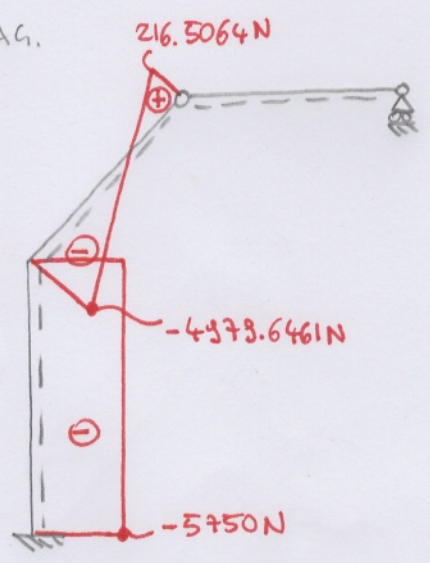
TRATTO A-B



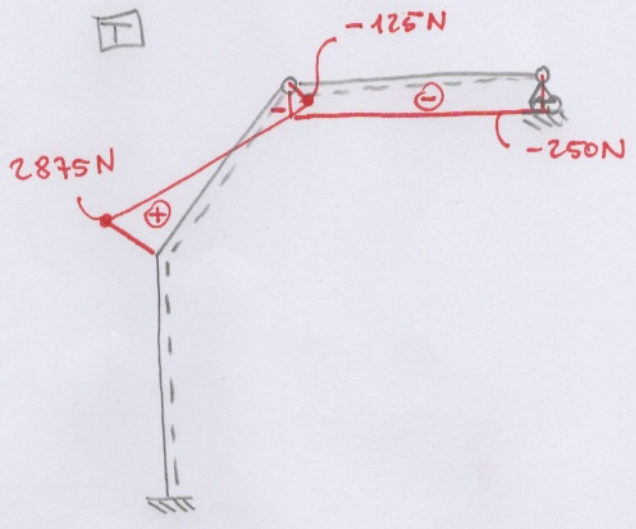
$0 < \xi < 600$
 $N = -V_A = -5750N$
 $T = \phi$
 $M = -H_A = -825000 Nmm$

DIAG.

N



T



M

