

Welding outline

[Science](#), [Chemistry](#)



Welding Outline 1. History of Welding a. Welding can be traced back to the Bronze Ages, where pressure welding was first developed. b. The Egyptians were also one of the first to use pressure welding. c. The blacksmith of the middle ages was the one to bring forge welding into the world. d. Early types of welding were used for holding items together for some project. As for the blacksmith in the Middle Ages it was more for horse shoes or fixing iron material for peoples equipment. 2. Types of Welders a. Arc Welder (Uses electricity to create a arc to fuse metal together) b. MIG Welder (Wire Feed Welder) [c. TIG Welder (Tungsten Inert Gas Welder) d. Acetylene Welding (Uses Oxygen and Acetylene gas to form a flame and melt the metal to be welded. e. Spot Welder (Used for welding light metal sheets together, usually sheet metal) f. Forge Welding (Heating the metal up until its red and pounding the two pieces together until they stay together) 3. Types of Welds a. Butt Weld: (Two pieces parallel to each other) b. Lap Weld: (Pieces overlapping on top of one another) c. Tee Weld: (Is an upside-down " T") d. Corner Weld: (Take to pieces and make a 90 degree angle, weld the corner) e. Vertical: (Going up or down) f. Horizontal: (Going side-to-side) 4. How/What Welders are Used a. Arc Welders: Used for heavier steel because of the power they have to burn through thicker compounds. Can be used on lighter metals as well if adjusted properly. b. MIG Welders: Used for light to medium duty jobs, they require the steel to be clean to get a good arc, or the weld will be useless. While Arc Welders are able to burn through rust or any impurities in the steel. Used highly in automotive industry, because of portability and ease of use. c. TIG Welders: Can be used on a wide variety of metals. It is a very precise welder; it is used in the automotive industries

where more precise welding is required. d. Acetylene Welding: The welding portion of these gases is not used as much as the cutting. These torches are mainly used in the rough cutting of steel or any other metal. e. Spot Welder: Used for welding light sheets of metal together; such as in trash cans or tool boxes. f. Forge Welding: Not used much anymore, since more advanced welders have been invented. 5. Materials and Rod Use a. Each welder has its own filler rod b. Some welders have to have gas in order for them to work right c. Different rod is used for different metal, whether it be for thickness or type d. MIG welders use Argon or CO₂ gas e. TIG welders use Neon gas. f. Arc welders use no gas at all; they use an electrode and electricity. g. Oxy-Acetylene is strictly gas welding, with a filler rod, which usually has a copper coating. 6. How Welding Applies to Everyone a. Everything we use has had welding as one of the key components of making it. b. Welding has made everything we do easier. c. Pick anything, and it can be somehow traced back to welding. 7. Welding and Effects on the Body a. Welding can give you a mild sunburn b. Can also cause cancer c. Fumes are toxic, and can shorten your life d. Burns are a huge factor e. The risks are very high, due to the actions involved