

PROTO MANUFACTURING COOP PLACEMENT

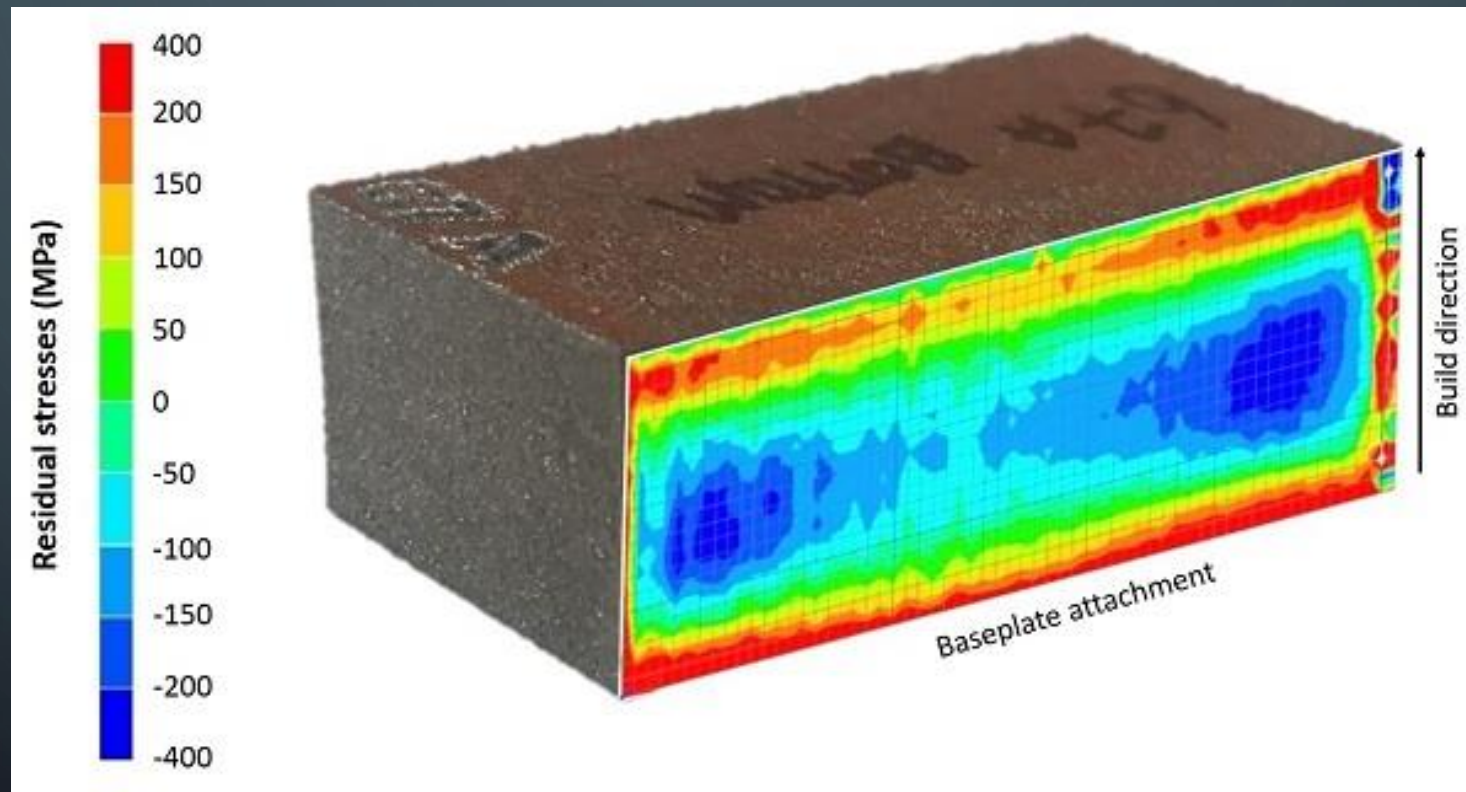


By: Ian Field

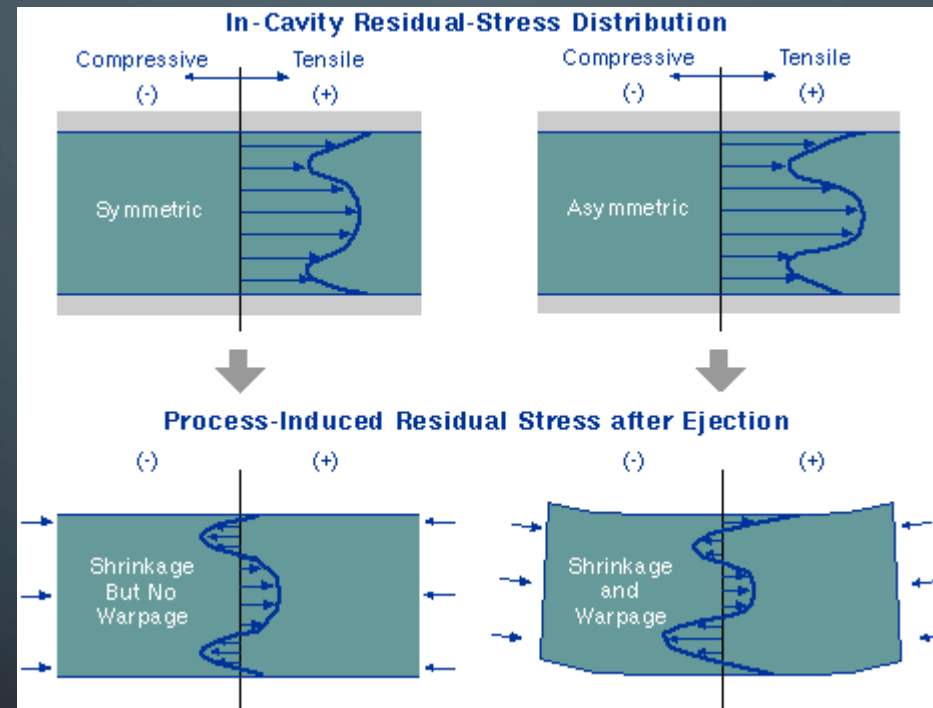
ABOUT PROTO



