

Welding Defects

by: Angus Maag



American Welding Society

Introduction: Welding defects are imperfections that weaken the joint. They are caused by improper technique, incorrect settings, or contaminated materials.

Cracks: Appear on surface or in the weld.



Lack of fusion: The filler metal does not properly join with metal.



Undercut: A groove next to the weld toe that is not filled by filler material.



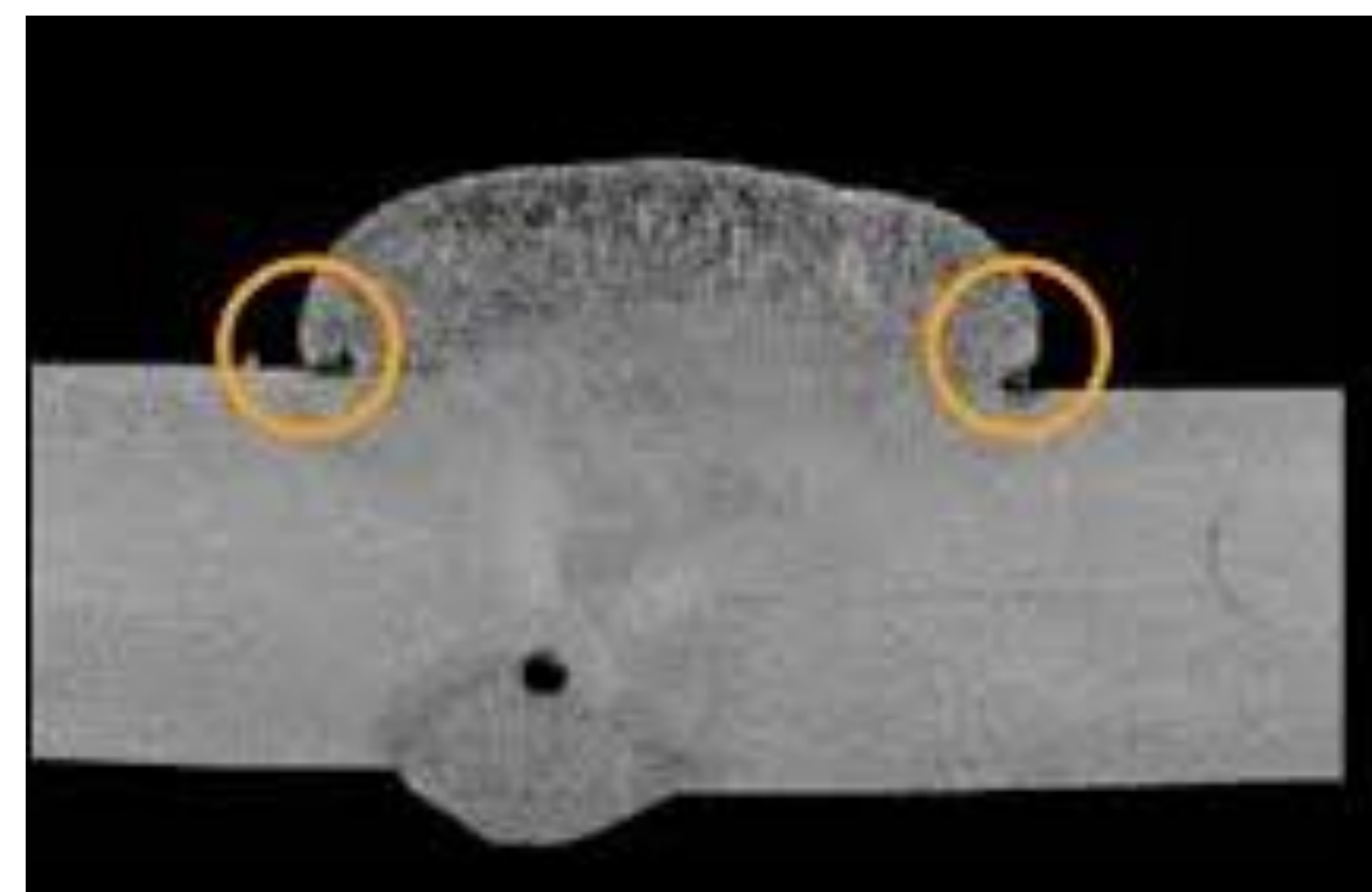
Conclusion: It is important to know the causes of weld defects to help prevent them.

