NEW EN standards for respiratory protection filters

The latest EN143:2021 & EN14387:2021, the European standards for particle and gas filters and combined filters in respiratory protective equipment, introduce several changes compared to the previous version (EN 14387:2004+A1:2008). The most important changes include the removal of the Dolomite test for dust clogging, the abolition of the R/NR marking (reusable/non-reusable) and updates to the requirements for filter marking.

Key changes in EN143:2021 & 14387:2021:



- **Removal of Dolomite dust clogging test:**
  The standard no longer includes the Dolomite Clogging Test, which was previously used to assess filter performance.

- **Elimination of R/NR marking.**
  The R/NR marking has been removed for the following reason:
  The R/NR marking system, which indicated whether a filter was reusable or not based on storage tests, has been removed. In the previous edition of the standards, three tests were performed for filter efficiency testing, both with sodium chloride and paraffin oil: measurement of efficiency after 3 minutes, after long-term exposure (120 mg aerosol) and after 24 hours of storage. If the value after storage remained within normal limits, the filter could be marked with R (Reusable), otherwise the filter had to be marked with NR (Non-reusable).

  With the new edition of the standards, there are only two filter efficiency tests: long duration and storage. And both tests must fall within the specified limits.



- **Filter marking updated:**
  As a result of removing the R/NR marking, the marking requirements for filters have been updated to indicate that all filters are considered reusable unless otherwise specified.

- **Introduction of new definitions and symbols:**
  New definitions and symbols have been added to the standards to clarify the terminology and facilitate understanding.



An example of a new label with new symbols according to EN14387:2021 for a combination filter versus the "old" label. Note the symbols on the right-hand side of the filter..

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- **Clarification of the requirements for dual or twin filters:**
  The standard contains more specific requirements for filters that must be used in pairs).



The new symbol on labels for filters that must be used in pairs

- **Inclusion of risk assessment by the manufacturer:**
  The standard now emphasises the importance of risk assessment, such as the use of a Failure Modes and Effects Analysis (FMEA), both during the production of the filters and when using the filters..

- **Updated nominal values and tolerances:**
  Changes have been made to the nominal values and tolerances for gas filter capacity and test conditions for different filter types (A, B, E and K).

These changes are intended to improve the clarity, usability and effectiveness of particle, gas and combined filters in respiratory protection.

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