

Inward Leakage Testing–The European Vision

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Total inward leakage (TIL) testing has a long and interesting history in Europe. Well before the introduction of the European respiratory protective device (RPD) Standards, total inward leakage testing (though at that time it was in fact 'fit testing') was required by British Standards from as early as 1969. This early test employed sodium chloride aerosol and a panel of 'appropriate ethnological' test subjects. Elsewhere in Europe inward leakage testing employing a test gas was being developed. Two methods were subsequently adopted as standard methods into the European standards (CEN) – sodium chloride aerosol challenge and SF₆ gas challenge and one or the other is performed on all types and classes of RPD.

TIL testing was established to assess the ability of the RPD to fit representative individuals and that the RPD is capable of providing at least, a minimum level of protective performance in the laboratory. TIL testing provides more information than fit testing as we know it today, since TIL testing provides a measure of performance of the complete device which is useful to both the certification body for classification purposes, and to the manufacturer.

The presentation will cover how TIL testing is performed in Europe and its purpose and application.