0.1)

How you can make use of deformation over time to calculate nonlinear static deformation problems.

0.2)

1.1)

Because without a Deformation F and C equal the Identity matrix which results for C\_elasticity in the same equation as for the Linear St Venant Kirchhoff model.

1.2)

|  |  |  |
| --- | --- | --- |
| Material | Y – Displacement [mm] | X – Displacement [mm] |
| LinearStVenantKirchhoff | 0.1 | 0.0223412 |
| 1 | 0.224312 |
| 10 | 2.24312 |
| NonlinearStVenantKirchhof | 0.1 | 0.0224481 |
| 1 | 0.226003 |
| 10 | 2.41259 |
| NeoHookean | 0.1 | 0.0224194 |
| 1 | 0.23133 |
| 10 | 2.13624 |

2)

|  |  |
| --- | --- |
| P in MPa | Delta y in mm |
| 10 | 2.59193 |
| 50 | 1.7027 |
| 100 | 22.0298 |
| 200 | 46.2138 |