Poisson's ratio in orthotropic materials.

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v12	0,1
v23	0,45
v31	0,3

E1	1,00E+09	Pa
E2	5,00E+09	Pa
E3	1,00E+09	Pa

Symmetri of the compliance Matrix and sum of works done by all the stresses positive

$$[S] = \begin{bmatrix} (1/E_1) & -(\nu_{12}/E_2) & -(\nu_{13}/E_3) & 0 & 0 & 0 \\ -(\nu_{21}/E_1) & (1/E_2) & -(\nu_{23}/E_3) & 0 & 0 & 0 \\ -(\nu_{31}/E_1) & -(\nu_{32}/E_2) & (1/E_3) & 0 & 0 & 0 \\ 0 & 0 & 0 & (1/G_4) & 0 & 0 \\ 0 & 0 & 0 & 0 & (1/G_5) & 0 \\ 0 & 0 & 0 & 0 & 0 & (1/G_6) \end{bmatrix}$$

v21	0,02
v32	2,25
v13	0,30

$$\nu_{12}/E_2 = \nu_{21}/E_1$$

$$\nu_{12}\nu_{23}\nu_{31} < [1 - \nu_{12}^2(E_1/E_2) - \nu_{23}^2(E_2/E_3) - \nu_{31}^2(E_3/E_1)]/2 < \tfrac{1}{2} \quad (8)$$

1
0,002
1,013
0,090

0,0135	<	-0,05	<	0,5	not ok

$$|\nu_{12}| < (E_2/E_1)^{1/2} \qquad |\nu_{21}| < (E_1/E_2)^{1/2}$$
$$|\nu_{23}| < (E_3/E_2)^{1/2} \qquad |\nu_{32}| < (E_2/E_3)^{1/2}$$
$$|\nu_{31}| < (E_1/E_3)^{1/2} \qquad |\nu_{13}| < (E_3/E_1)^{1/2}$$

v12	0,1	<	2,24	ok
v23	0,45	<	0,45	not ok
v31	0,3	<	1,00	ok
v21	0,02	<	0,45	ok
v32	2,25	<	2,24	not ok
v13	0,30	<	1,00	ok