CLEANING AND VALIDATION OF POROUS METAL MEDIA VS FIBER AND WIRE MESH MEDIA

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Metal filters are used in a variety of filtration applications in industrial settings. Based on process conditions of temperature, heat, and pressure, metal filters are used. 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 fiber metal pleated candles versus porous metal cartridges, 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. Media types can dictate the type of tests. For example, there are cleanliness tests used for porous metal cartridges that cannot be used for wire mesh candles; however, in all cases, criteria must be used to provide metrics for validating the re-use of the filters.

In terms of overall filter life & the number of cleaning cycles, similar cleaning processes may impact porous metal media differently than fiber & wire mesh media.

The presentation describes & compares cleaning & testing methods for porous metal media versus fiber and wire mesh media