

# EB-33: OXYGEN CLEANING PROCEDURES

This procedure is specifically directed at insuring freedom from combustible oils, greases or other matter that would provide a source of ignition in service with oxygen or other fluids that critically support ignition. All components requiring Oxygen Cleaning shall be processed according to the following guidelines:

1. We will not offer this service on aluminum or titanium regulators.
2. The work order must specify that the product requires Oxygen Cleaning.
3. Regulators that normally would have a sintered inlet filter element will instead have filter screens installed.
4. Each work order will be identified with the statement "Oxygen compatible materials required". This applies to any and all things in the wetted flow stream, including but not limited to, O-Rings, gauges, lubricants and materials of construction.
5. Parts pulled from the stockroom will have been previously cleaned according to standard procedures.
6. Parts requiring Oxygen Cleaning must be cleaned as individual articles prior to assembly and testing.
7. Cleaning, inspection, assembly and testing of Oxygen Cleaned products will be done in the general GO assembly area. Working under a clean hood is optional.
8. The working pressure limitation will be 3000 Psig. This limitation will be across all product lines. Any product that has been cleaned for oxygen service will be etched "Cleaned for O<sub>2</sub>". It will also be etched with the maximum inlet pressure for that particular product, up to a limit of 3000 Psig.
9. Parts are to be thoroughly immersed and flushed with isopropyl alcohol (min. purity=98%). Larger parts are to be wiped with an alcohol moistened clean room Q-tip or clean room cloth, etc., until the cloth or Q-tip is visibly clean. Gauges are to be purchased as oxygen cleaned units or sent out for cleaning (documentation required).
10. All Oxygen Cleaned parts are to be:
  - a. Inspected under a black light that is in a darkened area (< 1/2 foot candle).
  - b. Wiped with a clean room type cloth, and
  - c. Vacuumed off.
10. Any visible contamination or residue on the part will be cause for rejection. Parts failing inspection are to be re-cleaned per #8 above.
11. After cleaning and during assembly no part in the flow stream may be touched or assembled without a latex clean room glove. The product is to be assembled using only Krytox® lubricant p/n 095000 (or an approved PFPE equivalent), and only in the areas specified in "**EB-6 Lubricant/Chemical List and General Use**". Any leak detecting fluid used must be thoroughly wiped and vacuumed up prior to further assembly of the product. Excess quantities of Krytox® will be removed.
12. All testing of the product is to be carried out using only filtered (less than or equal to 0.5 micron) nitrogen.
13. Upon completion of the product it shall be inspected under a black light that is in a darkened area (< 1/2 foot candle). The black light shall be directed into all flow port areas. Any noticeable fluorescence shall cause the assembly to be rejected and re-cleaned.
14. Clean protective caps are to be inserted into all ports to prevent contamination. The product is then bagged in a new plastic bag and sealed.
15. The bag is to be identified with a label. The label will read:

This Product Has  
Been Cleaned For  
Oxygen Service  
Per Go Regulator  
EB-33
16. The Oxygen Cleaning Certification, p/n 108679, shall be filled out and signed by the appropriate personnel and shipped with the product. The unit cannot be shipped if the certification is not fully and completely filled out.