



Smartman-test

The smartman-test is a system test with chemical warfare agents for respiratory protective equipment according to various standards (e.g. NIOSH, BS).

The results of our smartman test can be used to prove that the requirements will be met. So, if you want to ensure success beforehand, have Proqares perform a (pre-) test according to your requirements.

Proof of reliability.

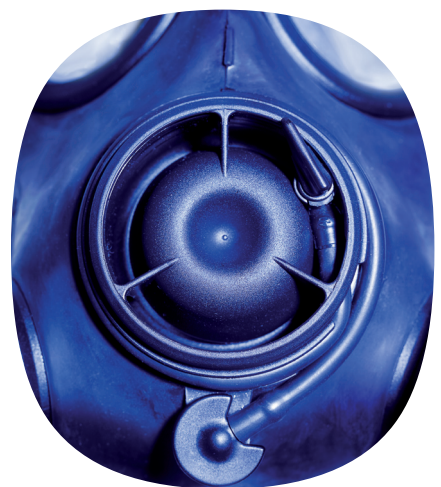
Smartman

Proqares is a world-renowned laboratory, having great experience in performing a wide range of tests. The test with chemical warfare agents (CWA) is done with the smartman according to British or American -guidelines. This test fixture consists of an anatomically shaped dummy head and torso. An inflatable rubber bladder guarantees a leak-tight seal of the respirator onto the dummy head. The dummy head is equipped with sampling ports in the oral/nasal region and in the eye region. The standard sampling point is in the oral/nasal region but, upon request, samples can also be taken in the eye region, which is important if you want to measure protection against nerve agents. Smartman is equipped with a breathing simulator, which can be set at various breathing rates.

The test procedure

Proqares can test your complete respiratory protective device against distilled sulphur mustard (HD) and sarin (GB). The test procedure is as follows: after donning the dummy head of the smartman precisely with the respirator, the lab technician starts the generation of CWA into the test chamber. As soon as the concentration reaches the correct level, the technician initiates the breathing simulator. Special analysis equipment will take samples underneath the mask for the next eight hours. The test with sarin is a vapour challenge only while the test with HD is divided into two parts: a vapour test and a liquid test. For the liquid experiment, very accurate droplets are applied to various positions on the respirator. A complete pre-test with one CWA, during which three masks are tested, will take one week. This is

necessary to generate test results that are as accurate, reproducible and reliable as possible.



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The test result: 'pass' or 'fail'

After the test, you will receive a test report. If the respiratory protective device met the requirements, the report will state 'pass'. You can then rest assured that it will pass the official system test against CWA in the US as well, thus allowing you to enter the American market quickly.

If the results do not meet requirements, the report will indicate that necessary adaptations of your system are needed. In that case, you can count on our expertise as well. We have been performing tests on respirators and canisters for over a hundred years and, for the same period, have been consulting on product development. We would gladly provide advice for improving your product.

Wide variation of tests

The smartman-test is the last of various tests, which must be performed on your respirator and canister. Proqares can perform all tests necessary to get your product on the market. We can test according to European and international military standards as well as NIOSH standards. Partnering with Proqares would allow you to have all necessary testing performed at a single independent research institute—an institute with the expertise, knowledge and equipment to help and advise you in all stages of the process, from development to bringing the product to market.

proqares
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Many professionals worldwide trust their lives to protective equipment against chemical and biological hazards. Proqares is an internationally leading provider of testing, evaluation and certification services targeted at such personal protective equipment. Proqares has an extensive track record in testing CBRN (Chemical, Biological, Radiological and Nuclear) protection devices for military personnel and first responders; commonly tested devices include respirators, CBRN protective clothing, boots and gloves. Also, Proqares provides a range of services targeted at personal protective equipment for the Chemical, Medical en Pharmaceutical industry. Within its High-Tox facility, Proqares is capable of working with the most toxic chemicals known to man, providing the fastest and most reliable results in the industry. Any test specified in all commonly cited standards is offered - national and international standards, military and civil. Integrity, flexibility, speed and reliability are core values of Proqares and its employees.

Proof of reliability.