WHAT IS STRESS AND RESIDUAL STRESS



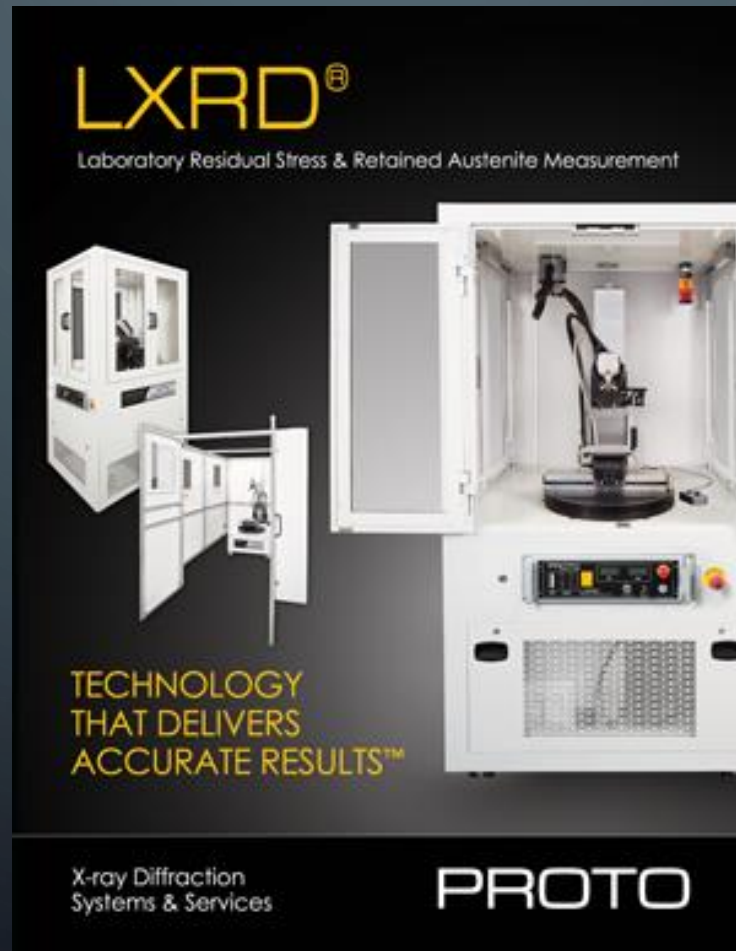
DIFFERENCE BETWEEN STRESS AND RESIDUAL STRESS



WHY DOES IT NEED TO BE MEASURED?

