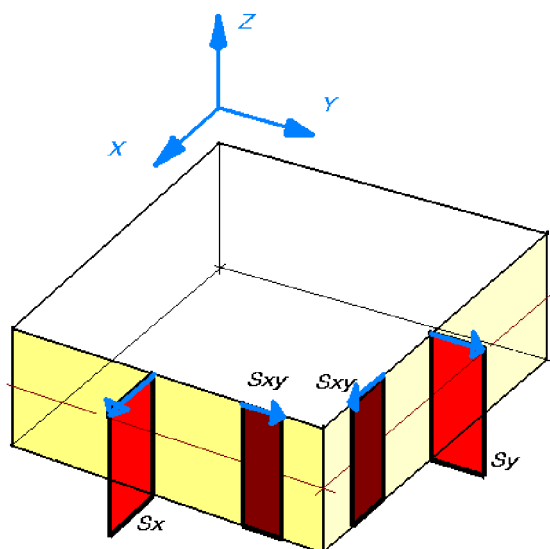
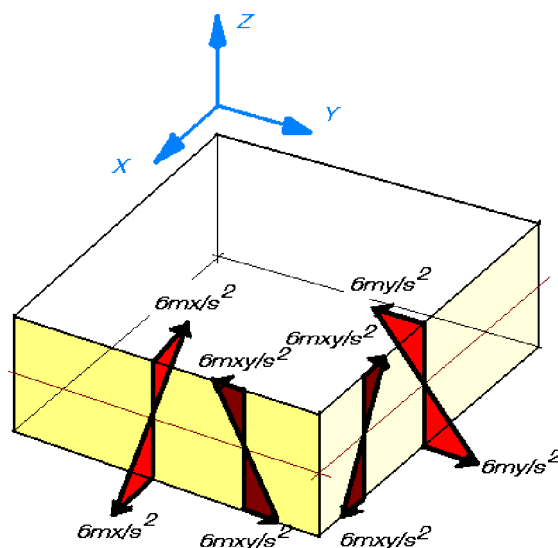
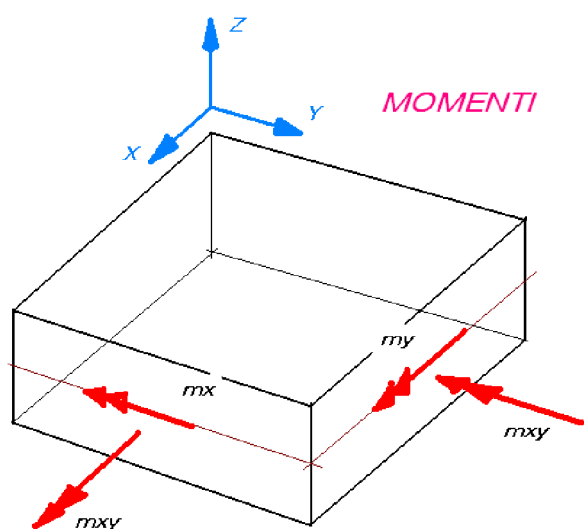


**TERMINI E CONVENZIONI SULLE PIASTRE-MEMBRANE**  
**sono indicate le convenzioni positive**

**SFORZI DI MEMBRANA**



**SOLLECITAZIONI E SFORZI DI PIASTRA**



con:

s: spessore guscio;

$$S_{x, \text{sup}} = S_x - \frac{mx}{s^2 / 6}$$

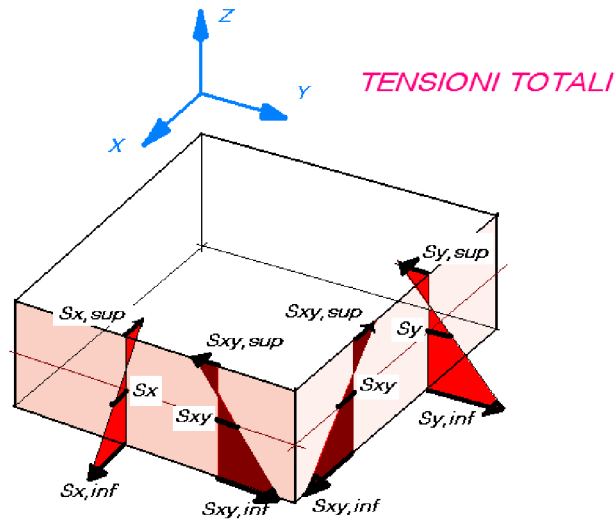
$$S_{x, \text{inf}} = S_x + \frac{mx}{s^2 / 6}$$

$$S_{y, \text{sup}} = S_y - \frac{my}{s^2 / 6}$$

$$S_{y, \text{inf}} = S_y + \frac{my}{s^2 / 6}$$

$$S_{xy, \text{sup}} = S_{xy} - \frac{mxy}{s^2 / 6}$$

$$S_{xy, \text{inf}} = S_{xy} + \frac{mxy}{s^2 / 6}$$



**angolo delle direzioni principali delle tensioni (rispetto asse x):**

$$\tan 2\varphi = \frac{-S_{xy}}{S_x - (S_x + S_y)/2}$$

(analogo per direzioni momenti flettenti)

**tensioni principali:**

$$S_{1,2} = \frac{S_x + S_y}{2} \pm \sqrt{\left(\frac{S_x - S_y}{2}\right)^2 + S_{xy}^2}$$

(analogo per momenti flettenti)

**tensioni ideali di Von Mises:**

$$S_{id} = \pm \sqrt{S_x^2 + S_y^2 + 3S_{xy}^2 - S_x S_y}$$

(analogo per tensioni superiori o inferiori, Ss e Si)