

Kajian simulasi beban thermal dan analisis energi pada rancangan gedung Manufacturing Research Center FT-UI dengan sistem tata udara packaged terminal air conditioner dan fan coil unit menggunakan EnergyPlus = Study Of energy analysis and thermal load Simulation For building design of Manufacturing Research Center FT-UI with packaged terminal air conditioning system and fan coil unit system using EnergyPlus

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Abstrak

Rancangan gedung Manufacturing Research Center FTUI yang dikatakan sebagai gedung hemat energi perlu adanya pembuktian secara sistematis. Pembuktian tersebut salah satunya dengan dilakukan simulasi pemakaian energi menggunakan software EnergyPlus. Tujuan lain dari penelitian ini selain melakukan pengkajian pemakaian energi, juga dilakukan pemilihan upaya-upaya atau metode-metode penghematan pemakaian energi terutama pada sistem mechanical dan electrical yang digunakan pada gedung. Dengan simulasi software ini, akan didapatkan sebuah sistem mechanical dan elektrikal gedung yang paling hemat energi sehingga dapat menambah efisiensi bangunan pada sektor biaya energi.

.....Manufacturing Research Center FTUI building design which is claimed by the designer as a green building has to be proved systematically. One of the method to prove that the building design is a green building is by auditing the energy consumption of the building by using EnergyPlus software simulation. Beside the energy consumption audit of the building, this research also focus on searching the methods specifically for mechanical and electrical building to get better energy efficiency. The result of this research is a mechanical and electrical system of the building which has the best efficiency energy consumption so that the building also has better energy cost efficiency.