

Einfluss der Staubbelastung auf chemische Alterung abreinigbarer Filtermedien - Laborversuche vs. Alterung der Medien im realen Einsatz in industriellen Anlagen

Influence of dust loading on chemical aging of cleanable filter media - laboratory tests vs. aging of media in actual use in industrial plants.

Cleanable bag filters are used in industrial processes for dust removal, as part of sorptive gas cleaning, but also for product recovery. Flue gas dedusting places the highest demands on the resistance of the filter media; mechanical, thermal and chemical loads act simultaneously there. Testing of mechanical resistance is established by VDI Guideline 3926 Sheet 1.

In the preceding project IGF 18307 N, the standard DIN EN ISO 16891:2016, which can be used to describe thermal and chemical aging effects in tests over 1000 h, was evaluated. The findings resulted in the development of an accelerated filter aging method in the autoclave. It was also recognized that further factors must be taken into account for realistic laboratory tests.

In the follow-up project, therefore, a comparison of the newly developed rapid test and the test method according to DIN 16891 is to take place. The results are to be compared with those of real aged media from waste incineration plants. The evaluation of the results obtained is to contribute to the development of a more realistic and practicable test specification.

In the future, the numerous SMEs in the filter industry will be able to carry out an essential part of product development - comparative durability tests - on newly developed filter media more quickly and economically. Significantly shorter test durations would also allow considerably more tests, which would create a more trustworthy database for predicting the service life of the media, from which all users would benefit.

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