	Kirchhoff $\mathbf{u}=\{w\ ,\ j_x\ ,\ j_y\}^T$ (non indipendenti)	**Mindlin-Reissner** $\mathbf{u}=\{w\ ,\ j_x\ ,\ j_y\}^T$ (indipendenti)
cinematica	curvature flessionali e torsionale $? =\{k_x,\ k_y,\ k_{xy}\}^T=\{-w_{,xx}\ ,\ -w_{,yy}\ ,\ -2w_{,yx}\}^T$ scorrimenti angolari $?=\{g_x\ ,\ g_y\}^T=\underline{0}$	curvature flessionali e torsionale $?=\{k_x\ ,\ k_y\ ,\ k_{xy}\}^T=\{j_{x,x}\ ,\ j_{y,y}\ ,\ (j_{x,y}+j_{y,x})\}^T$ scorrimenti angolari $?=\{g_x\ ,\ g_y\}^T=\{(j_x+w_{,x})\ ,\ (j_y+w_{,y})\}^T$
statica	momenti flettenti e torcente $\mathbf{M}=\{M_x\ ,\ M_y\ ,\ M_{xy}\}^T$ sforzi di taglio $\mathbf{T}=\{T_x\ ,\ T_y\}^T$	momenti flettenti e torcente $\mathbf{M}=\{M_x\ ,\ M_y\ ,\ M_{xy}\}^T$ tagli $\mathbf{T}=\{T_x\ ,\ T_y\}^T$
legame isotropo	*rigidezza flessionale:* $D=\dfrac{Eh^3}{12(1-n^2)}$ $\mathbf{D}=\dfrac{Eh^3}{12(1-n^2)}\begin{bmatrix}1 & v & 0\\ v & 1 & 0\\ 0 & 0 & \frac{1}{2}(1-v)\end{bmatrix}$ **M = D?** *rigidezza a taglio:* $K\ \rightarrow\infty$	*rigidezza flessionale:* $D=\dfrac{Eh^3}{12(1-n^2)}$ $\mathbf{D}=\dfrac{Eh^3}{12(1-n^2)}\begin{bmatrix}1 & v & 0\\ v & 1 & 0\\ 0 & 0 & \frac{1}{2}(1-v)\end{bmatrix}$ **M = D?** *rigidezza a taglio:* $K=\mathbf{\frac{5}{6}}\ Gh=\dfrac{5Eh}{12(1+n)}$ $\mathbf{K}=\mathbf{\frac{5}{6}}\ Gh\begin{bmatrix}1 & 0\\ 0 & 1\end{bmatrix}$ **T = K?**
equazioni di campo	$D\Delta\Delta w=p_z$ + 2 condizioni in ogni punto del contorno	$K\left(j_{x,x}+j_{y,y}+w_{,xx}+w_{,yy}\right)+p_z=0$ $D\left(j_{x,xx}+\dfrac{1+n}{2}j_{y,xy}+\dfrac{1-n}{2}j_{x,yy}\right)=K\left(j_x+w_{,x}\right)$ $D\left(j_{y,yy}+\dfrac{1+n}{2}j_{x,xy}+\dfrac{1-n}{2}j_{y,xx}\right)=K\left(j_y+w_{,y}\right)$ +3 condizioni in ogni punto del contorno
PSV	$\iint_A\left(d?^T\mathbf{M}\right)\ dA=\iint_A\left(d\mathbf{u}^T\mathbf{p}\right)\ dA$	$\iint_A\left(d?^T\mathbf{M}+d?^T\mathbf{T}\right)\ dA=\iint_A\left(d\mathbf{u}^T\mathbf{p}\right)\ dA$

	Membranale $\mathbf{u}=\{u\ ,\ v\}^T$	**Von Karman** $\mathbf{u}=\{u\ ,\ v\ ,\ w\ ,\ j_x\ ,\ j_y\}^T$ **(GNL)**
cinematica	Deformazioni estensionali e twist $\mathbf{e}=\{e_x\ ,\ e_y\ ,\ g_{xy}\}^T=\{u_{,x}\ ,\ v_{,y}\ ,\ (u_{,y}+v_{,x})\}^T$	Deformazioni estensionali e twist $\mathbf{e}=\{e_x\ ,\ e_y\ ,\ g_{xy}\}^T=\left\{u_{,x}+\frac{1}{2}(w_{,x})^2\ ,\ v_{,y}+\frac{1}{2}(w_{,y})^2\ ,\ u_{,y}+v_{,x}+w_{,xy}\right\}^T$ curvature flessionali e torsionali $\mathbf{?}=\{k_x\ ,\ k_y\ ,\ k_{xy}\}^T=\{-w_{,xx}\ ,\ -w_{,yy}\ ,\ -2w_{,yx}\}^T$ scorrimenti angolari $\mathbf{?}=\{g_x\ ,\ g_y\}^T=\underline{0}$
statica	Sforzi normali $\mathbf{N}=\{N_x\ ,\ N_y\ ,\ N_{xy}\}^T$	Sforzi normali $\mathbf{N}=\{N_x\ ,\ N_y\ ,\ N_{xy}\}^T$ momenti flettenti e torcente $\mathbf{M}=\{M_x\ ,\ M_y\ ,\ M_{xy}\}^T$ sforzi di taglio $\mathbf{T}=\{T_x\ ,\ T_y\}^T$
legame isotropo	*rigidezza estensionale:* $H=\dfrac{Eh}{(1-n^2)}$ $\mathbf{H}=\dfrac{Eh}{(1-n^2)}\begin{bmatrix}1 & v & 0\\ v & 1 & 0\\ 0 & 0 & \frac{1}{2}(1-v)\end{bmatrix}$ $\quad$ **N = He**	*rigidezza estensionale:* $H=\dfrac{Eh}{(1-n^2)}$ *rigidezza flessionale:* $D=\dfrac{Eh^3}{12(1-n^2)}$ $\mathbf{H}=\dfrac{Eh}{(1-n^2)}\begin{bmatrix}1 & v & 0\\ v & 1 & 0\\ 0 & 0 & \frac{1}{2}(1-v)\end{bmatrix}$ $\quad$ $\mathbf{D}=\dfrac{Eh^3}{12(1-n^2)}\begin{bmatrix}1 & v & 0\\ v & 1 & 0\\ 0 & 0 & \frac{1}{2}(1-v)\end{bmatrix}$ **N = He** $\quad$ **M = D?**
equazioni di campo	$H\left(u_{,xx}+\dfrac{(1-n)}{2}u_{,yy}+\dfrac{(1+n)}{2}v_{,xy}\right)+p_x=0$ $H\left(v_{,yy}+\dfrac{(1-n)}{2}v_{,xx}+\dfrac{(1+n)}{2}u_{,xy}\right)+p_y=0$ **equazione in termini di sforzi** $\Delta\Delta\Psi=0$	$\Delta\Delta\Psi=0$ $-D\Delta\Delta w+\Psi_{,yy}w_{,xx}-2\Psi_{,yx}w_{,yx}+\Psi_{,xx}w_{,yy}+p_z=0$
PSV	$\iint_A\left(d\mathbf{e}^T\mathbf{N}\right)\ dA=\iint_A\left(d\mathbf{u}^T\mathbf{p}\right)\ dA$	