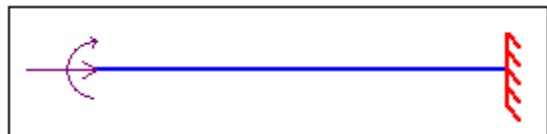


TEST SCHEDULE R 38	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	COMPRESSION + BENDING 2	EC3.RES.NNM2.003



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				
5000	FREE	FIXED				
LOADS						
Type	Value	Point of application				
BENDING MOMENT M_2	M=400.000.000Nmm	LEFT END				
Type	Value	Point of application				
COMPRESSION	N=3.500.000N	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	HE 300 M	CLASS: N ⁻ →1 M ₂ →1 N ⁻ + M ₂ →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]	
30308	5,920E+08	1,940E+08	1,408E+07	3,482E+06	1,252e+06	
W _{pl2} [mm ³]	W _{pl3} [mm ³]	i ₂ [mm]	i ₃ [mm]	i _t [mm]		
4,078E+06	1,913E+06	139,8	80	89,49		
h	b	t _w	t _f	r		
340	310	21	39	27		
OTHER DATA						
a=(A-2bt _f)/A	N _{pl} [N]	n=N _{sd} /N _{pl}	M _p I=W _{pl} *f _y /γ _{M0} [Nmm]	M _N =M _{pl} /(1-n)/(1-0,5a) [Nmm]		
0,202	6,475E+06	0,541	8,712E+08	4,453E+08		

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$T_v = M_2 / M_N$
8,983E-01

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

C_v	$(C_v - T_v) / T_v$
8,984E-01	1,316E-04

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