Weld Defect And Potential Results

1) Weld Profile deficiencies - undersize weld caused by insufficient throat thickness (conavity)

This profile deficiency causes weld failure under stress.

Actual throat thickness

Throat thickness required to be equal strength as thinner base metal.

Potential Results
2) Weld crater not filled to full cross section of weld

Unfilled crater weakens the weld

**Potential Results**-stresses concentrate at the ends of the welds
3) **Overlap** = lack of fusion

**Potential Results** - lack of fusion causes weld to separate from base metal
4) Excessive undercut = stresses concentrate at the notch

**Undercut** causes a reduction of material thickness and stresses concentrate at the notch

**Potential Results** - stresses concentrate at the notch combined with the reduction of material thickness (notice the base metal did not deform prior to the weld failing)