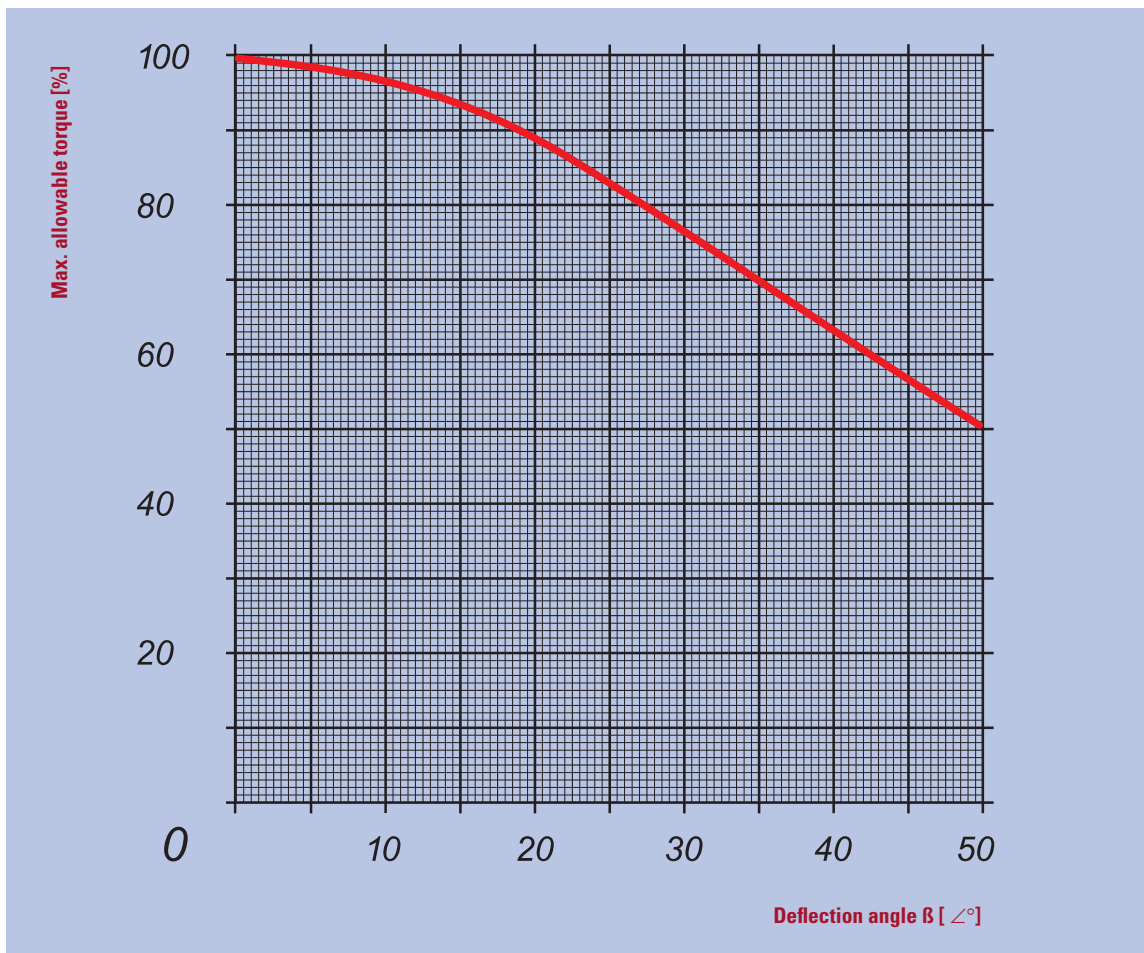


### 7.5 Torque capacity of double joints as a function of deflection angle

Under torque, different force conditions exist at the joint spider pins and center piece with the double joint in an angled position than in a straight position. The reason for this is that the torque to be transmitted is not distributed evenly over the joint spider pins any longer. Also, as mentioned in Chapter 5, an additional moment occurs. This additional moment must be combined with the torque to be transmitted.

This resulting moment leads to higher compression loads and to a larger bending stress within the joint spider pins. The diagram below allows to take these factors into account. It shows the percentage the maximum allowable torque must be reduced in relation to the deflection angle.



**■ INFORMATION & CONTACT ■**  
[www.elbe-group.de](http://www.elbe-group.de)

- Elbe & Sohn, Inc.**
- Cardan and double joints
  - Ball and socket cardan shafts
  - Pin and block cardan shafts
  - Drive and driven flanges

- G. Elbe & Sohn GmbH & Co. KG**
- Cardan and double joint shafts for series and original equipment manufacturing

- ELSO Elbe GmbH & Co. KG**
- Ball and socket/ Pin and block cardan shafts
  - Drive and driven flanges
  - Single pieces and repair of universal joint shafts