



1) $v1(s1=0) = 0$
 2) $\varphi1(s1=0) = 0$

3) $\varphi1(s1=L) = \varphi2(s2=0)$
 \downarrow
 4) $M1(s1=L) = M2(s2=0)$
 \downarrow
 5) $v1(s1=L) = 0$
 6) $v2(s2=0) = 0$

7) $v2(s2=L) = 0$
 8) $M2(s2=L) = 0$

Parte sinistra :

$$v1(s1) = (-qs1^4/24EJ) + (C1s1^3/6) + (C2s1^2/2) + C3s1 + C4$$

Parte destra :

$$v2(s2) = (-qs1^4/24EJ) + (d1s1^3/6) + (d2s1^2/2) + d3s1 + d4$$

1) $v1(s1=0) = 0 \rightarrow C4 = 0$
 2) $\varphi1(s1=0) = 0 \rightarrow C3 = 0$
 3) $(-qL^3/6EJ) + (C1L^2/2) + C2L + C3 = d3$ (1)
 4) $EJ \cdot \chi1(s1=L) = EJ \cdot \chi2(s2=0) \rightarrow (d^2v1/ds^2)(s=L) = (d^2v2/ds^2)(s=0) \rightarrow (-qL^2/2EJ) + C1L + C2 = d2$ (2)
 5) $(-qL^4/24EJ) + (C1L^3/6) + (C2L^2/2) + C3L + C4 = 0$ (3)
 6) $v2(s2=0) = 0 \rightarrow d4 = 0$
 7) $(-qL^4/24EJ) + (d1L^3/6) + (d2L^2/2) + d3L + d4 = 0$ (4)
 8) $EJ \cdot \chi2(s2=L) = 0 \rightarrow (d^2v2/ds^2)(s=L) = 0 \rightarrow (-qL^2/2EJ) + d1L + d2 = 0$ (5)



(2) $(-qL^2/2EJ) + C1L + C2 = d2 \rightarrow C2 = (qL^2/2EJ) - C1L + d2$
 (3) $(-qL^4/24EJ) + (C1L^3/6) + (qL^4/4EJ) + (C1L^3/2) + (d2L^2/2) = 0 \rightarrow (-C1L^3/3) = (5qL^4/24EJ) - (d2L^2/2) \rightarrow C1 = (5qL/8EJ) + (3d2/2L)$
 $\rightarrow C2 = (qL^2/2EJ) + (5qL^2/8EJ) - (3d2/2) + d2 \rightarrow C2 = (-qL^2/8EJ) - (d2/2)$
 (5) $(-qL^2/2EJ) + d1L + d2 = 0 \rightarrow d1 = (qL/2EJ) - (d2/L)$
 (1) $d3 = (-qL^3/6EJ) + (qL^3/16EJ) + (3d2L/4) + (3qL^3/8EJ) - (d2L/2) \rightarrow d3 = (qL^3/48EJ) + (d2L/4)$
 (4) $(-qL^4/24EJ) + (qL^4/12EJ) - (d2L^2/6) + (d2L^2/2) + (31qL^4/48EJ) + (d2L^2/4) = 0 \rightarrow (33qL^4/48EJ) - (7d2L^2/12) = 0 \rightarrow d2 = -3qL^2/28EJ$
 $\rightarrow d1 = 17qL/28EJ$
 $\rightarrow d3 = -qL^3/168EJ$
 $\rightarrow C1 = 13qL/28EJ$
 $\rightarrow C2 = -qL^2/14EJ$



$vs1 = (-qs^4/24EJ) + (13qL/28EJ)(s^3/6) - (qL^2/14EJ)(s^2/2)$
 $\varphis1 = (-qs^3/6EJ) + (13qL/28EJ)(s^2/2) - (qL^2/14EJ)s$
 $Ms1 = qs^2/2 - 13qLs/28 + qL^2/14$
 $Ts1 = qs - 13qL/28$

$vs2 = (-qs^4/24EJ) + (13qL/28EJ)(s^3/6) - (3qL^2/28EJ)(s^2/2) - (qL^3/168EJ)s$
 $\varphis2 = (-qs^3/6EJ) + (17qL/28EJ)(s^2/2) - (3qL^2/28EJ)s - (qL^3/168EJ)$
 $Ms2 = qs^2/2 - 17qLs/28 + 3qL^2/28$
 $Ts2 = qs - 17qL/28$



$\varphi1(s1=L) \stackrel{?}{=} \varphi2(s2=0)$
 $(-qL^3/6EJ) + (13qL/28EJ)(L^2/2) - (qL^2/14EJ)L = -qL^3/168EJ \quad \checkmark$
 $M1(s1=L) \stackrel{?}{=} M2(s2=0)$
 $qL^2/2 - (13qL/28EJ)L + (qL^2/14) = 3qL^2/28 \quad \checkmark$

$$v_{max} \rightarrow \varphi_{s1} = 0 \rightarrow s = 0, (9/10)l \rightarrow v_{max} = v(s=(9/10)l)$$

$v1(s1=0) = 0$	$\varphi1(s1=0) = 0$	$M1(s1=0) = ql^2/14$	$T1(s1=0) = -13ql/28$
$v1(s1=l) = 0$	$\varphi1(s1=l) = -ql^3/168EJ$	$M1(s1=l) = 3ql^2/28$	$T1(s1=l) = 15ql/28$
$v2(s2=0) = 0$	$\varphi2(s2=0) = -ql^3/168EJ$	$M2(s2=0) = 3ql^2/28$	$T2(s2=0) = -17ql/28$
$v2(s2=l) = 0$	$\varphi2(s2=l) = ql^3/42EJ$	$M2(s2=l) = 0$	$T2(s2=l) = 9ql/28$

$T1s1 = 0 \rightarrow$	$qs-13ql/28 = 0 \rightarrow$	$s1 = 13l/28 \rightarrow$	$M1(s1=13l/28) = -57ql^2/1568$
$T2s2 = 0 \rightarrow$	$qs-17ql/28 = 0 \rightarrow$	$s2 = 17l/28 \rightarrow$	$M2(s2=17l/28) = -121ql^2/1568$

