A Method of Carbon Footprint Calculation for the Product Life Cycle

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This paper proposes a concept model for product life cycle to present the characteristics of material flow, energy flow and waste flow in a manufacture system. Furthermore, two energy consumption calculation methods are provided according to the different components of the manufacture system, one is e-p method based on the processes of the system, and the other is e-f/s method based on the functions and statuses of the system. Then a carbon footprint calculation method is proposed on the basis of the characteristics of material flow, energy flow and waste flow in a manufacture system, and the energy consumption calculation above. Input-output analysis is carried out to establish the carbon emission calculation information table.

Keywords: Carbon footprint, Emissions, Energy, Material, Input-output analysis

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