



Extending Bath Life and Reducing Process Challenges in Vapor Degreasing Systems

Industrial parts cleaning is certainly important in the manufacturing process, as removing unwanted contaminants such as oil, dust or dirt from workpieces will make things go more smoothly. Industrial parts cleaning is certainly important in manufacturing, as removing unwanted contaminants such as oil, dust or dirt from workpieces will make things go more smoothly. Although that sounds simple at first, achieving successful cleaning results requires a lot of requirements.

The parts and chemistry involved need to be handled safely and properly, and there needs to be assurance that all environmental compliance issues are met. On top of that, the OEM usually has a very high requirement to avoid quality issues, and a process must be in place to meet the high throughput requirement to meet a facility's production goals.

In essence, the plan for a good industrial parts cleaning process involves the proper time it takes to clean the parts, the correct temperatures, the necessary mechanical equipment to house the cleaning process, and most importantly, the proper chemistry that will clean the parts correctly.

Vapor degreasing is undoubtedly one of the best and most efficient ways to clean parts that may contain oils, lubricants, and other contaminants. Just imagine how many miles these parts have traveled since they were manufactured and you received them, and then you can appreciate just how much they need to be thoroughly cleaned.

Modern equipment can clean a wide variety of parts, from small parts to pipes up to several feet long. It can usually operate a number of different cleaning programs that are tailored for the application. The machines are equipped with a side or top entry/exit and protected loading/unloading zones. Additional technical features ensure low emissions and increased efficiency: the abatement loop, for example, reduces the solvent concentration in the cleaning chamber before unlocking the unloading door.

The Cleaning Process

A typical cleaning includes pre-washing, immersion/spraying, and vapor degreasing. In the latter, pure solvent vapor generated by the distillation unit is sent to the cleaning chamber and condenses on the cooler parts. The residual oil film is then removed, which usually allows for very high-precision cleaning.

Many studies have shown the effectiveness and savings of a closed cleaning system. Examples show that modern cleaning equipment combined with chemical product services can reduce solvent consumption by up to 99.5%. This reduces overall costs while providing high-quality results and, therefore, maintains competitiveness.

However, as the oils, greases, emulsions, and other substances are removed from the parts, they are transferred into the cleaning machine, and that may have a negative effect on the bath life. As is the case with all distillable cleaning agents, the acid content of the medium may increase, which can lead to corrosion and process challenges.



If that is what is happening with your vapor degreasing system, then there is a very good way to prevent it from happening: using stabilizers to alleviate many of the organic acids and Sulphur compounds that can arise from the vapor process.

Using Modified Alcohols

Since late 2019, Hubbard Hall has begun working with SAFECHEM, which has enabled customers to manage those challenges as well in non-halogen solvents, such as modified alcohols.

Non-contact



reduced solvent consumption while protecting their cleaning systems and preserving the value of their installations.

A few of the benefits of MAXISTAB™ S-Series stabilizers that we have seen with applicators who use them:

- Extends the lifespan of solvent baths.
- Increases the