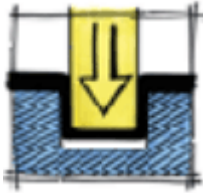


## Your application: Cleaning/degreasing of stamped/deep drawn or bend parts



Stamped, bent and deep drawn parts are manufactured from different sheet metals. Typical representatives are steel, stainless steel, aluminium and other nonferrous metals. Since these are normally large lots of equal parts, they can optimally be handled in bulk, preferably in chamber washing machines which can treat a complete load. The exceptions are stamping parts still attached to the stamping band which require special inline washing machines. Due to the stamping procedure the parts are sticky with oils and contaminated with flitters.

### Our recommendation: parts cleaning with Perchloroethylene

**Process stability:** Distillative solvent recycling assures a continuous high parts quality, also at a high oil feed in the system.

**Universal:** Perchloroethylene is - without exceptions - optimal for degreasing all types of metals.

**Fast:** Perc has best infiltration and drying abilities and is especially useful for very tight bulked parts.

**Compact:** Perc-plants are delivered as completely closed systems: exhaust air free, waste water free.

**Neutral to environment:** Perchloroethylene is a safe product to master. Dangers for human and environment are not latent when careful used. Product handling is done with well proofed safety transport and storage systems.



### Alternative 1: parts cleaning with aqueous medias

**Universality:** Basically speaking: stamping parts could be cleaned with aqueous solutions. It has to be regarded that there is only a small number of cleaners which are universally applicable. Aqueous processes can be well used for exclusively cleaning stainless steel parts.

**Limitations:** Critical is the cleaning and drying of very tight packed and thin parts.

**Operation cost:** Comparing with solvents, aqueous media are effectively recyclable only with a high energy input. For an optimum cleaning results there have to be taken in account high investments in equipment and high operation costs.



### Alternative 2: parts cleaning with non-halogenated solvents

**Degreasing quality:** Non-halogenated solvents always leave a thin film on the parts surface, that means that the surface quality is remarkable lower than using Perc.

An internal recycling (distillation) is possible within limitations.

**Top performance-oils:** A-III solvents are not applicable to clean off high additive top performance oils containing sulphur and chlorine components. These will result during distillation to irreversible acidifications of the solvent.

**Safety:** Non-halogenated solvents are inflammable! plant technology and also plant environment have to fulfill the requirements of ATEX resp. other safety rules.

**Environmental aspects:** Non-halogenated solvents are like CHC volatile compounds (VOC) with negative influence on humans and environment. In contrary to CHC-plants the plant for use of non-halogenated solvents need a chimney!

