

Cracking On Bend

Learn how our Material Support & Solutions team solved this customer material issue.



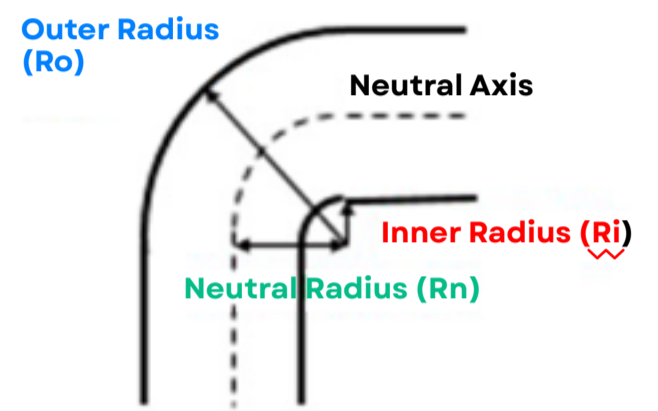
THE PROBLEM

A customer faced challenges with a new part made from galvanized steel. Despite meeting their specifications, the steel exhibited fracturing and peeling of the protective zinc coating in the forming process. This led to material loss and unplanned sorting.



THE ANALYSIS

Our metallurgists conducted a detailed analysis of part samples - focusing on the steel properties, cross sections of the fracture area, and metal strains. They discovered that the ultimate tensile strength was surpassed in crucial areas, due to the internal part radius.



THE SOLUTION

Optimized material properties were specified, and improvements were made to the die design. These efforts led to the successful forming of the part, thereby eliminating the need for downstream inspection, and sorting, while improving throughput.

— THE ACTION

If material properties and forming conditions should be evaluated together to find more information and the root cause is cracking problems, contact the Material Support & Solutions team at Worthington to have optimized together.