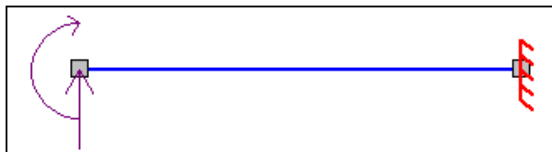


TEST SCHEDULE R 30	EN 1993-1-1: 2005 (EUROCODE 3)	Sargon ©, Cescoplus ©
RESISTANCE	SHEAR 3 + BENDING 2	EC3.RES.T3M2.001



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
T_v=exploitation target value, **C_v**=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=50.000.000Nmm	LEFT END	
Type	Value	Point of application	
SHEAR FORCE T ₃	T=130.000N	LEFT END	

MATERIAL	A588/42					
f _y [N/mm ²]	f _u [N/mm ²]	E [N/mm ²]	ν	γ _{M0}	γ _{M1}	γ _{M2}
290	434	2,000e+05	0,3	1,1	1,1	1,25

CROSS-SECTION	HE 100 M	CLASS: M₂ →1			
A [mm ²]	J ₂ [mm ⁴]	J ₃ [mm ⁴]	J _t [mm ⁴]	W ₂ [mm ³]	W ₃ [mm ³]
5324	1,143e+07	3,992e+06	6,821e+05	1,904e+05	7,531e04
W _{pl2} [mm ³]	W _{pl3} [mm ³]	i ₂ [mm]	i ₃ [mm]	i _t [mm]	
2,358e+05	1,163e+05	46,3	27,4	30,6	
h	b	t _w	t _f	r	
120	106	12	20	12	

OTHER DATA				
V _{pl3} =A _v *f _y /(√3 γ _{M0})[N]	M _c =W _{pl2} *f _y /γ _{M0} [Nmm]	T ₃ >0,5V _{pl} ?	M _{2MAX} =M+L*T [Nmm]	A _v =A-2bt _f +(t _w +2r)t _f [mm ²]
274.588	62.165.455	NO	50.130.000	1.804

TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$T_v = M_{2MAX} / M_v$$

$$8,064E-01$$

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

C _v	(C _v -T _v)/T _v
8,064E-01	0,000E+00

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