

CLEANING AND VALIDATION OF METAL FILTERS

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Metal filters are used in a variety of filtration applications including automotive and aerospace. Because of the economics of metal filtration, as well as environmental preservation efforts, users must consider cleaning as an option to disposal. As a result, the cleaning approach needed to remove the contaminants may vary; however, in all cases, major points to consider when developing a cleaning process are the types of media, configurations, metallurgies, and contaminants. For example, when considering cleaning methods for 20 micron random fiber metal pleated candles versus sintered powdered metal cartridges with an outer membrane layer, the filtration mechanics will affect where the contaminant is captured within the media matrix, and therefore, the cleaning method to be used.

Once the filters are cleaned, validation of integrity and cleanliness are required prior to being returned to the end user. There are various tests that can be performed depending on the cleanliness requirement for the particular application and the specific filtration medium. Testing can involve cleanliness tests, as well, as integrity tests. Criteria for those tests may involve information from the manufacturers, the user, and the cleaning vendor. In all cases, there must be criteria to provide evaluation methods for validating the re-use of the filters.

The presentation describes methods used to determine cleaning options and validation of cleanliness and integrity based on the type of media and filtration application.