

Dutch Schools: Their Ventilation Systems

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Abstract : During the last decade research was done to clarify the importance of good Indoor Air Quality in schools. As a result, measurements were undertaken in different types of schools to see whether naturally ventilated schools could provide adequate indoor conditions. Also, a comparison was made between schools with hybrid ventilation and those with complete mechanical ventilation systems. Recently a large survey was undertaken at 60 schools to establish the average current situation of schools in the Netherlands. The results of the questionnaires were compared with those of earlier measured schools. This allowed us to compare different types of schools as well as schools of different periods. Overall it leads to insights about the actual current perceived quality by the teachers as well as the pupils and enables to draw some conclusions about the typical performances of specific types of school ventilation systems. Also, the perceived thermal comfort and controllability were researched. It proved that in around 50% of the schools there were major complains about the indoor air quality causing concentration problems and headaches by the pupils at the end of class. Although the main focus of the latest research was focused more on the quality of recently finished nearly Zero Energy schools, this research showed that especially the main focus school be on the renovation and upgrading of the existing 10.000 schools in the Netherlands.

Keywords : school ventilation, indoor air quality, perceiver thermal comfort, comparison different types

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