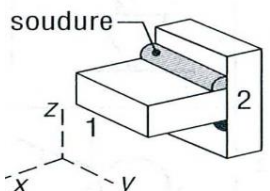
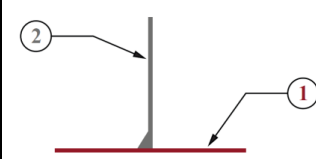
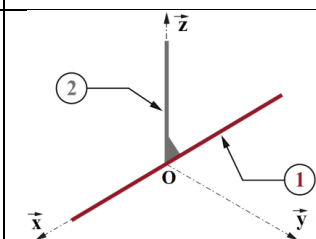
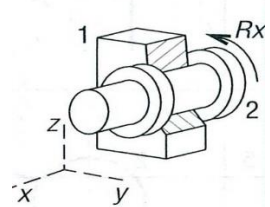
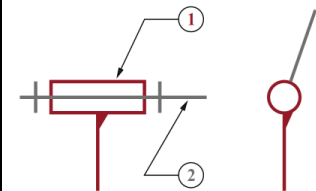
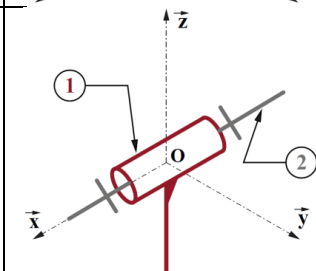
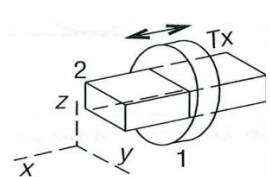
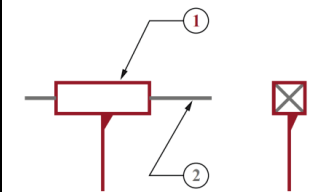
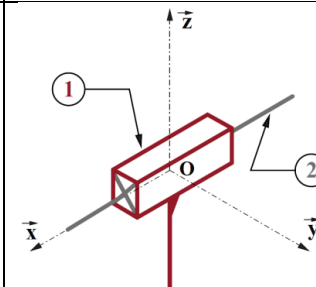


Torseurs cinématiques et statiques des liaisons usuelles parfaites

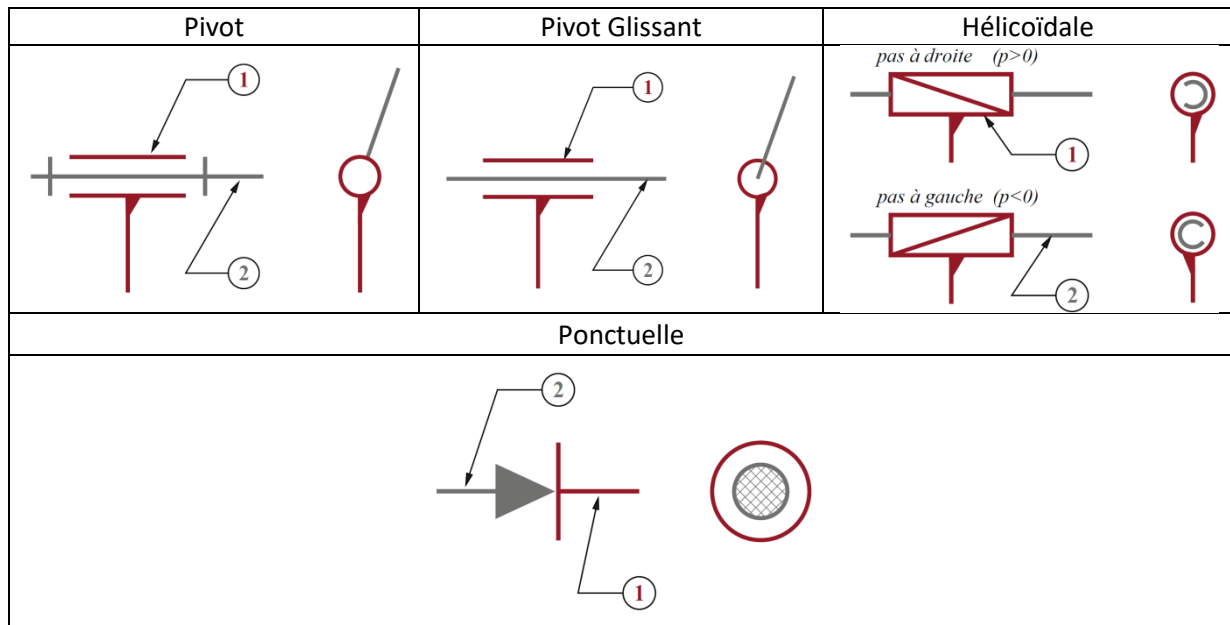
Schéma	Liaison	Éléments Géom	2D	3D	$\{V_{2/1}\}$	Validité P	\mathfrak{B}	I_c
 <p>soudure</p>	Encastrement E	RAS			$\begin{Bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_P^{\mathfrak{B}}$	$\forall P$	— — —	0
	Pivot P	(O, \vec{x})			$\begin{Bmatrix} P_{2/1} & 0 \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_P^{\mathfrak{B}}$	(O, \vec{x})	\vec{x} — —	1
	Glissière Gl	\vec{x}			$\begin{Bmatrix} 0 & U_{2/1} \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_P^{\mathfrak{B}}$	$\forall P$	\vec{x} — —	1

