

ISRP 2002 abstract

Presenter/author	Title	Abstract
Berndtsson, Goran <i>The SEA Group,</i> <i>Branford,</i> <i>Connecticut, USA</i>	Inward Leakage Testing of Protective Suits	<p>This paper discusses a great number of tests of the inward leakage in various types of protective suits. The tests were conducted as per the National Fire Protection Association (NFPA) specifications of 1994, with the exception of using a PAO-4 aerosol as contaminant instead of SF6. The concentration was measured in real-time by an ATI light scattering photometer. Four sampling ports were located on the back, chest, crotch and leg of each suit. Each test took 26 minutes, during which time the test person performed ten different exercises. This included an additional 8-minute test on an exercise bicycle with incrementally increased workload. The air contaminant sampling was switched between the four sampling ports every 20 seconds.</p> <p>Some unexpected results were found, including instances of nearly 10% inward leakage near a small hole in one suit, while sampling from the other ports showed no difference. When the average was calculated according to the NFPA method, the suit showed a 0.5% leakage. In a suit without internal positive pressure, leakages of 65% were recorded, but this became 20% when averaged out. This may raise some questions as to the test techniques and calculation methods used, as specified by NFPA.</p>