

Focus on BIA's work

Berufsgenossenschaftliches Institut für Arbeitsschutz

No.: 0195 Climate and air quality in call centres

○ Problem

The sense of well being and the performance abilities of each employee are influenced in particular by the indoor climate and air quality at the workplace. Poor air quality and poor climate quality, such as extreme temperatures, asymmetric temperatures from cold exterior walls and windows, dry air (low relative humidity), as well as stagnant air (too little air movement), or the feeling of draughty rooms (too much air movement), have been observed again and again.



Illustration
Measuring climate in a call
centre

○ Activities

In the framework of the CCall project "Successful and Healthy Working in Call Centres", comprehensive research was undertaken on the working environment in different call centres and on test benches. This included analyses of the room climate by measuring the temperature, air movement, air humidity, and air quality.

○ **Results and Application**

The following factors can negatively influence the sense of well being:

- Room boundaries that are too cold or warm (walls, floors, ceilings, windows)
- One-sided warming from sunshine and resulting temperature differentials
- A poor coordination of air temperature and air movement; the sensation of draughts begins at air speeds of more than 0.2m/s
- Temperature differences of more than 3°C between the floor and head level
- Relative humidity that is too low (often measured at less than 35 percent); the mucous membranes in the eyes, nose, throat, and airways dry out or are irritated as a result. Speaking becomes uncomfortable and strained. Susceptibility to disease increases.
- Carbon dioxide concentrations of more than 1000ppm reduce the ability to concentrate, resulting in early tiredness and fatigue.

It is thus recommended to ventilate the rooms with fresh air regularly; short intense ventilation and air conditioning can improve air quality. Suitable equipment for humidifying rooms should also be used during heating periods. Optimum relative humidity is in the range of 45 to 65 percent. Ideal room temperatures are between 20 and 24°C in the winter and between 23 and 26°C in the summer.

Architectural changes should take priority over the use of ventilation and air conditioning systems. In case air conditioning is used, it should be installed properly and kept in best working order. Such systems also require regular maintenance.

The results of the study were published in CCall Report 4 and in a selection list for humidifiers.

○ **Area of Application**

Proprietors and planners of call centres and similar working environments

○ **Additional Information**

- Report 4 und Auswahl Luftbefeuchter. Publisher: Verwaltungs-Berufsgenossenschaft, Hamburg 2001 (www.ccall.de, Rubrik Ergebnisse, Reports)

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○ **“Focus on BIA’s work”**

Published by:

Berufsgenossenschaftliches Institut für Arbeitsschutz – BIA
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