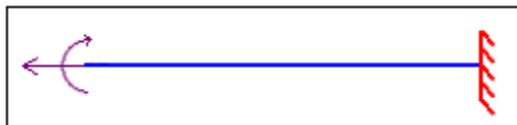


TEST SCHEDULE R 34	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	TENSION + BENDING 2	EC3.RES.NPM2.001



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		FREE			FIXED	
LOADS						
Type		Value		Point of application		
BENDING MOMENT M_2		M=9.000.000Nmm		LEFT END		
Type		Value		Point of application		
TENSION		N=200.000N		LEFT 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						
RHS 90x90x7x14		CLASS: $N^+ \rightarrow 1$ $M_2 \rightarrow 1$ $N^+ + M_2 \rightarrow 1$ (reclasses method*)				
A [mm ²]	J_2 [mm ⁴]	J_3 [mm ⁴]	J_t [mm ⁴]	W_2 [mm ³]	W_3 [mm ³]	
2198	2,486e+06	2,486e+06	4,117e+06	5,525e+04	5,525e+04	
W_{pl2} [mm ³]	W_{pl3} [mm ³]	i_2 [mm]	i_3 [mm]	i_t [mm]		
6,699e+04	6,699e+04	33,63	33,63	0		
h	b	t	r			
90	90	7	14			
OTHER DATA						
$a_w=(A-2bt)/A$	N_{pl} [N]	$n=N_{Ed}/N_{pl}$	$M_{pl}=W_{pl} \cdot f_y/\gamma_{M0}$ [Nmm]	$M_n=M_{pl}(1-n)/(1-0,5a_w)$ [Nmm]		
0.426	469.573	0.43	14.311.500	10.444.579		

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$T_v = M_2 / M_n$
8,617E-01

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

C_v	$(C_v - T_v) / T_v$
8,620E-01	3,481E-04

(*) P. Rugarli, *Strutture in acciaio, La classificazione delle sezioni, Commento all'Eurocodice 3*, EPC Libri, 2007