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(54) Method for cutting stone or stone-like blocks into large and thin slabs, and their reinforcement.

(57) This invention aims to the production of new products from decorative rocks, that will be free from two serious disadvantages of the natural products, the great specific weight and the low flexural strength, also much improving the economical result of the production, because the rendering of the marble blocks–granite blocks is over the double.

The new products will be large slabs or also thin (5 ÷ 7 mm) tiles (module marble and module granite), that will be covered and reinforced on one face with substances giving them increased strengths, a decreased water absorption and a safe anchorage to the building elements.

More particularly, this invention solves mainly the problem of cutting of the decorative rocks (marbles* and granites**) into very thin slabs (5 ÷ 7 mm). The method of this invention has nothing common with that used to the production of thin tiles, measuring 15 × 30 × 0,7 cm as it refers to the possibility of production of large and thin slabs (eg. 155 × 320 × 0,5 cm).

Furthermore, this invention solves the problem of the reinforcement of slabs with resin glass-fibers or also resin glass-clothes, which, as they are hydrophobe materials, the slabs should be completely free from dampness.

The additional increase of the inflexibility of the slabs was achieved by the use of enlarging materials (eg. polyurethane). The self-anchorage of the slabs is realized by depositing of gravel to the still fresh surface of the resin glass-cloth.

The reinforced slabs produced within the frame of this invention are much more lighter (15–20 kg/m^2), in comparison with the natural slabs 2 cm thick (55 kg/m^2) and they can be much longer without being broken.

Finally it should be noted that each square meter of reinforced slabs is charged totally with the sum of US$ 6.00 (prices of 1986), which sum is covered by the over than the double rendering (from 1m^3 of marble-block or granite-block the theoretical production is 40 m^2 of slabs, 2 cm thick or more than 83,3 m^2 of reinforced slabs 0,50 ÷ 0,7 cm thick).

* marbles are crystalline or granular compact rocks, consisting of minerals with a hardness of 3–4 of the Mosh scale (calcite, dolomite, serpentine), that can be cut, grid and polished, used as decorative and building materials.

** granites are phanerocrystalline compact rocks, consisting of minerals with hardness 6–7 of the Mosh scale (quarz, feldspar, feldspathodis) that can be cut, grid and polished, used as decorative and building materials.

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X Y	FR-A-2 399 309 (G. MAROCCO) * Whole document *	1 2,3,4,5	B 28 D 1/02
X	FR-A-2 405 625 (E. LIVELLARA) * Whole document *	5	
Y	DE-B-2 156 181 (KENGOTT KG) * Whole document *	4,5	
Y	US-A-1 945 490 (A.D. OLDHAM) * Claims; figures *	2	
Y	US-A-4 338 353 (B. MELCHIOR) * Abstract; column 1, lines 9-62; claim 4 *	3	
A	US-A-4 063 982 (P.T. BOURKE) * Column 1, line 7 - column 4, line 68; figures; claims *	1-5	
A	US-A-3 950 202 (W.E. HODGES) * Whole document *	1-5	TECHNICAL FIELDS SEARCHED (Int. Cl.4) B 28 D E 04 C E 04 F F 26 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	27-02-1989	VOUTSADOPOULOS C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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