Acknowledgments: Rick Polanin

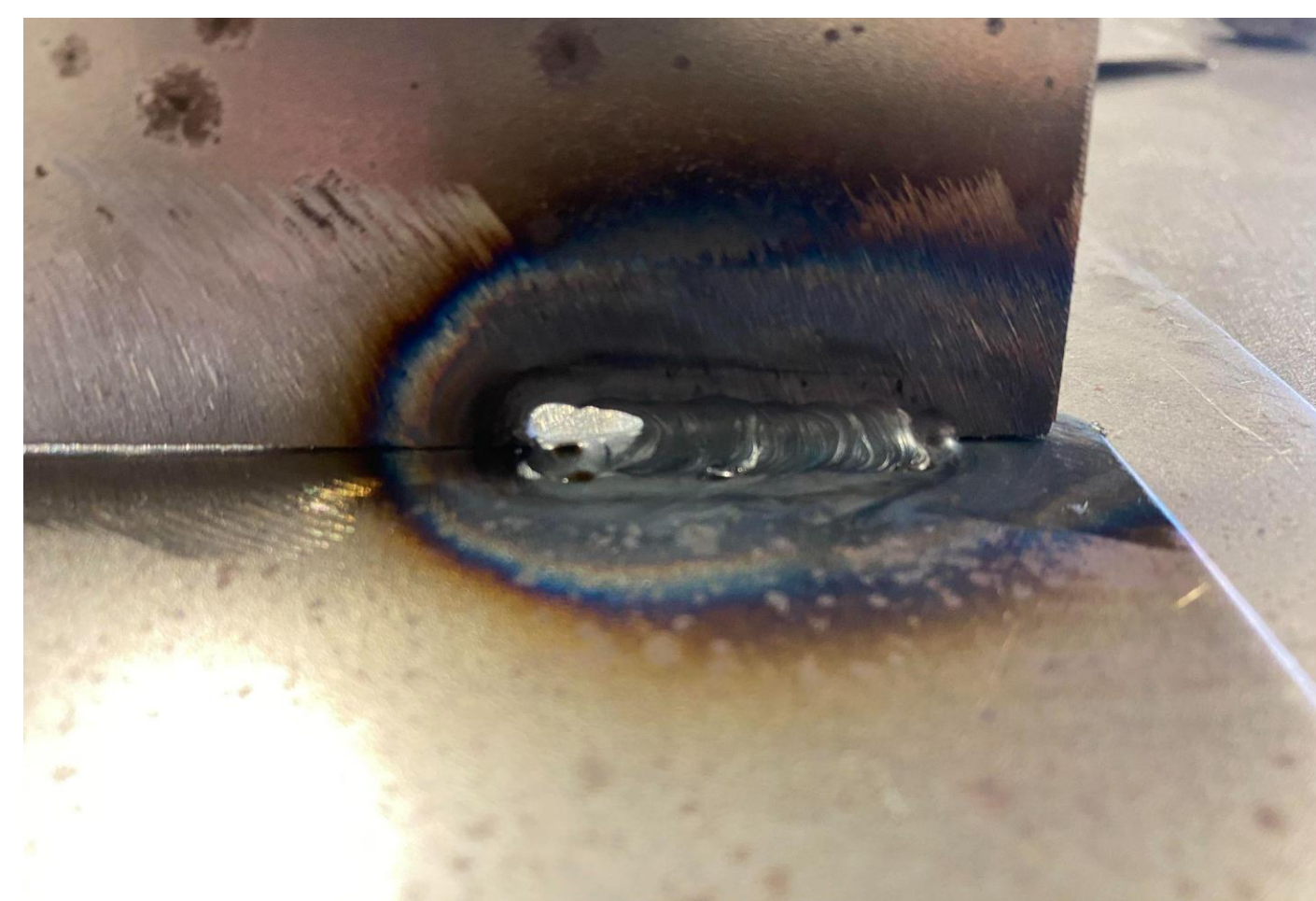
Porosity: Tiny bubbles trapped in the weld.



Overlap: When molten metal flows over the surface without fusing to it.



Burn through: The weld completely penetrates the workpiece.



Causes:

- Inadequate shielding gas
- Dirty base material
- Incorrect filler material
- Improper cooling
- Lack of preheat
- Improper welding technique
- Wrong settings