

CASE STUDY

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THERMAL COMFORT IN AN AUDITORIUM AT MUSCAT AIRPORT

CHALLENGES

Simulations for an auditorium were carried out by Fluid Codes on behalf of URS Scott Wilson. The simulation consisted of the auditorium with supply ceiling swirl diffusers and 100 floor supply diffusers with side diffusers located at the rear.

Engineering Solution

Temperature contours and streamlines helped to fine tune the design of the diffuser size and their locations to ensure the best temperature profile and, thus, thermal comfort for the occupants.

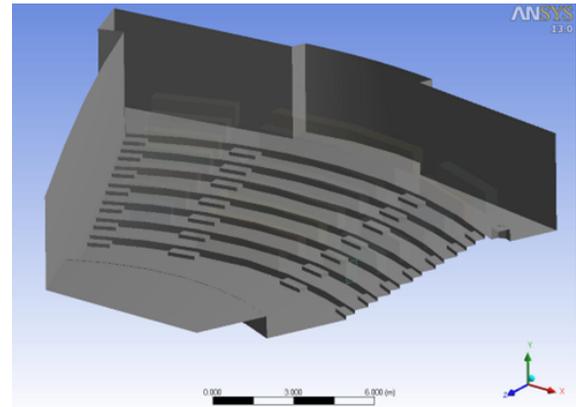


Figure 1. 3D model of the auditorium

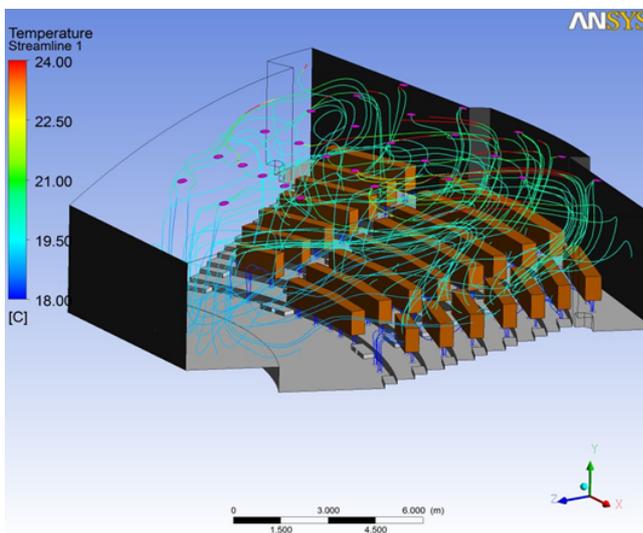


Figure 2. Streamlines colored by temperature

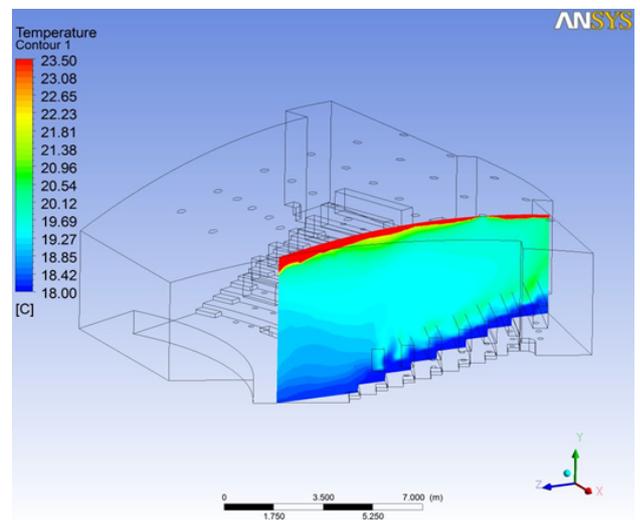


Figure 3. Temperature contours