MÜLLER-BBM

Workplaces – healthy, safe and efficient – with Müller-BBM's testing and consulting services

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Acoustic comfort instead of noise exposure

Excessive noise levels in the workplace make voice communications difficult and impair concentration and performance. This is particularly true in call centres, but can also be the case in multi-person or open-plan office spaces. The aim of room-acoustic consulting is therefore to reduce the disturbing influences on acoustic comfort in the workplace. Specifically, this means that extensive sound-absorbing measures must be provided for ceilings and walls. Often, customized project-specific solutions are required including special, acoustically efficient office furnishing systems. Furthermore the physical interactions of the construction, such as thermal efficiency of concrete floors through thermal mass activation must be taken into consideration. In addition to an acoustically optimized design, the ceilings, walls, doors and floors of offices must be constructed so that confidentiality is respected, i. e. with sufficient airborne and impact noise protection between the individual rooms so that noise from adjacent rooms is not perceived as a nuisance.

This also implies the acoustically correct installation of building equipment, the dimensioning of silencers, and the definition of maximum permissible background noise levels.

A reduction in the noise level, which leads to a reduction in noise exposure in industrial work areas with high noise levels, can also be achieved through room-acoustic measures implementing shields, enclosures, and other measures.

Müller-BBM is available to advise you when formulating noise reduction objectives, and establishing and dimensioning technical and structural measures.

Legally compliant business organization and management systems

Plant operators need to be aware of the risks arising from the operation of the plant. Technical, organizational, and personal protection measures are to be defined based on the plant-specific and activity-related risk assessments. This implies organizing and carrying out the necessary tests.

The experts at Müller-BBM will help you with the implementation of the necessary measures in your company. Besides determining the risks and defining technical protection measures, the aim is to implement legally compliant operating methods and procedures in the form of environmental, quality, and safety management systems. Our range of services is completed by the implementation of organizational analyses, particularly in safety-related operating areas (e.g. Hazardous Incident Ordinance, implementation of Occupational Safety and Health regulations), the elaboration of important documents such as organizational-, operational-, safety-, emergency-, and procedures manuals, and the provision of coordinators and external company representatives (e.g. in the fields of environmental protection, hazardous goods, waste or fire protection).

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Employers are responsible for providing a safe and healthful workplace. They are required to determine the necessary safety and protection measures taking into account all of the circumstances likely to affect the safety and health of employees at work.

European occupational health and safety law

European occupational health and safety law seeks to standardize working conditions Europe-wide. The basic safety goals and minimum standards defined on an European level, serve as the basis for the drafting of national law by each member state.

Directive 2003/10/EC of the European Parliament and the Council of 6th February 2003 defines the minimum requirements for employee safety and health protection in the workplace.

Müller-BBM supports and advises you in the application of this EC Directive.

Risk assessment

Preventive occupational safety measures seek to protect the physical and psychological well-being of workers. Identifying risk and assessing dangers form the basis of effective occupational health and safety protection. Employers must consider the result when it comes to choosing equipment and designing workstations. Health protection must therefore be integrated in the planning process at an early stage, when any possible risks can be dealt with at the source. As a result, risks can be avoided or kept to a minimum.

State-of-the-art testing and consulting services provided by Müller-BBM

Employers must factor in state-of-the-art of technology, occupational medicine, hygiene, as well as other validated occupational science findings (89/391/EEC) when considering safety measures. Müller-BBM provides you with testing and consulting services on all aspects of occupational safety. Take advantage of the current state-of-the-art in technology and science. Allow us to carry out the necessary measurements. Together with our interdisciplinary engineers and technicians, we provide you with support for the implementation of all required measures – from risk assessment, to environmental, quality and safety management systems.

Noise protection

The excessive and continued exposure to noise in the workplace can seriously affect an individual's health, well-being, and performance. In the worst case, noise can cause work-related hearing loss – one of the most frequent occupational diseases.

To help gradually reduce noise exposure for your employees, Müller-BBM offers an extensive range of services in consideration of their cost-effectiveness. These services include the measurement and prediction of noise exposure at workstations and machines, the elaboration of suitable protective measures, and guidance in selecting quieter machines. We also offer the following services:

- Determination of noise exposure of individual employees or groups of employees, e. g. based on noise maps and exposure times or on noise dosimeter measurements
- Prediction of noise exposure in the planning of workplaces (including computer-based calculation methods according to EN ISO 11690-3)

- Identification and evaluation of acoustic parameters such as average level reduction and sound absorption in the workplace according to EN ISO 14257
- Elaboration of room-acoustic measures to reduce noise exposure in factory workstations
- Detailed noise control planning for machines, plants, and workstations
- Recommendations for marking noisy areas, defining requirements for individual hearing protection, and guidance in selecting them

Vibration control

Directive 2002/44/EC of the European Parliament and the Council of 25 June 2002 relative to the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (vibration) defines action values for daily exposure to vibration concerning hand-arm vibration (HAV) and whole-body vibration (WBV). If these values are exceeded, the employer must determine the risk for employees, monitor these risks, and implement preventive measures.

