



# Concrete Core Cooling with supply air



Seit 1877

# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## m.pire tower, Munich



Photo © Bernhard J. Lattner

The Skyline Tower in Munich impresses with its delicate glass and steel structure, which is also a feature of other buildings of Helmut Jahn in Germany, such as the Sony Center in Berlin and the Munich Airport Center. While the tower radiates lightness from on high, the long, extended campus building endows the ensemble with a spatial depth. A roofed atrium connects the campus with the tower. The total gross floor area of 44.000 m<sup>2</sup> provides space for flexible partitioning and use of individual, open plan or combination offices depending on function and specific requirements.

<b>Building:</b>	<b>m.pire tower, Munich</b>
<b>Architects:</b>	<b>Helmut Jahn, Chicago</b>
<b>Proprietor:</b>	<b>Bayrische Bau- und Immobilien Gruppe, Munich</b>
<b>Consultant:</b>	<b>Ingenieurbüro für Energie- und Haustechnik, Sarnen/Schweiz Dipl.-Ing. Peter Berchtold</b>
<b>Scope:</b>	<b>26.000m<sup>2</sup> conditioned area</b>
<b>System:</b>	<b>Concrete core cooling with supply air CONCRET-COOL</b>  <b>Per fitout module (B=1350 mm) one linear diffuser. Air guide vanes are invisibly integrated into ceilings.</b>
<b>Air flow rate:</b>	<b>4.5 m<sup>3</sup>/hm<sup>2</sup> (exch. rate = 1,5 x/h)</b>
<b>Completion:</b>	<b>2010</b>





# Betonkerntemperierung mit Luft



Seit 1877

# Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

## m.pire tower, München

**Awarded German Seal of Approval in Gold for Sustainable Building.**

The Skyline Tower meets the criteria of the European "Green Building" Certificate for buildings with a low primary energy requirement, and has been awarded in Gold for sustainable Building.

This is based not just on energy efficiency, but also on the sustainability of the building with respect to the environmentally-friendly supply of energy, along with socio-cultural aspects such as comfort in the rooms, architecture and location. The Skyline Tower employs a combination of concrete core cooling with air, and axially arranged fan coils which individually regulate the base-load cooling.

In this way the energy requirement of the Skyline Tower is reduced substantially in comparison with a conventional building.

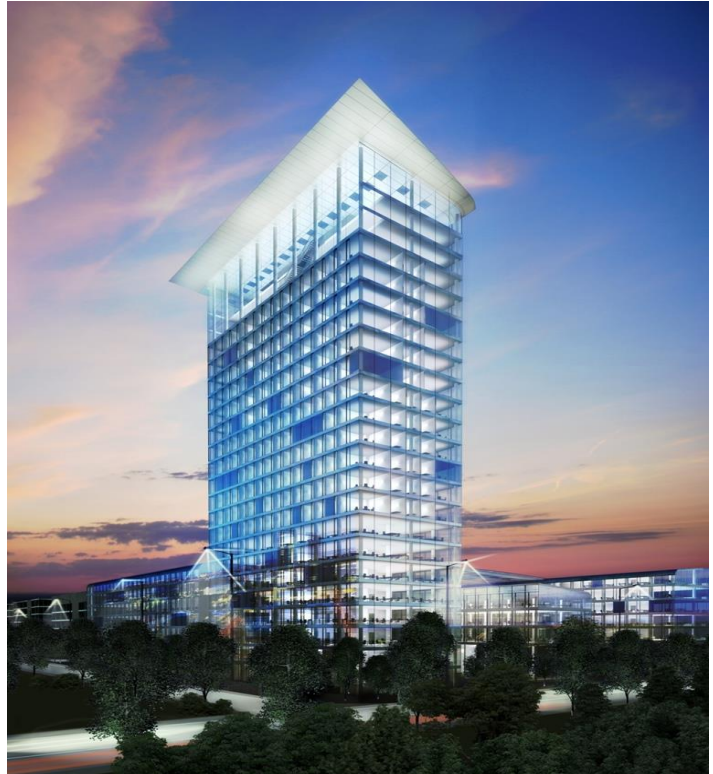


Photo © BBIG



### Function CONCRETCOOL:

In contrast to conventional systems, in which supply air is fed directly into the working areas, the air first flows through aluminium cooling tubes cast into the ceilings. Thereby the supply air cools the ceiling. At the same time the gain of heat is used to warm up the supply air.

### System advantages

- Optimum thermal comfort
- Additional ceiling cooling with water is not required
- Free cooling provides energy savings of up to 50%
- Full flexibility due to modular positioning of cooling tubes
- Cooling with outdoor air – no air circulation required
- Construction costs reduced due to low floor height

