



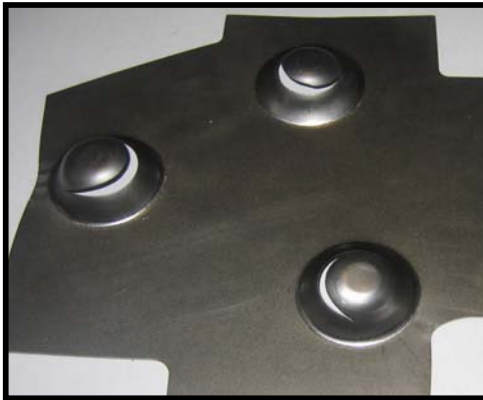
SimulateLite® - Virtual Tryout

Job No: 4362

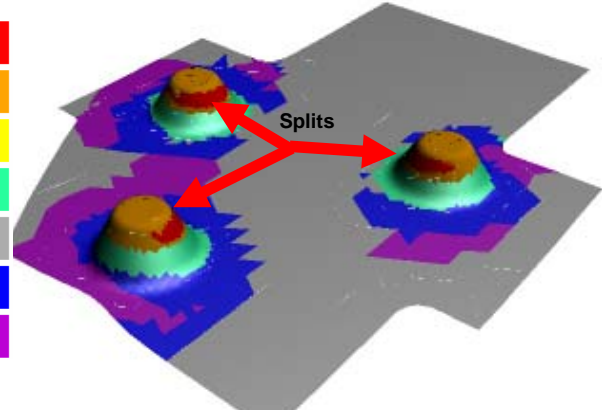
Client: Malben Engineering - Marco Smargiasso

Case Study 3D Report (Requires Acrobat Reader v8.1)

Aim: Simulate the existing tooling process, determine the cause of splitting and engineer a solution to the splitting problem.

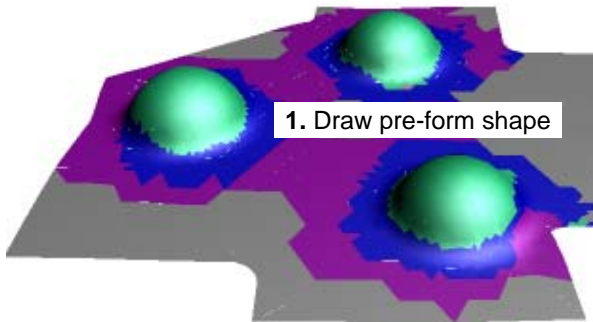


Existing Tooling Problem - Splits



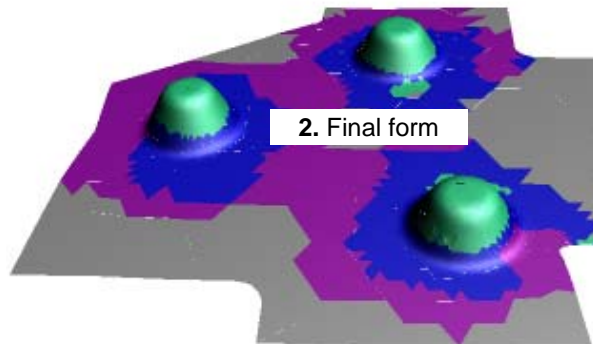
Simulation Result - Splits

Engineered Solution:



1. Draw pre-form shape

Simulation Inputs: Cold Rolled, DDQ
 t (thickness) = 1.0mm
 n value (hardening exponent) = 0.23
 K (strength coefficient) = 547 Mpa
 Y_s (yield strength) = 172 Mpa
 UTS (ultimate tensile strength) = 311 Mpa
 Friction coefficient = 0.15
 Pad force (draw) = 60 000 N



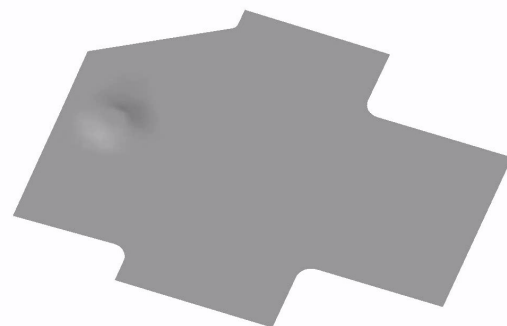
2. Final form

Method:

1. Confirm problem with simulation (was the problem expected?)
2. Use simulation to design, develop and engineer a successful forming process.

Results:

1. Simulation confirms the problem was expected.
2. The part cannot be formed in a single process.
3. Use a pre-form shape, to avoid excessive, concentrated strains.
4. Two process are required to form this shape successfully.



Simulation - CLICK to play. DOUBLE CLICK for full screen.

Disclaimer

StampingSimulation.com takes every care to ensure simulation results are as practical and accurate as possible. Differences between the simulation parameters and an actual physical tool may yield different results. These results are used at your own risk.