APPLICATION OF NEG ARG FIBRE

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Nippon Electric Glass

NEG ARG Fibre, manufactured by Nippon Electric Glass Co., Ltd., is used throughout the world as a reinforcement for cement composites, including asbestos replacement products.

Glassfibre Reinforced Concrete Roof Slates and Flags in England

Architects, specifiers, builders and clients have always appreciated the beauty and aesthetic appeal of natural quarried slates and flags. Today, however, a worsening problem exists in some geographical areas with short supply and increasing costs making it prohibitively expensive to specify the natural materials once taken so much for granted.

In the United Kingdom a company called Celstone has come up with a solution. Using NEG High Zirconia Alkali Resistant glass fibre, Celstone has combined the technology of glassfibre reinforced concrete with specialized moulding techniques to produce a range of quality slates and flags which offer long term durability and strength.

Each slate or flag is cast in a mould which itself has been made from a piece of natural slate of stone. The number of moulds is such that no two slates are exactly alike.

Celstone offers a range of finishes which are compatible with the natural products. Welsh Grey, Lakeland Green, Blue/Gray and Random Stone are all currently available. The different colours are obtained by using colourfast pigments.

There are several advantages to the use of GRC in the roof slate. Firstly, GRC's high strength enables the slates to be manufactured with a thickness of between approximately 6mm and 8mm (according to the type of slate). This results in the slates being extremely light in weight.

Secondly, the material can be cut easily either using a masonry saw or by scoring and cracking over a straight edge.

Glassfibre reinforced concrete slates and flags offer longterm durability and strength.

The slates are fixed using traditional methods. An additional advantage is that they can be nailed without the need for drilling first (except where pegs are used for the stone flags).
Also, the use of glassfibre reinforced concrete enables the slates and flagstone to comply with the following requirements.

Fire — Non-combustible and compliance with class O
Requirements to BS476 part 4, 5, 6, 7 and 8 with negligible smoke production to ASTM STP 422-67.

Absorption — Water vapour permeability to BS 3177 and water permeability to BS473/550.

Freeze/Thaw — Tests were carried out to BS4624-1981 part 17 and mechanical property measurements to BS4624 part 16 before and after freeze/thaw and all results were better than the standard. In addition, tests were carried out to DIN2748 ASTM C666-73 and after 300 cycles ±20°C there was relatively no change.

The reproduction of the natural appearance of slates and flagstones is a further example of the versatility of glassfibre reinforced concrete.

GRC slates and flags demonstrate beauty and aesthetic appeal.

◀▼Lakeland Green/Welsh Grey
No two slates are ever indentical in colour or texture which transforms the roof from a functional cover into an architectural feature.

◀Random Stone
The Random Stone flags provide all the colour and character of a traditional, weathered roof. There are over 200 different moulds used thus ensuring a truly authentic appearance.

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