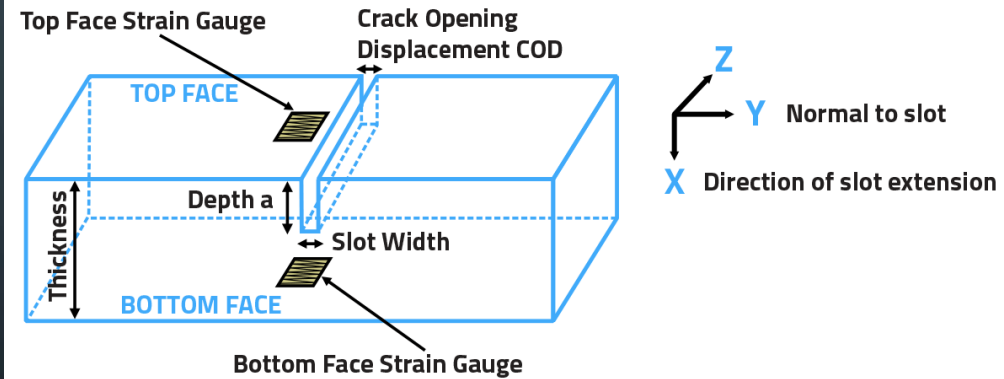


DIFFERENT WAYS TO MEASURE RESIDUAL STRESS

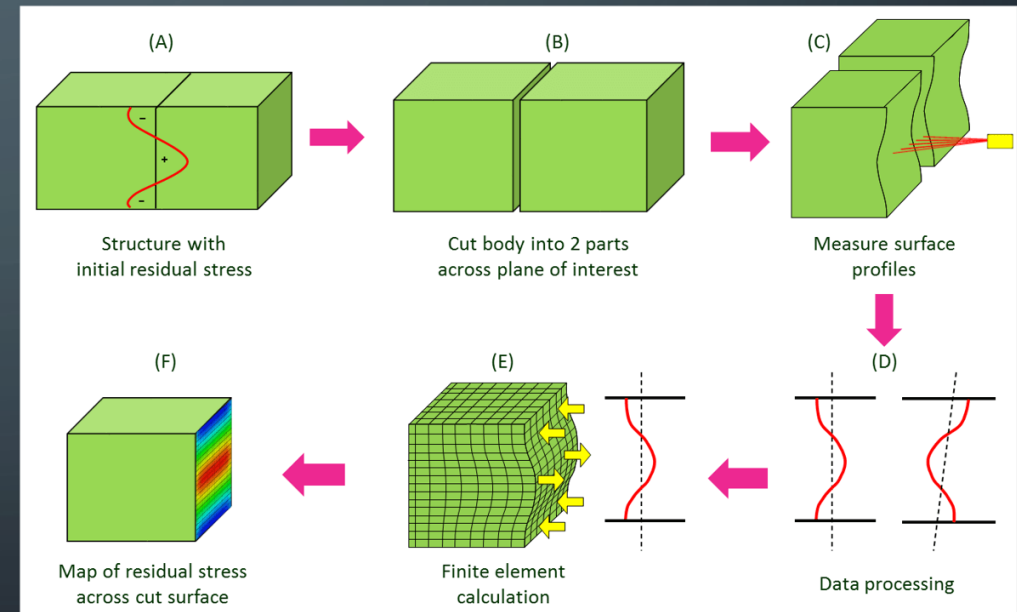


DESTRUCTIVE

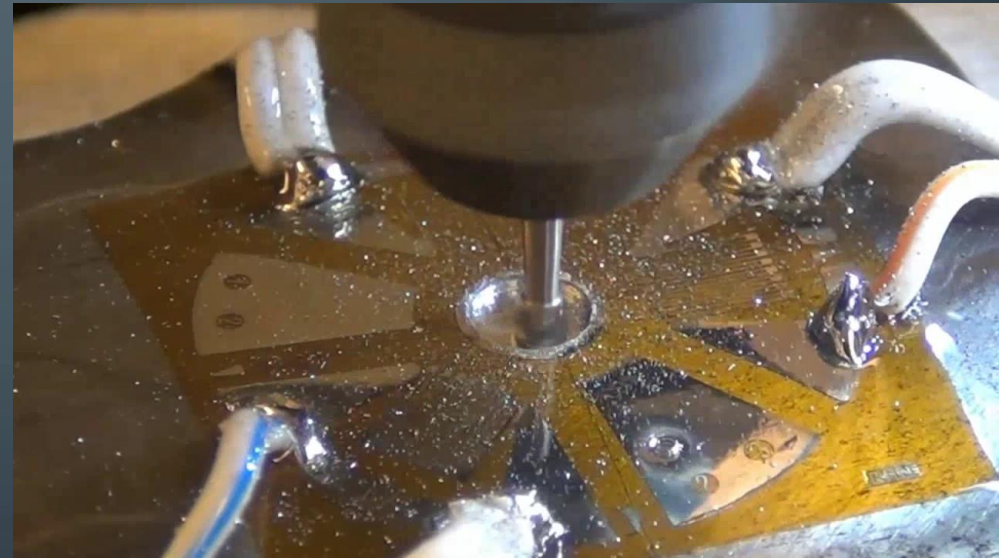
Slitting



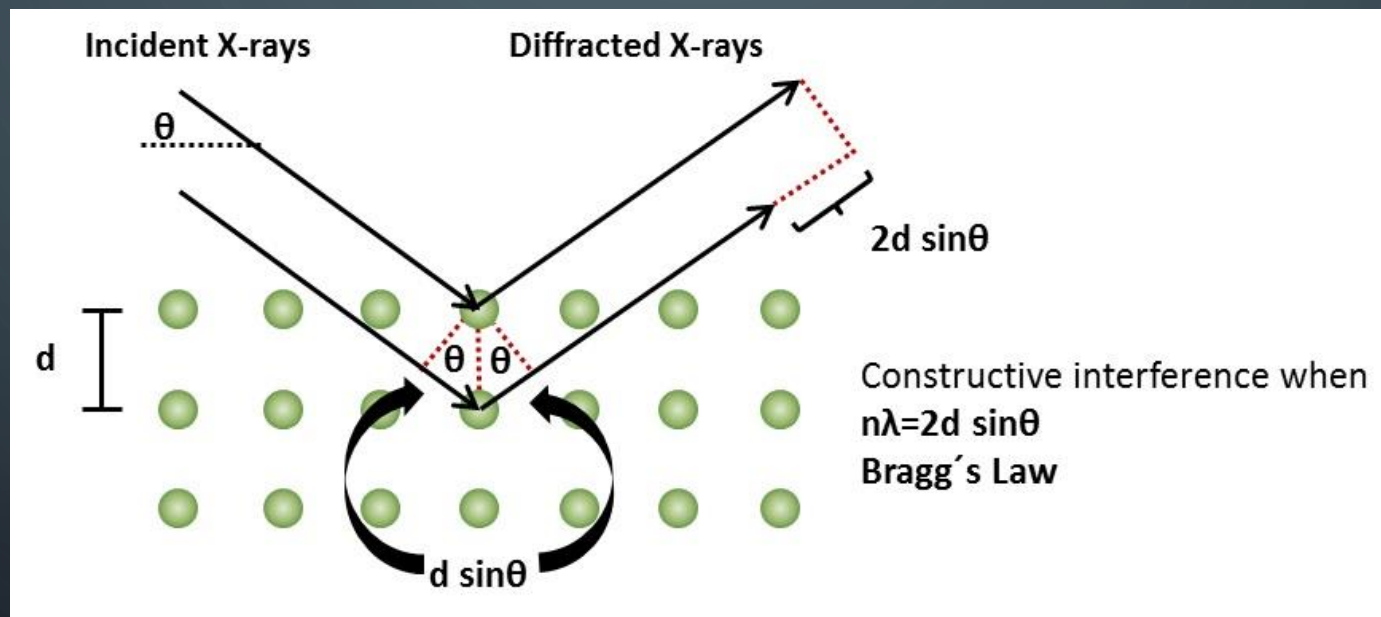
Contour



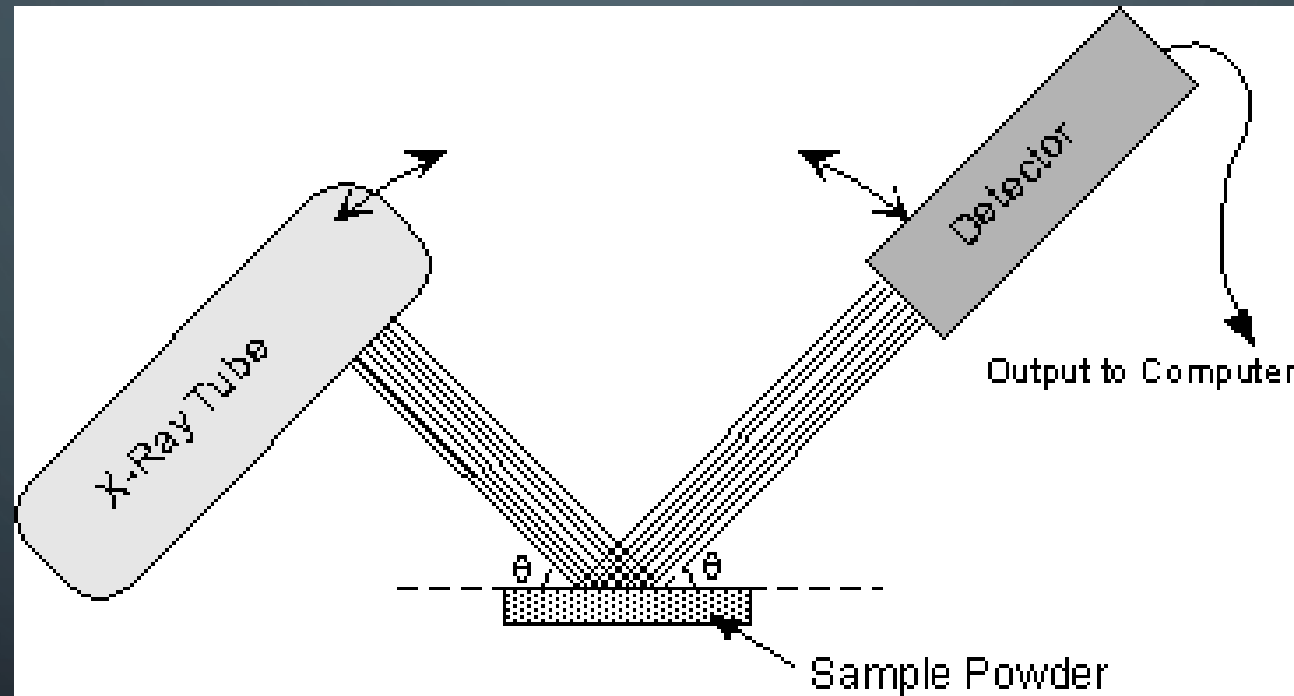
SEMI-DESTRUCTIVE



NON-DESTRUCTIVE



WHAT IS X-RAY DIFFRACTION



HOW ARE X-RAYS GENERATED



Chromium Tube

DUTIES



REFERENCES

- <https://www.protoxrd.com/>
- <https://www.veqter.co.uk/residual-stress-measurement/slitting#:~:text=The%20Slitting%20or%20Crack%20Compliance,and%20through%20thickness%20residual%20stresses.&text=Analysis%20of%20the%20strain%20data,out%20using%20elastic%20inverse%20solutions.>
- <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118402832.ch5#:~:text=Summary,surfaces%20created%20by%20the%20cut.>
- [https://www.veqter.co.uk/residual-stress-measurement/deep-hole-drilling#:~:text=The%20Deep%20Hole%20Drilling%20\(DHD,by%20trepanning%20coaxially%20around%20it.](https://www.veqter.co.uk/residual-stress-measurement/deep-hole-drilling#:~:text=The%20Deep%20Hole%20Drilling%20(DHD,by%20trepanning%20coaxially%20around%20it.)
- <https://www.veqter.co.uk/residual-stress-measurement/centre-hole-drilling>
- <https://www.stressmap.co.uk/x-ray-diffraction-for-measuring-residual-stress/>
- <https://www.physics.upenn.edu/~heiney/datasqueeze/basics.html>

The background is a dark blue gradient with several large, faint, concentric circles centered in the middle. In the corners, there are white line-art patterns resembling circuit boards or neural networks, with lines and small circles connecting them.

THANK YOU