

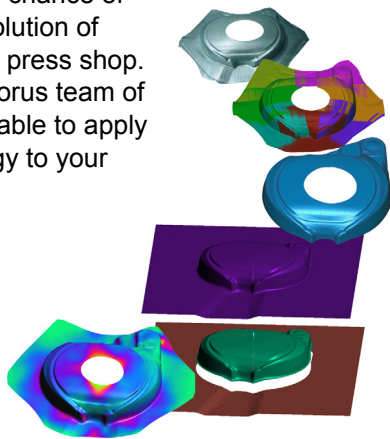
Getting parts right first-time

Corus has developed In-Form™, a highly innovative method allowing portable, quick and accurate measurement of 3D geometries. The combination of this technology and our extensive experience in FE modelling enables Corus to provide state-of-the-art support in different stages of sheet metal processing. In-Form™ can be used to support and reduce the time of tool tryouts and also improve the forming reliability for critically stamped parts.

Why In-Form™

The In-Form™ portable technology enables a rapid and accurate generation of CAD tool geometry that can be used for FE forming simulations. Having an up-to-date digital die-surface or part-surface enables a faster and more accurate evaluation of the forming process.

This increases the chance of a first-time-right solution of critical parts in the press shop. An experienced Corus team of specialists is available to apply this new technology to your benefit.

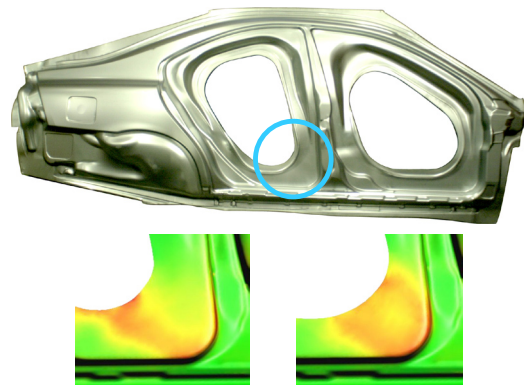


Digitalizing a pressed part using the In-Form™ process

Application

This technology is particularly applicable to forming critical panels. A case study on a bodyside panel is described below. The aim was to accomplish a more stable forming process by improving forming reliability of the bodyside door apertures. In-Form™ technology was applied to a first-draw bodyside panel. The resulting CAD geometry was used to create an accurate forming simulation with up-to-date die geometry. Using the simulation, Corus found a new blank cut-out configuration for the rear door aperture with improved forming reliability (see pictures below). In-Form™ technology also allows for comparison of part geometry

with tools, jigs or other parts. Springback issues and tool changes are clearly visualised, which supports problem-solving discussions.



Optimisation of the blank cut-out

Status

Corus RD&T have been using the In-Form™ technology in customer technical support projects. The system proves its value in generating quick and accurate FE input and in capturing variations in part geometry due to springback.

Benefits of In-Form™

- Reduce your lead-time during the tool tryout stage, by monitoring deviations in tool and part geometry.
- Virtual tryout with current geometry data radically increases the chance of a first-time-right solution in the press shop
- Improve reliability for critically stamped parts using a truly optimised forming solution
- Ability to re-construct the CAD model from the actual shape of the product or tool set



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