

Environmental and economic efficiency considerations for the lightweight building in the industrial field according to the principles of sustainability

Prof. Mohamed Metwaly Morsy

Professor of Design, Metal Furniture & Construction Dept, Faculty of applied arts,
Helwan University

mohamed.mutwali@yahoo.com

Prof. Emad Shafik Abd Elrahman

Professor of Design, Metal Furniture & Construction Dept, Faculty of applied arts,
Helwan University

omdash14@gmail.com

Researcher. Ahmed Saied Gharieb Elghannam

Free Metal Construction Designer

a_elghannam@yahoo.com

Abstract:

the environment and the economy are of the most important Topics of sustainability and have the most important effect on the design overall. The light metal building is targeting alot of functions in the industrial field such as finding a suitable interior environment for the users. according to their specific industrial field. and due to rarity in environmental efficiency studies and economic studies specialized in applying the sustainability in the metal buildings which is specialized in the industrial field, and as the evaluation is a backup operation for the design in taking the decisions of designing and how far these decisions are good. at this point the importance of guessing the environmental efficacy considerations appears and the economical considerations too for the light metal building in the industrial field in applying the sustainability in this kind of buildings, through main axis such as (the first axis the economical and environmental efficiency for the light metal building according to the definition of sustainability, the second axis the pillars of the economicaland environmental efficiency according to the aims of the sustainable design of the light metal building in the industrial field, the third axis the economical and environmental proficiency control systems for the lightweight metal building), and the study ends with that the design of the light metal building in the industrial field is better to be according to models for working including satisfying the functions of the building which is not obstructing achieving the environmental balance, Regulate the environmental effect which is resulting in the operarions of the building taking into account the value of the light metal building to achieve the anviromental and economical efficiency. and the study recommended making amonograph in different fields to creat an Egyptian code related to the sustainability and achieving its aims and principles for the industrial buildings generally and special for light metal buildings. and also recommends supporting the studies which is related to economical and environmental proficiency control systems for light metal building in industrial field which is supporting innovation.

Key words:

(environmental efficiency, economic efficiency, lightweight metal Building, industrial Building, sustainability)