	<p>Hélicoïdale <i>He</i></p>	<p>(O, \vec{x})</p>			$\begin{Bmatrix} P_{2/1} & U_{2/1} \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}^{\mathfrak{B}}$ $U_{2/1} = \frac{pas}{2\pi} P_{2/1}$	<p>(O, \vec{x})</p>	<p>\vec{x} — —</p>	<p>1</p>
	<p>Pivot Glissant <i>PG</i></p>	<p>(O, \vec{x})</p>			$\begin{Bmatrix} P_{2/1} & U_{2/1} \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}^{\mathfrak{B}}$	<p>(O, \vec{x})</p>	<p>\vec{x} — —</p>	<p>2</p>
	<p>Rotule à doigt Sphérique à doigt</p>	<p>O Rainure (O, \vec{x}, \vec{z}) Doigt \vec{z}</p>			$\begin{Bmatrix} 0 & 0 \\ Q_{2/1} & 0 \\ R_{2/1} & 0 \end{Bmatrix}^{\mathfrak{B}}$ <p>Ref \mathfrak{B}_1 & \mathfrak{B}_2</p>	<p>O</p>	<p>\vec{x} \vec{y} \vec{z}</p>	<p>2</p>
	<p>Rotule <i>R</i> Sphérique <i>S</i></p>	<p>O</p>			$\begin{Bmatrix} P_{2/1} & 0 \\ Q_{2/1} & 0 \\ R_{2/1} & 0 \end{Bmatrix}^{\mathfrak{B}}$	<p>O</p>	<p>— — —</p>	<p>3</p>

	<p>Appui plan <i>AP</i></p>	\vec{z}			$\begin{Bmatrix} 0 & U_{2/1} \\ 0 & V_{2/1} \\ R_{2/1} & 0 \end{Bmatrix}_P^{\mathcal{B}}$	$\forall P$	$-\vec{z}$	<p>3</p>
	<p>Linéaire annulaire <i>LA</i> Sphère cylindre <i>SC</i></p>	(O, \vec{x})			$\begin{Bmatrix} P_{2/1} & U_{2/1} \\ Q_{2/1} & 0 \\ R_{2/1} & 0 \end{Bmatrix}_P^{\mathcal{B}}$ <i>Ref</i> \mathcal{B}_1	O	\vec{x} — —	<p>4</p>
	<p>Linéaire rectiligne <i>LR</i> Cylindre Plan <i>CP</i></p>	$\{(O, \vec{x}), \vec{z}\}$			$\begin{Bmatrix} P_{2/1} & U_{2/1} \\ 0 & V_{2/1} \\ R_{2/1} & 0 \end{Bmatrix}_P^{\mathcal{B}}$ <i>Ref</i> \mathcal{B}_1 & \mathcal{B}_2	(O, \vec{x}, \vec{z})	\vec{x} \vec{y} \vec{z}	<p>4</p>
	<p>Ponctuelle <i>Pct</i> Sphère plan <i>SP</i></p>	(O, \vec{x})			$\begin{Bmatrix} P_{2/1} & 0 \\ Q_{2/1} & V_{2/1} \\ R_{2/1} & W_{2/1} \end{Bmatrix}_P^{\mathcal{B}}$ <i>Ref</i> \mathcal{B}_1	(O, \vec{x})	\vec{x} — —	<p>5</p>

