

# Focus on IFA's work

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## 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 indoor climate quality, such as high 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.

### 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 indoor climate by measuring the temperature, air velocity, 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 0.15m/s
- Temperature differences of more than 3 °C between ankle and head level
- Relative humidity that is very low; the mucous membranes in the eyes, nose, throat, and airways may dry out or may be irritated as a result. Speaking might become uncomfortable and strained.



Measuring indoor climate in a call centre

- Carbon dioxide concentrations of more than 1000ppm might 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. Humidification of the air is not normally required. Sufficient fluids should however be drunk. Speech training may also assist in full use being made of the voice and in the stress upon the vocal chords being reduced. 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 a report.

### **Area of Application**

Proprietors and planners of call centres and similar working environments

### **Additional Information**

- [www.ccall.de](http://www.ccall.de)
- [www.vbg.de](http://www.vbg.de)

### **Expert Assistance**

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

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### **Literature Requests**

IFA, Central Division