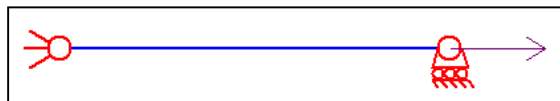


<b>TEST SCHEDULE R 3</b>	<b>EN 1993-1-1: 2005 (EUROCODE 3)</b>	<b>Sargon ©, Cescoplus ©</b>
RESISTANCE	TENSION	<b>EC3.RES.NP.003</b>



**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

<b>BEAM</b>		
Length [mm]	Left end	Right end
1000	HINGE	SIMPLY SUPPORTED

<b>LOAD</b>		
Type	Value	Point of application
TENSION	N=100.000N	RIGHT END

<b>MATERIAL</b>	<b>A572/42</b>					
$f_y$ [N/mm <sup>2</sup> ]	$f_u$ [N/mm <sup>2</sup> ]	E [N/mm <sup>2</sup> ]	$\nu$	$\gamma_{M0}$	$\gamma_{M1}$	$\gamma_{M2}$
290	414	2,000e+05	0,3	1,1	1,1	1,25

<b>CROSS SECTION</b>	<b>PLT40x10</b>	<b>CLASS: N<sup>+</sup> →1</b>				
A [mm <sup>2</sup> ]	J <sub>2</sub> [mm <sup>4</sup> ]	J <sub>3</sub> [mm <sup>4</sup> ]	J <sub>t</sub> [mm <sup>4</sup> ]	W <sub>2</sub> [mm <sup>3</sup> ]	W <sub>3</sub> [mm <sup>3</sup> ]	
400	3,333E+03	5,333E+04	1,123E+04	6,667E+02	2,667E+03	
W <sub>pl2</sub> [mm <sup>3</sup> ]	W <sub>pl3</sub> [mm <sup>3</sup> ]	i <sub>2</sub> [mm]	i <sub>3</sub> [mm]	i <sub>t</sub> [mm]		
1,000E+03	4,000E+03	2,887	11,55	0		

<b>OTHER DATA</b>				
% red A <sub>net</sub>	A <sub>net</sub> [mm <sup>2</sup> ]			
0,92	368			

#### TARGET VALUES BASED ON PRELIMINAR COMPUTATIONS

$$N_{p,Rd} = A \cdot f_y / \gamma_{M0}, \quad N_{u,Rd} = 0,9 \cdot A_{net} \cdot f_u / \gamma_{M2}, \quad N_{t,Rd} = \min(N_{p,Rd}, N_{u,Rd})$$

$N_{p,Rd}$ [N]	$N_{u,Rd}$ [N]	$N_{t,Rd}$ [N]	Tv = N / $N_{t,Rd}$
105.455	109.693	105.455	9,483E-01

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

Cv	(Cv - Tv)/Tv.
9,483E-01	<b>2,977E-05</b>