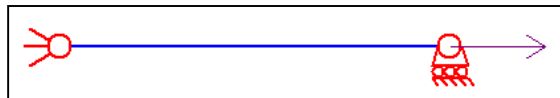


TEST SCHEDULE R 1	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	TENSION	EC3.RES.NP.001



Program: WEURO © version October 2007 for Sargon and Cescoplus
Keywords: EN 1993, Eurocode 3, example, validation, benchmark, reliability, quality control, error measure. **Parole chiave:** Eurocodice 3, esempio, validazione, test, affidabilità, controllo di qualità, misura dell'errore
Tv=exploitation target value, **Cv**=exploitation computed value
Authors: Ing. Marco Croci, Ing. Paolo Rugarli

BEAM		
Length [mm]	Left end	Right end
1000	HINGE	SIMPLY SUPPORTED

LOAD			
Type	Value	Point of application	
TENSION	N=100.000N	RIGHT END	

MATERIAL	S235					
f_y [N/mm ²]	f_u [N/mm ²]	E [N/mm ²]	ν	γ_{M0}	γ_{M1}	γ_{M2}
235	360	2,10E+05	0,3	1,1	1,1	1,25

CROSS SECTION	L 40x20x5	CLASS: N⁺ →1			
A [mm ²]	J_2 [mm ⁴]	J_3 [mm ⁴]	J_t [mm ⁴]	W_2 [mm ³]	W_3 [mm ³]
277	4,550e+04	4,800e+03	2,292e+03	1,790e+03	4,200e+02
W_{pl2} [mm ³]	W_{pl3} [mm ³]	i_2 [mm]	i_3 [mm]	i_t [mm]	
1,790e+03	4,200e+02	12,8	4,2	0	
h	b	t	r	r1	
40	20	5	4	2	

OTHER DATA				
% red A_{net}	A_{net} [mm ²]			
0,9	249,3			

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$N_{p/Rd} = A \cdot f_y / \gamma_{M0}, \quad N_{u/Rd} = 0,9 \cdot A_{net} \cdot f_u / \gamma_{M2}, \quad N_{t/Rd} = \min(N_{p/Rd}, N_{u/Rd})$$

$N_{p/Rd}$ [N]	$N_{u/Rd}$ [N]	$N_{t/Rd}$ [N]	$Tv = N / N_{t/Rd}$
59177	64619	59177	1,690E+00

CHECKER'S RESULTS (COMPUTED VALUES) AND COMPARISON WITH THE TARGET

Cv	$(Cv - Tv) / Tv$
1,690E+00	0,000E+00