

Alternative cladding technology and its compatibility with environmental sustainability goals

Assist. Prof. Dr. Noha Sayed Mohamed Afify

Assistant Professor and Lecturer at the Department of Decoration, Higher Institute of Applied Arts, Fifth Settlement

nohanew72@yahoo.com

Abstract:

Environmental sustainability is: "The ability to improve the quality of human life while living within the carrying capacity of ecosystems." Sustainable development and environmental sustainability are related to preserving the environment from the causes of pollution, which comes within the environmental sustainability criteria.

Environmental sustainability aims to: preserve natural resources, save energy and water resources, and create environmental conditions for economic development by providing job opportunities, while minimizing damage to the environment.

It is possible to produce industrial materials used in architectural claddings, with good industrial specifications, made from renewable local materials, which work to rationalize the consumption of natural resources. They are alternative cladding products.

Alternative cladding products are based on environmentally available raw materials such as Cement, Gypsum and Plastic. It is used in the manufacture of exterior and interior cladding products that look similar to natural materials such as stone, rocks and wood....

Alternative cladding products are three types: glass fiber reinforced cement (GRC), glass fiber reinforced plastic (GRP), and glass fiber reinforced gypsum (GRG). The implementation of alternative products depends on the mold technology in production, the installation is done by mechanical fixing units on the facades or by fixing with mortar. These products have good industrial specifications such as, toughness & durability and have variable environmental impact.

Compounds as cement & polyester have a harmful environmental impact, so it is preferable to either improve their properties or replace them with other less harmful materials on the environment. With the necessity to follow precautions when using, and to apply environmentally friendly technology, with the possibility of recycling some products, such as the manufactured gypsum.

Other alternative cladding products that have the appearance of natural stones are artificial stone & artificial rocks and stone walls, they are used in wall and floor cladding, with good industrial specifications, and local ingredients.

Alternative cladding tiles have been produced with the appearance of natural materials, suitable both internally and externally, using rubber molding technology, from local ingredients and environmentally friendly, therefore they are "sustainable products."

Keywords:

Alternative cladding products, environmental sustainability, fiberglass, environmental impact, sustainable products.