This test has been taken in most part from the European Standard EN 136.
However there appears to have been an addition to the CBRN test method, which
does not come from EN test for facepiece leakage. This is the addition of
the 500g surrogate test filter.

In the EN test method for FACEPIECE LEAKAGE the inhalation port of the mask
is sealed and the exhalation valve is moistened. The test is designed to
check the mask components for defects that will lead to a leak (more often
than not around the visor).

In the EN test for INWARD LEAKAGE, (commonly known as protection factor in
US), a mask with a standard thread (EN148-1) is fitted with a surrogate
filter weighing 500g. Clean air is fed to the surrogate filter. The weight
of the 500g filter represents the "worst case" filter weight during the PF
test, and will check that balance of the mask on the face is not disrupted,
leading to a leak through the face seal.

There does not appear to be any rationale for the 500g filter in the
FACEPIECE LEAKAGE (mask integrity) test in the CBRN standard. Perhaps it
was added out of a misunderstanding of the European Standard test methods.

Additionally other mask integrity tests, such as that used by the US army
offer the same degree of leak integrity. (See paper to be presented at ISRP
conference at Edinburgh by A Capon www.isrp.org.uk)

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