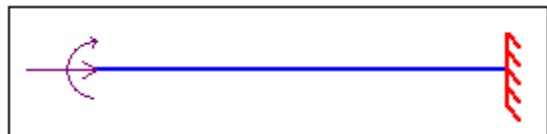


TEST SCHEDULE R 36	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	COMPRESSION + BENDING 2	EC3.RES.NNM2.001



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	
5000		FREE			FIXED	
LOADS						
Type		Value		Point of application		
BENDING MOMENT M_2		M=100.000.000Nmm		LEFT END		
Type		Value		Point of application		
COMPRESSION		N=800.000N		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		IPE 360	CLASS: N⁻ →2 M₂ →1 N⁻ + M₂ →2 (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]	
7273	1,627E+08	1,043E+07	3,732E+05	9,037E+05	1,228E+05	
W _{pl2} [mm ³]	W _{pl3}	i ₂ [mm]	i ₃ [mm]	i _t [mm]		
1,019E+06	1,911E+05	149,5	37,9	49,07		
h	b	t _w	t _f	r		
360	170	8	12,7	18		
OTHER DATA						
a=(A-2bt _f)/A	N _{pl} [N]	n=N _{sd} /N _{pl}	M _p =W _{pl} *f _y /γ _{M0} [Nmm]	M _N =M _{pl} *(1-n)/(1-0,5a) [Nmm]		
0.406	1.554E+06	0.515	2.177E+08	1.325E+08		

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$T_v = M_2 / M_N$
7,545E-01

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

C_v	$(C_v - T_v) / T_v$
7,544E-01	-1,658E-04

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