```
Dir = (XI[[2]] - XI[[1]]);
le = SMSSqrt[Dir.Dir];
tang = Dir / le;
UDerivative = (UI[[2]].tang - UI[[1]].tang) / le;
Potential := 0.5 (Em * A * UDerivative * UDerivative) * le;
R := SMSD[Potential, DOFVector];
K := SMSD[R, DOFVector];
```