

```
Bed[K_, ω_] :=
```

```
Module[{t, r, XingsByArmpits, bends, faces, p, A, is},
```

```
t = 1 - ω; r = t + t*;
```

```
XingsByArmpits =
```

```
List@@PD[K] /. x : X[i_, j_, k_, L_] =>
```

```
If[PositiveQ[x], X+[-i, j, k, -L], X-[-j, k, L, -i]];
```

```
bends = Times@@XingsByArmpits /.
```

```
_ [X][a_, b_, c_, d_] => pa,-d pb,-a pc,-b pd,-c;
```

```
faces = bends //. px_,y_ py_,z_ => px,y,z;
```

```
A = Table[0, Length@faces, Length@faces];
```

```
Do[is = Position[faces, #][[1, 1]] & /@ List@@x;
```

```
A[[is, is]] += If[Head[x] === X+,
```

$$\begin{pmatrix} -r & -t & 2t & t^* \\ -t^* & 0 & t^* & 0 \\ 2t^* & t & -r & -t^* \\ t & 0 & -t & 0 \end{pmatrix}, \begin{pmatrix} r & -t & -2t^* & t^* \\ -t^* & 0 & t^* & 0 \\ -2t & t & r & -t^* \\ t & 0 & -t & 0 \end{pmatrix},$$

```
{x, XingsByArmpits}];
```

```
MatrixSignature[A];
```