We provide consulting services with regard to risk analysis using state-of-the-art vibration measurements as well as the elaboration of technical and organizational vibration protection measures. We support you in finding technical solutions when needed.

As an accredited testing laboratory, Müller-BBM carries out vibration measurements on hand-held and hand-guided machinery in its own hand/arm vibration test stand according to acknowledged laboratory test methods.

Protection against electromagnetic fields

In European countries, Directive 2012/11/EU regulates the permissible exposure to electromagnetic fields at workstations. Employers are obligated to inspect the entire plant for electromagnetic fields, identify affected areas, elaborate operating procedures, provide personal protective equipment, and provide employees with the respective instructions.

Employees in the following professions, for example, are exposed to high field strengths:

- workers in power plants, transformer substations, aluminium smelters, and at induction furnaces,
- electrical welders and workers in the vicinity of welding plants,
- workers on radar systems and in transmission towers,
- train conductors and railway workers in the immediate vicinity of large electric motors,
- medical staff in the field of magnetic resonance imaging.

Müller-BBM supports you in the implementation of the statutory requirements with its own EN ISO/IEC 17025 accredited laboratory. We measure and calculate field strengths in the entire frequency range spanning from 0 to 40 GHz, determine areas of increased exposure and risk, and advise you when action must be taken.

Reducing exposure to hazardous substances

Hazardous substances – i.e. liquid, gaseous, or solid substances presenting a risk for employee's health and safety – can be found in many workplaces.

As an accredited measuring facility for hazardous substances, Müller-BBM has extensive experience as well as the equipment required to measure and assess hazardous substances in the air:

- detection of hazardous substances in the workplace,
- coordination of the measurement schedule with the client,
- verification of the adequacy of the existing protection measures, and the need for improvement.

Our exposure assessment is an indispensable basis for risk assessment.

Improving room air and room climate

Elevated concentrations of pollutants in the air or in materials can lead to discomfort for individuals or emit unpleasant odours. The underlying causes can be determined by analyzing the room air. The cause is often new interior fittings; however, site contamination from harmful substances no longer used today such as PCB, wood preservatives or asbestos, can also be to blame. Moreover, an unfavourable room climate can cause or exacerbate the discomfort.

Müller-BBM will help you clarify the situation by taking measurements of pollutants in the air and materials in the room, in addition to studying the room climate. A proper measuring strategy is essential to the success of the measurements, as the standards that apply in offices differ from those used in the commercial handling of hazardous materials. Accordingly, suitable measuring methods and assessment criteria are to be applied and specific standards taken into account.

Recognizing dangers thanks to good lighting

Good lighting is another key factor for employee well-being, efficiency, and safety in the workplace. It increases the visual comfort, improves the quality of work, and prevents undue fatigue. Good lighting is motivating and performance enhancing. Depending on the visual task to be performed, primary importance is to be attached to the visual performance, the visual comfort or to the overall visual impression. Visual performance, which includes reliable contrast vision, high visual acuity, and quick perception, is of particular importance from the perspective of occupational safety. This applies to indoor and outdoor work areas in offices, inspection areas, or control stations. Good lighting promotes visual performance and with it, the reliable and immediate perception of important details or hazards.

Good lighting is a legally defined component of OHS protection. Normative requirements for workplace lighting are specified in the European standard EN 12464, part 1 (Indoor workplaces) and part 2 (Outdoor workplaces).

Müller-BBM helps you to optimize your current or planned lighting for indoor and outdoor workplaces. When planning your lighting concept, we help you by calculating the lighting quality to be expected at the work areas. For existing work areas, we carry out lighting measurements in accordance with current standards. We offer expert advice for the necessary or possible improvements to your lighting concept.

MÜLLER-BBM

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Müller-BBM Industry Solutions GmbH is a subsidiary of Müller-BBM AG, with headquarters in Planegg near Munich. Since 1962 Müller-BBM has been advising clients nationally and internationally and is now one of the world's leading engineering firms. More than 350 highly qualified employees form an interdisciplinary team of scientists and engineers in the most diverse specialist fields. The company currently has twelve offices in Germany as well as a branch office in Austria.

Notifications
Müller-BBM Industry Solutions GmbH is notified as an expert authority in accordance with § 29b of the German Federal Pollution Control Act (BImSchG).

The notification comprises
- determining emissions and immissions of air pollutants, noise and vibration
- verifying the correct installation and function in addition to the calibration of continuous emission measurement systems (CEMS)
- checking combustion conditions

Accreditations
Our testing and calibration laboratories are accredited according to DIN EN ISO/IEC 17025:
- Test laboratory for sound and vibration, electromagnetic fields and light, air pollution control, measurement of hazardous sustances
- Calibration laboratory for acceleration and acoustical quantities

Müller-BBM Industry Solutions GmbH has a significant number of employees with competency certificates that were awarded to them on an individual basis. They include publicly appointed and sworn experts, state-recognised experts and otherwise appointed and notified experts.

Detailed information on the scope of our accreditation, its international validity and the corresponding certificates can be found on http://www.mbbm-ind.com/about-us/quality

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