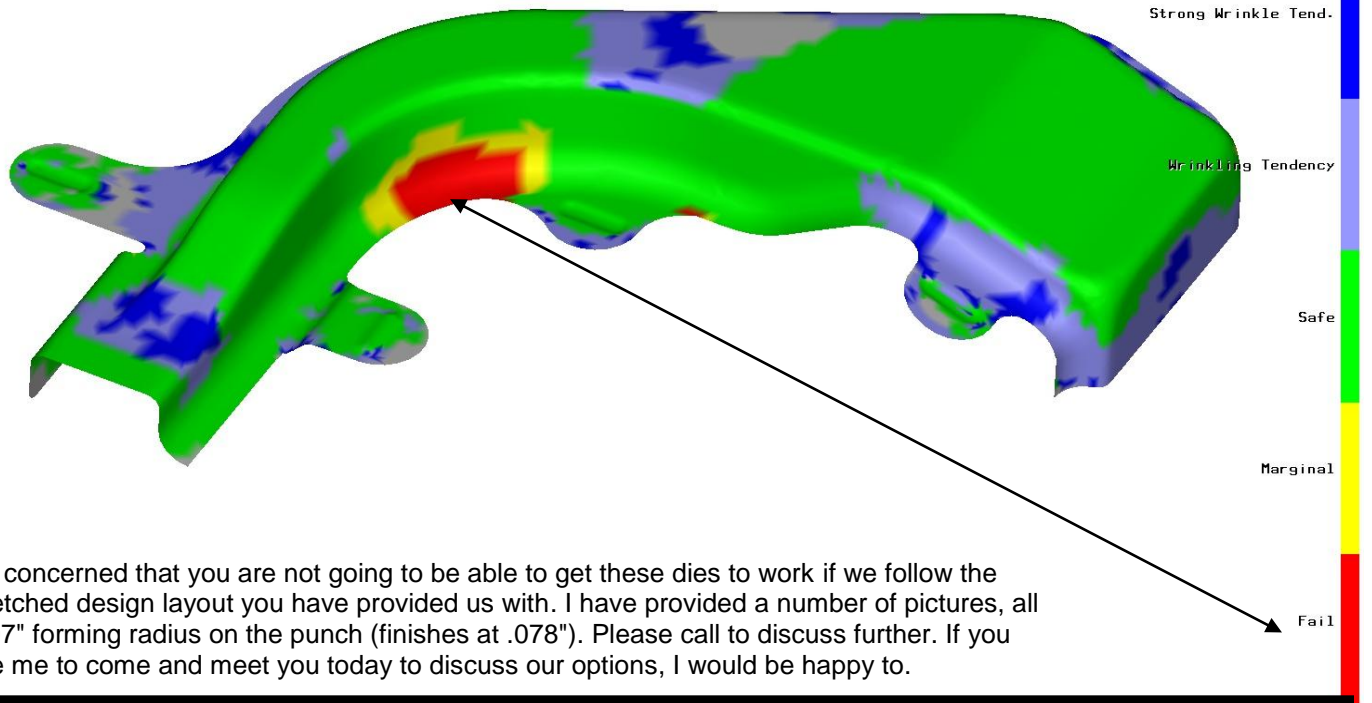


FASTFORM Advanced formability test 1/2004

Material Type: HRHSLA60

Material Thickness: 0.0470 in

Thickness Offset: 0.0000 in



Notes:

I am very concerned that you are not going to be able to get these dies to work if we follow the rough sketched design layout you have provided us with. I have provided a number of pictures, all with a .197" forming radius on the punch (finishes at .078"). Please call to discuss further. If you would like me to come and meet you today to discuss our options, I would be happy to.

Above is the FASTFORM Advanced report that we sent to our customer at the preliminary design stage.

Below are pictures of the actual results from the first hits in development that our customer came up with. Because we knew up front that we could have problems, we added extra idle stations that ultimately got used. Please see the other side for information on how this problem ultimately got solved.



