

A Computational Study on Internal Ventilation System of Thermal Flow in Complex Automotive Part Plants

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The increasing demand on the comfortable working conditions in automotive part plant pushes the company to improve working environment of workers. The displacement ventilation supplies air with a low velocity diffuser located at floor level and is based on using natural convection flows produced by people and equipment. The objective of this ventilation principle is to create air supply conditions in the occupied zone, while the objective of traditional mixing systems is to create extract-air conditions in the whole room(1)(2)(3)(4). In this study, we analyzed thermal flow of an automotive part factory by using CFX code. Internal working environment has been analyzed with/without ventilation system and computational results were validated by using wet bulb globe temperature.

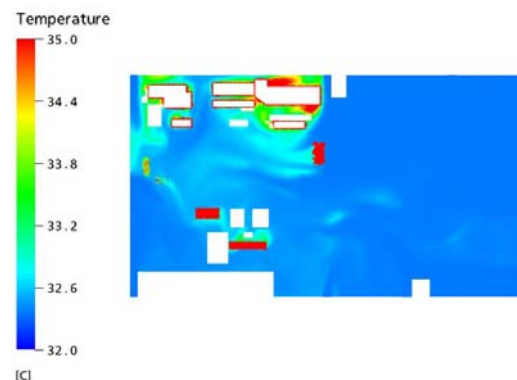


Fig. 1 The temperature contour of 3m height at base plane(xy plane)

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