Abstract

The present work shows the importance of using thermal insulation for new building walls. To decrease cooling and heating load, so the electric power consumption for air-conditioning equipment drop to more than 50% of that without insulation. The experimental work includes building of two models of (1X1X1)m width, length and height located at (32.5 latitude) kut city, Iraq. The model is set to be each wall faced south, east, north and west direction exactly. The models built from brick. Many type of insulation material were tested & compared with normal brick wall; polyurethane, polystyrene and composite of newspaper waste mixed with cement mortar (NC). The heat gain was calculated for all the above insulations compared with brick model. The results showed that the maximum percent of energy saving was for polyurethane 61.76% and the others as follow: (polystyrene58.82%, NC 31.42%) .

References

1. Alhadithi- Abd Allah (calculating solar radiation on building surfaces )-Report of Research
Reduction of Heat Transfer through Walls in Buildings by using Insulation

Center building- Iraqi scientific research Council 1975.


Index Terms

Computer Science
Power Electronics

Keywords

Thermal insulation, Saving energy by insulation, composite insulation.