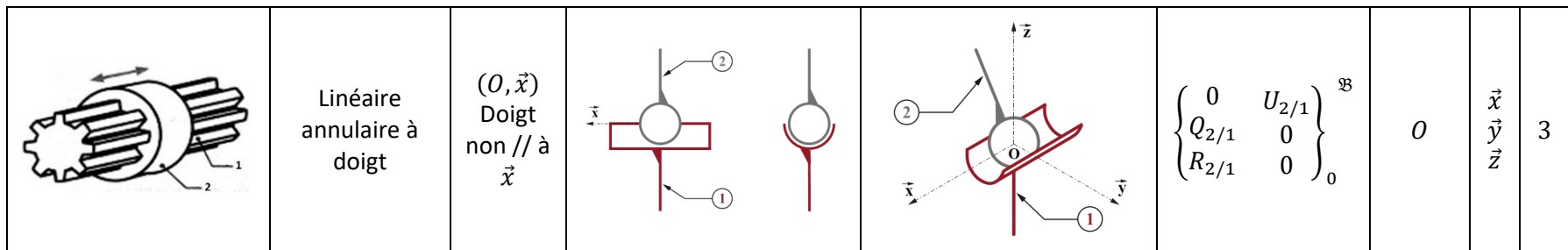
Dernière mise à jour 28/11/2016	Fiche Torseurs Cinématique	Denis DEFAUCHY
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Ancienne norme



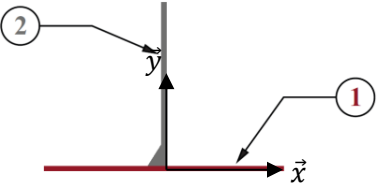
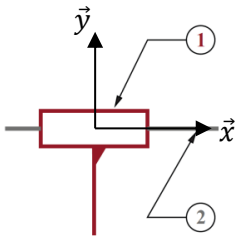
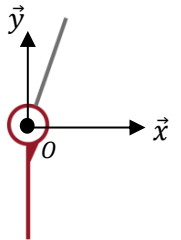
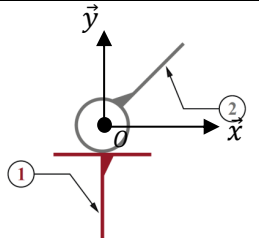
Liaison non usuelle parfois rencontrée

Ex : 2 arbres – Cannelures sur faible longueur / Disques d'embrayages ou freins



Dernière mise à jour	Fiche Torseurs	Denis DEFAUCHY
28/11/2016	Cinématique	

Liaisons planes dans le plan (O, \vec{x}, \vec{y})

Encastrement		$\begin{Bmatrix} 0 & 0 \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_{\forall P}^{\mathfrak{B}_0}$	$\forall P$	$I_c^{2D} = 0$
Glissière \vec{x}		$\begin{Bmatrix} 0 & U_{2/1} \\ 0 & 0 \\ 0 & 0 \end{Bmatrix}_{\forall P}^{\mathfrak{B}_0}$	$\forall P$	$I_c^{2D} = 1$
Pivot (O, \vec{z})		$\begin{Bmatrix} 0 & 0 \\ 0 & 0 \\ R_{2/1} & 0 \end{Bmatrix}_O^{\mathfrak{B}_0}$	(O, \vec{z})	$I_c^{2D} = 1$
Ponctuelle (O, \vec{y})		$\begin{Bmatrix} 0 & U_{2/1} \\ 0 & 0 \\ R_{2/1} & 0 \end{Bmatrix}_O^{\mathfrak{B}_0}$ $P \in (O, \vec{y})$	(O, \vec{y})	$I_c^{2D} = 2$