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Technical Bulletin Gas Distributor Materials

Fil-Tech offers a variety of gas distributors for your processes. The following is a discussion of factors to consider regarding your selection:

Graphite:

- When using argon, graphite will have the lowest sputter rate and therefore the longest lifetime.
- When using oxygen, graphite has the shortest lifetime and will turn to CO and CO₂ and evaporate.
- Graphite is overall the best for inert gas.

Stainless Steel:

- When using oxygen, stainless steel has the lowest sputter rate and therefore the longest lifetime.
- Stainless steel is an economical choice.
- Stainless steel works with inert gas
- Stainless steel has possible issues with iron oxide contamination on films.

Titanium:

- Used when coating with titanium oxide or other titanium films.
- Works with gas mixtures (ie: argon and oxygen).

Tantalum:

- Works well when making tantalum pentoxide (Ta₂O₅).
- Costly.