

# **Integrated Respiratory and Skin Protection: An Account Of a Series of Practical Tests**

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In recent times, a distinct necessity has emerged for integrated respiratory and body protection, that is, respirators and protective clothing especially designed to serve as one single protective device.

In the past, some integrated systems have been available, mainly in the form of breathing apparatus and encapsulated suit ensembles. In other cases, it has been up to the end user to source various personal protection devices such as respirators, suits, gloves, and boots, and to combine them into a useable configuration. Little is known about the effectiveness of such combinations — nor is there much information available on integrated respiratory/skin systems.

A test was devised to gauge the performance of any respirator-suit combination, whether integrated or put together independently.

The test was repeated on a wide range of equipment. Not only did the strengths and weaknesses of different systems become obvious, but also a number of problems associated with body-respiratory protection arose.

It may be tempting to assume that a respirator protects the lungs and a suit protects the skin, so together they should provide effective respiratory and body protection. But do they?

The individual protection capacity of the suit and respirator might be present — but if the two are to be combined, a successful result can only be achieved if the use of the equipment is complemented with thorough preparation, post-work decontamination and extreme care when removing the protective clothing.

These practical tests showed some interesting and perhaps surprising results, as demonstrated in this non-technical presentation.