Download a free, fully functional version of FASTFORM Advanced from our website. Within 1 or 2 hours of downloading it (yes, it's that easy to use) we'll have you getting results that may save you several thousand dollars on your next die!

www.AccurateDieDesign.com

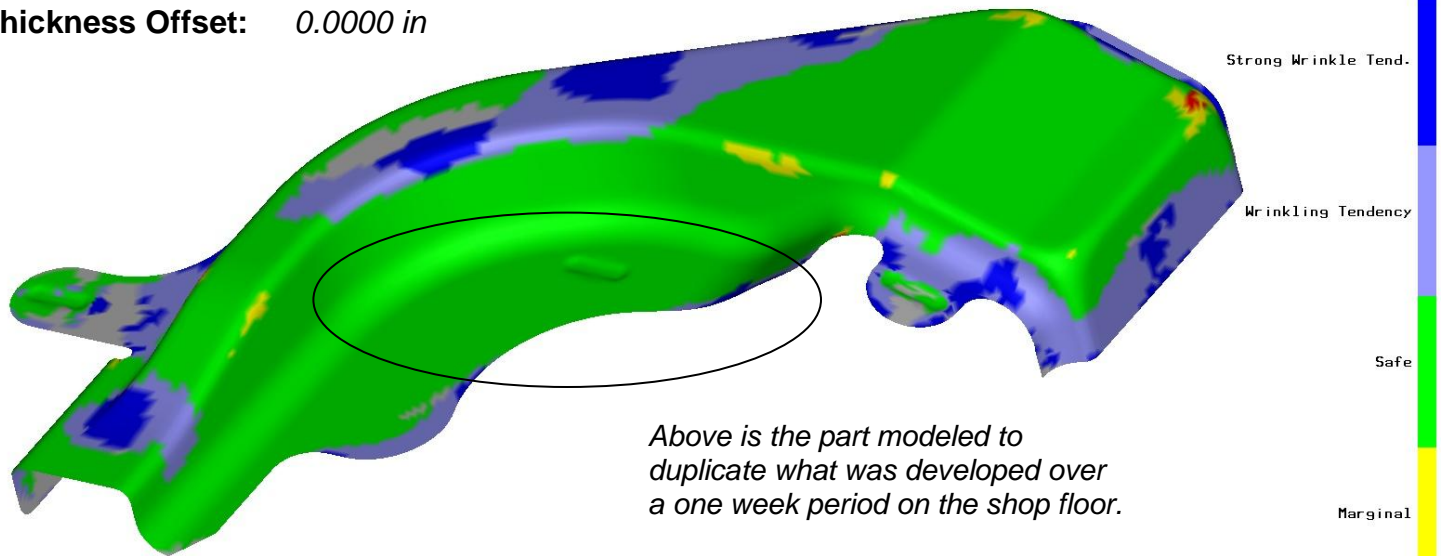
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FASTFORM Advanced formability after the fact 3/2004

Material Type: HRHSLA60

Material Thickness: 0.0470 in

Thickness Offset: 0.0000 in



Above is the part modeled to duplicate what was developed over a one week period on the shop floor.

As you can see from the pic on page 1 of 2, FASTFORM Advanced was proven to be 100% accurate in predicting that this part would fail, and exactly where it would fail. A solution then needed to be found to keep it from tearing. The obvious thing to try was to add more material since less certainly wasn't an option. We had added an extra station anticipating that some final trimming may need to be done to this part. The obvious question was; how much material needed to be added? Well, in this case, they did it the old fashioned way. Trial and error. In and out of the press. Have more parts cut on the waterjet. Try it again. Several parts were tried but the rip in the inside wall just started moving from one spot to the other as they added material. Of course, they only had eight weeks to design and build these two dies, a right hand and a left hand. The toolmakers building the dies were working 65 hours per week. Finally, they came up with just the right amount of material to add to keep the parts from tearing. But now the trimming stations had to be designed and added to both dies with crunch time fast approaching. While they did a fantastic job in finishing these dies on time, they also learned a valuable lesson:

FASTFORM ADVANCED CAN BE TRUSTED!

We also learned that same lesson, that through trial and error on the computer screen using solid modeling or surfacing software along with FASTFORM Advanced, we could have saved our customer several thousand dollars by developing the die on the computer screen in one afternoon, rather than spending a week or more doing it the old fashioned way!

Below is a picture of the finished part off of one of the two dies.



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