

## Summary of the Modifying Factors (US)

Surface factor	
Ground	$k_a = 1.34\bar{S}_{ut}^{-0.086} \text{LN}(1, 0.120)$
Machined, CR	$k_a = 2.67\bar{S}_{ut}^{-0.265} \text{LN}(1, 0.058)$
Hot-rolled	$k_a = 14.5\bar{S}_{ut}^{-0.719} \text{LN}(1, 0.110)$
As-forged	$k_a = 39.8\bar{S}_{ut}^{-0.995} \text{LN}(1, 0.146)$
Size	$k_b = (d_e/0.30)^{-0.107} = 0.879d_e^{-0.107}$
Loading factor	
Bending	$k_c = \text{LN}(1, 0)$
Axial	$k_c = 1.23\bar{S}_{ut}^{-0.0778} \text{LN}(1, 0.125)$
Torsion	$k_c = 0.328\bar{S}_{ut}^{0.125} \text{LN}(1, 0.125)$
Temperature factor	$k_d$ (as applicable) Table 7-6
Reliability factor	$k_e$ (as applicable) Table 7-7

## Summary of the Modifying Factors (SI)

Surface factor	
Ground	$k_a = 1.58\bar{S}_{ut}^{-0.086} \text{LN}(1, 0.120)$
Machined, CR	$k_a = 4.45\bar{S}_{ut}^{-0.265} \text{LN}(1, 0.058)$
Hot-rolled	$k_a = 58.1\bar{S}_{ut}^{-0.719} \text{LN}(1, 0.110)$
As-forged	$k_a = 271\bar{S}_{ut}^{-0.995} \text{LN}(1, 0.045)$
Size	$k_b = (d_e/7.62)^{-0.107} = 1.24d_e^{-0.107}$
Loading factor	
Bending	$k_c = \text{LN}(1, 0)$
Axial	$k_c = 1.43\bar{S}_{ut}^{-0.0778} \text{LN}(1, 0.125)$
Torsion	$k_c = 0.258\bar{S}_{ut}^{0.125} \text{LN}(1, 0.125)$
Temperature factor	$k_d$ (as applicable) Table 7-6
Reliability factor	$k_e$ (as applicable) Table 7-7