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MODERN BUILDING MATERIALS

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Анотація
Розглянуто та описано переваги сучасних будівельних матеріалів і їх практичне застосування у будівництві.
Ключові слова: *будівельні матеріали, кам'яна кладка, деревно-пластикові композити.*

Abstract
Consider the benefits of modern building materials and their practical application in construction.
Keywords: *building materials, stone masonry, wood-plastic composite.*

INTRODUCTION

The materials we build with have changed a great deal over the years. They have become stronger, lighter, more durable and cheaper to make; factors which have led to a resurgence in many building-related industries such as the manufacture of kit homes.

RESEARCH RESULTS

Building materials have five stages in their life-cycle: mining / harvesting, manufacture, construction, use and demolition, and the environmental impact of most materials is heaviest in the first two stages [1].

Developing standards for EIFS has been a key activity of ASTM International Committee E06 on Performance of Buildings since the 1990s. Subcommittee E06.58 on Exterior Insulation and Finish Systems published its first EIFS standard, E 2098, Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems, After Exposure to a Sodium Hydroxide Solution, in 2000. Since the meshes component of EIFS are embedded into base coats containing portland cement, they may be weakened by the alkali action. E 2098 helps laboratories comparatively evaluate the alkali resistance of EIFS glass fiber reinforcing meshes.

Recently, ASTM International's Committee C15 on Manufactured Masonry Units formed Subcommittee C15.11 on Adhered Manufactured Stone Masonry Veneer in response to the industry's need for standardized practices and testing. The group is currently working on a specification for this material, a practice for its installation and a test method for determining the drainage efficiency of a wall system with a scratch coat of mortar.

Structural glazing is a technology in which glass is attached to a building using sealant adhesives. Although it first appeared into the 1960s, structural glazing has, in the last 20 years, experienced exponential growth; it is now a familiar sight in high-rises and other buildings in cities all over the world.

Since the early 1990s, wood-plastic composites — made from recycled wood and plastic waste — have been used as economical and environmentally friendly alternatives for decks; components such as railings, cladding, siding, molding and trim, window and door frames; and small structures such as park benches.

Concrete, which has been used for millennia in some form for structures and roadways, is developing in ways that make its use easier, less expensive, safer, more varied and even more environmentally friendly.

Without standardized testing, self-consolidating concrete could not be effectively manufactured or even used in the field. As with all types of concrete, in-situ testing is of paramount importance to ensure the integrity of the structure being built.

The members of ASTM International's technical committees are on the front lines of new technology and bring with them from their experience in government, academia and industry the keys to creating the standards that effectively introduce materials like these to the marketplace [2].

CONCLUSIONS

While the overall trend in modern building materials is towards environmental sustainability, the new innovations also offer new opportunities in design. They are becoming more lightweight, cost-effective, durable, energy-efficient and resistant to extreme weather and termites.

REFERENCES

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