

Drawability and formability of sheet metals

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1. Quiz - Key

1. What is redrawing?

A cup which has already been drawn is further drawn by subjecting it to reduction in thickness and increase in height. This is called redrawing

2. What is the use of forming limit diagram?
It helps us predict the failure of material during cup drawing.

3. A certain sheet metal of thickness 3 mm, has R values of 1, 1.5, 2 along the direction of rolling, 45 degrees and 90 degrees to the direction of rolling. Predict if ears will form or not.

We can predict ear formation from planar anisotropy. If planar anisotropy value is zero, no ears will form.

In this case,

$\Delta R = (1 - 2 \times 1.5 + 2)/4 = 0$. Therefore there will not be earing.

4. Mention some of the defects during sheet forming operations.
Sheet metal tearing, wrinkling, radial cracks are some of the defects.