

Optimized temperature control at the KiKri daycare center at ETH



After the newly built daycare center at ETH Zurich opened its doors to its children, the building's passive air-conditioning system failed to function properly, as evidenced by overheating in the spring and summer. The reasons for the overheating proved to be complex. After analyzing the situation, EBP proposed a suitable solution, completed the corresponding planning work and oversaw the corrective measures.

EBP was commissioned by ETH Zurich to identify the reasons for the overheating at the new daycare center. After assessing the situation, we were able to show that the problem was mainly a result of insufficient shading on sunny days and insufficient cooling at night on account of closed windows. Working in consultation with the client, we developed a number of measures to counteract the problem. Our aim was to avoid having to install a mechanical air-conditioning system. Our solution was based on integrating the building's users into the existing passive system and making use of the concrete structure's capacity to store heat. We bundled numerous individual measures into three measures packages that would all make a significant contribution to thermal comfort, although at different levels of intervention. The measures optimize shading and include adaptations to the windows so that they can remain open both during the day and at night.

Our services

— Analyze the nature and cause of overheating in the building

Client

ETH Zurich

Facts

Period	2017 - 2018
Project Country	Switzerland
Categories of subcontracted work	4
New sun shades	ZIP vertical awnings
New weather protection	Special construction

Contact persons

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- Identify measures to maintain lower temperatures without having to install air conditioners
- Estimate the cost of the variously rated corrective measures
- Complete the detailed planning for the specific measures
- Execute and oversee the implementation of the measures