

## Focus on IFA's work

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### Gas-tight fit of respiratory protective devices

#### Problem

Respiratory protective devices protect their wearers against toxic gases, vapours and dusts. The majority of such devices provide a face piece in the form of a mask, which must fit tightly over the wearer's face. Even minor leakage may considerably reduce the protective action and present a serious health hazard. A suitable method was to enable the tightness of fit of breathing masks to be tested.

#### Activities

A test apparatus for measuring the leakage of respiratory protective devices has been developed for the greater part by the IFA and is also in use throughout Europe. In a closed booth, test subjects wearing respiratory protective devices perform a number of practical exercises on a treadmill. The booth contains a harmless atmosphere containing common salt particles (sodium chloride aerosol). The proportion of aerosol entering the mask and therefore also into the breathing zone of the test subject is used to assess the gas-tight fit of the respiratory protective device.

#### Results and Application

Devices the gas-tightness of which satisfies the requirements may be marked with the CE symbol, valid throughout Europe, provided they also satisfy the remaining safety criteria.



Leakage measurement on a dust mask

The devices are assigned to various performance categories according to their test result. Regular supplementary checks at the manufacturer's premises enable users to enter hazardous areas safely with a respiratory protective device of faultless design.

**Area of Application**

All plants necessitating the wearing of respiratory protective devices

**Expert Assistance**

IFA, Division 3: Hazardous substances: handling – protective measures