Air carbon arc cutting

From Wikipedia, the free encyclopedia

Air carbon arc cutting previously known as **air arc cutting**,[1] is an arc cutting process where metal is cut and melted by the heat of a carbon arc. Molten metal is then removed by a blast of air. It employs a consumable carbon or graphite electrode to melt the material, which is then blown away by an air jet.

This process is useful for cutting a variety of materials, but it is most often used for cutting, and gouging aluminum, copper, iron, magnesium, and carbon and stainless steels. Because the metal is blown away by the air jet, it does not need to be oxidized. This process differs from plasma cutting operations because in air carbon cutting, an open, or un-constricted, arc is used, and the arc operates separately from the air jet.[2]

Air pressures for the jet usually vary from 60 to 100 psig. The carbon electrode can be worn away by oxidation from heat buildup. This can be reduced by coating the carbon electrodes with copper.

The sharpened carbon electrode is drawn along the metal, an arc forms and melts the metal. The air jet is then used to blow away molten material. This can be dangerous as the molten material can be blown substantial distances.[3] The process is also very noisy.

See also

- Gas cutting
- Plasma cutting

References

1. Jeffus, Larry (1997), *Welding: principles and applications* (4th ed.), Cengage Learning, p. 191, ISBN 978-0-8273-8240-4.
2. WeldGuru.com, "*Let the Weld Guru guide you through the world of CAC, Carbon Arc Cutting*", 2008, http://www.weldguru.com/CAC.html (April 17, 2008)
3. Serope Kalpakjian, Steven R. Schmid, Manufacturing Engineering and Technology (Upper Saddle River, NJ: Pearson Prentice Hall, 2006)

External links

- SweetHaven Publishing Services, “Fundamentals of Professional Engineering”, 2001, [1] (https://web.archive.org/web/20071014083156/http://64.78.42.182/sweethaven/BldgConst/Welding/lessonmain.asp?lesNum=7&modNum=11) (April 17, 2008).
- http://www.bestplasmacutterreviews.com/wp-content/uploads/2015/12/89-250-008C.pdf