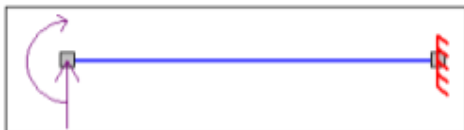


TEST SCHEDULE R 33	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	SHEAR 3 + BENDING 2	EC3.RES.T3M2.004



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	
1 (*)		FREE			FIXED	
LOADS						
Type		Value		Point of application		
BENDING MOMENT M_2		M=200.000.000Nmm		LEFT END		
Type		Value		Point of application		
SHEAR FORCE T_3		T=250.000N		LEFT END		
MATERIAL		A572/42				
f_v [N/mm ²]	f_u [N/mm ²]	E [N/mm ²]	ν	γ_{M0}	γ_{M1}	γ_{M2}
290	414	2,000e+05	0,3	1,1	1,1	1,25
CROSS SECTION		IPE 360		CLASS: $M_2 \rightarrow 1$		
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						
$A_V=2A/\pi$ [mm ²]		$V_{pl3}=A_V \cdot f_y / (\sqrt{3} \cdot \gamma_{M0})$ [N]		$M_C=W_{pl2} \cdot f_y / \gamma_{M0}$ [Nmm]		$T_3>0,5V_{pl} ?$
3.513,8		534.837,3		268.645.454,5		NO

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$T_v = M_2 / M_c$
7,445E-01

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

C_v	$(C_v - T_v) / T_v$
7,444E-01	-1,016E-04

(*) length is only 1mm in order to diminish the increase of moment along the beam

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