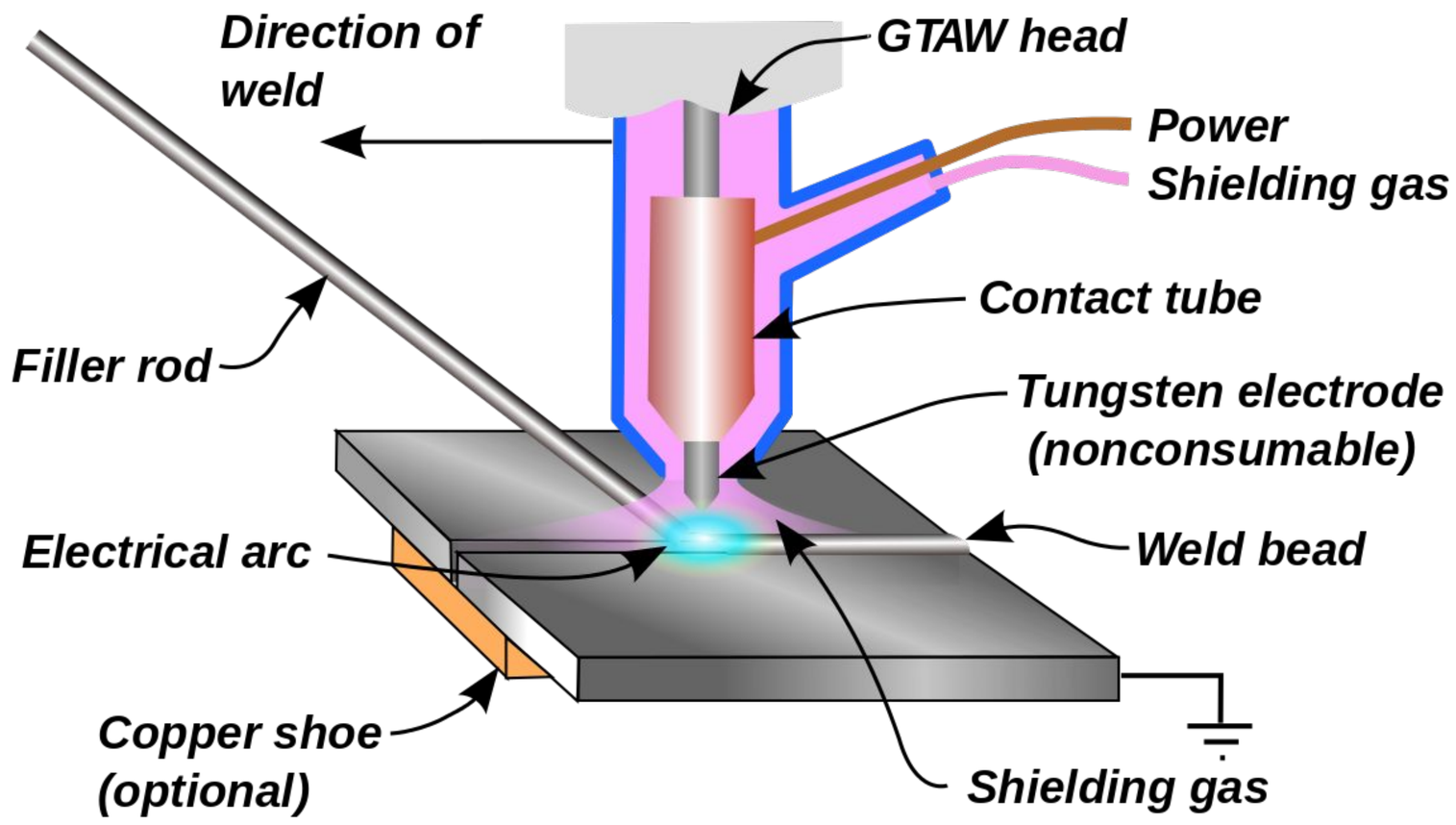
Effects of gas mixtures (GTAW)



Argon - Argon does not react with molten metals and has a low thermal conductivity rate. It ionizes easily and has a stable arc with an excellent current path and a high current density that produces a narrow arc cone and penetration profile.

Hydrogen - Hydrogen will improve the metal fluidity and enhance surface cleanliness. When added to a argon-carbon dioxide mix hydrogen counteracts oxidation.

Helium - Helium is lighter than air, it requires higher gas flow rates to provide adequate shielding and has a higher ionization potential

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Nitrogen - Nitrogen will increase the weld penetration and improve arc stability. It is used for stainless steel but will cause porosity in carbon steel

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