

Cleaning of Stainless Steel Apparatus Destined for Work with Oxygen and other Gases

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Ancora Co. continuously cleans stainless steel equipment destined for exploitation in oxygen or other gases. Oxygen is a unique gas that requires extremely degreased surface of metallic apparatus as the oxidation reaction with the traces of fatty residues is so much exothermic that effects explosion.

A first step before degreasing is preliminary acidic cleaning, followed by pickling and passivation, flushing with clean water and careful drying.

There are two degreasing methods practically used. The first one is performed with application of non foaming detergent in form of water solution (Fig.1).



Fig. 1. Equipment destined for work with gases degreased with warm detergent

Usually such a cleaning solution is circulated at elevated temperature. The degreased apparatus is washed with clean water and finally with demineralized water and dried. Dry and clean air is flowing through the vessel up to remove working liquid completely.

Second method used for bigger vessels degreasing is with usage of volatile solvents (Fig.2-5).



Fig. 2. Degreasing of oxygen separator



Fig. 3. Preparation of oxygen separators for parallel degreasing



Fig. 4. Consecutive degreasing of oxygen separators



Fig. 5. A sheet of white paper is used for control of degreasing effect

The method is very effective but affects negatively respiratory tracks of workers so that they must be protected with a special equipment.

The degreasing works are carried out based on the Ancora Instructions. High quality nitrogen is used to dry the degreased equipment. A visual control with an additional light and checking of solvent residue after degreasing on lack of any contaminant is carried out to inspect the results of the cleaning.

Open ends, flanges, etc. are sealed after the process with couplings or plastic caps (Fig.6). The pressure vessel ready for transport is labeled "degreased".



Fig. 6. Oxygen separator after degreasing

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