Division of Indoor Environmental Medicine and Health

In our part of the world, people spend 80 to 90 per cent of their lifetime indoors. Using innovative forms and modern methods of construction to produce energy-efficient dwellings and reduce energy consumption often leads to a lower air exchange rate and consequently to a reduction in the supply of fresh air inside buildings

Various substances such as volatile organic compounds (VOC) and particles including dust and fibres are emitted from the building materials, furnishings and fitments used in indoor spaces. Thus, reducing the supply of fresh air can lead to an accumulation of these substances indoors and to a deterioration of indoor air quality.

In recent years, attention has come to focus more and more on healthy building and healthy indoor air, i.e. to ensuring that the quality of indoor air is beneficial rather than detrimental to human health.

To put the aspect of healthy indoor air on a solid scientific foundation, in September 2008, the Division of Indoor Environmental Medicine and Health was established at the Institute of Environmental Health Sciences of University Medical Center Freiburg.

A number of scientific studies to evaluate substances contained in different building materials for health effects, e.g. emissions from wood and wood-based products, cement and asbestos dust, softening agents (phthalates) used in synthetic materials or polycyclic aromatic hydrocarbons (PAH) are already being conducted at the Institute of Environmental Health Sciences.

Besides research and teaching activities, the new Division of Indoor Environmental Medicine and Health will provide consultancy services to the public and will also be available for measurements of indoor air quality or evaluation of building materials.

Under the management of Prof. Volker Mersch-Sundermann, who is also a member of numerous expert committees, e.g. the Indoor Air Hygiene Committee at the Federal Environment Agency (UBA), the “Particulate Matter” Work Group of the Clean Air Committee, as well as a member of the Environmental Label Jury (Blue Angel Eco-label) of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), a wide range of services will be delivered by the Division of Indoor Environmental Medicine and Health including:

- Consulting to private clients, builders and companies on questions of proper choice of healthy and safe building materials
- Consulting on energy saving concepts taking indoor air quality into account
- Consulting on use of low-emission building materials, furnishing and fitments in private homes, public buildings, offices and workplaces
- Analysis of indoor air in private homes, public buildings (schools, nursery schools, hospitals), offices and workplaces when sources of indoor air contamination are suspected (e.g. mould, indoor pollutants)
- Assessment of indoor air exchange
- Analysis and evaluation of the effects on health of volatile organic compounds in indoor air (TVOC, VOC) and especially formaldehyde
- Online-measurement of carbon dioxide and ozone levels in community facilities
- Analysis and measurement of dusts, particulate matter and allergens in indoor areas
- Sourcing, evaluation and concepts to eliminate mould growth on indoor surfaces
- Assessment of moisture damages in buildings (ascending moisture or wetness and wall salts)
- Check for early detection of possible health risks before purchasing a property (e.g. noxious substances present in construction materials and indoor air, concealed mould growth behind walls and ceilings)
- Advice on removal of dangerous waste (asbestos, PAH, PCB, wood preservatives)
- Indoor and constructional appraisal within the scope of civil disputes
- Medical care for persons with health problems related to indoor air at the affiliated Outpatient’s Dept. for Environmental Medicine of University Medical Center Freiburg

Qualified staff and state-of the art measurement technology, as well as a fully equipped analysis laboratory funded by the “Toxicology of Indoor Air” Foundation at University Medical Center Freiburg and the Dept. of Environmental Health Sciences are available. Constructional and health effects can be assessed on the basis of scientific knowledge.

A comprehensive catalogue of performance and services can be found

here
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