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PHYSICAL AND MECHANICAL PROPERTIES OF MARBLE QUARRY WASTE AND WHITE CEMENT

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A B S T R A C T

Production of bardiary products based on marble quarry waste and white cement. To speed up the production of goods using marble waste, to save the amount of expensive raw materials, and to make a proposal to extend the life of the product. Use of marble processing waste as a filler and maximum saving of filler consumption. Long life of the product is based on its cold tolerance and structure formation mechanism. Key words: Marble waste, white cement, results, marble sand, MgO.

K E Y W O R D S

INTRODUCTION

Rational, complex and economic use of natural fillers is the most important condition for the development of the economy of any country and is directly related to the construction materials industry. Marble production waste: Marble sand is a waste product formed during the crushing of natural marble stone in marble production. It is a collection of bright white or gray-blue particles from 0.2 to 5 mm. Marble sand retains almost all the properties of marble stone**.**

The chemical composition of marble (in percent, %)

Name of deposit **Aksakata**			
SiO_2	1,53-9,44	MgO	1,05-2,42
Al_2O_3	0,03-0,89	K_2O	0,1-0,13
TiO_2	0,02-0,03	Na_2O	0,1
Fe_2O_3+FeO	0,18-0,39	P_2O_5	0,04
CaO	48,6-54,55	CO_2	39,57-42,9
SO_3			0,1

Physico-mechanical indicators of marble

Name of deposit	Aksakata
Bulk density г/см^3	2,62
Tensile strength (МПа) кгс/см^3	27,3-79,6 (273-796)
Abrasion г/см^3	0,5
Water absorption %	0,14-4,02
Density г/см^3	2,56-2,72
Porosity %	0,28-0,65
softening factor	0,7
Frost resistance (colvocycles, coefficient of frost resistance)	50

Results of calculation of specific and complete residues of marble sand.

Size of the holes of the control screens	5	2,5	1,25	0,63	0,315	0,14	Pallet
Private balances, %	8,3	14,5	24,1	32,5	12,4	7,9	0,3
complete remnants, %	8,3	22,8	46,9	79,4	91,8	99,7	100

Oq Portlend tsementining mustahkamligi quyidagi talablarga javob beradi:

Марка, класс прочности портланд-цемента	Прочность при сжатии в МРа, в возрасте, сутки			
	2	7	28	
	не менее			не более
ПЦБ I 1-500/42,5	14,0		49,0	68,0

During the study, White Portland cement met all the requirements of GOST.

Due to the good fineness of white Portland cement, the residue on the sieve does not exceed 0.5%.

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