FEATURES OF SOLID CLAY ROCKS OF THE EASTERN DONBASS AS RAW MATERIAL FOR PRODUCING WALL CERAMICS

In this article currently central tasks of successful industrial development of wall ceramics are viewed. The main problems connected with the use of classic argillous raw material for wall ceramics — clayey soils are pointed out. Generally these problems are connected with the fact that deposits of clayey soils are situated on arable areas, they have small areas of occurrence, their consistence and qualities are very changeable because of genesis. Taking this into consideration, it was shown that argillous raw material including claystone-like clays, argilliths, clay slates, aleurolites and in-between types of solids are of the utmost interest. Five kinds of deposits of this raw material are pointed out and characterized. These are traditional deposits of clay slates, which were proved as ceramic raw materials; anthropogenic deposits of pit heap of the Eastern Donbass; cocurrent raw materials and ettle while developing limestone and sandstone deposits; ettes of screening of argillith and clay slates appearing while their preparing for expanded clay production after the dry manner; tails forming while coal cleaning and which are generally made of argillous raw material.

The existing difficulties connected with the terminology of this range of raw materials are pointed out in this article, that is why characteristic of each type with regard to features of the mineral composition, structural features, technological properties are offered. It is noted that in regard to mineralogy distinct diagnostic features providing difference between solids of the range: claystone-like clay - argillith - clay slate can be hydrous micas and micas.

The results of the works in this regard allowed offering a method of testing lithoidal raw material for producing wall ceramics materials. It results that in the technology roadmap the key distinction between claystone-like clay, argillith and clay slates is that while comminuting claystone-like clays the strength of samples burning in the same conditions is initially relatively high and increases insignificantly, for argilliths the reduction range is a shaping factor for attainment of necessary strength, for clay slates the reduction range is also a shaping factor, however, strength characteristics of the samples are much lower. High perspective of this raw material usage for wide assortment of wall ceramics products and tile is proved.

Key words: claystone-like clay, argillith, clay slate, aleurolite, wall ceramics, mineral, qualities, strength, plastic property.

References

About the authors: Kotlyar Vladimir Dmitrievich — Doctor of Technical Sciences, Associate Professor, Chair, Department of Construction Materials, Rostov State University of Civil Engineering (RSUCE), 162 Sotsialisticheskaya str., Rostov-on-Don, 344022, Russian Federation; +7 (863) 20-19-057; diatomit_kvd@mail.ru;

Kozlov Aleksandr Vladimirovich — Candidate of Technical Sciences, Associate Professor, Department of Construction Materials, Rostov State University of Civil Engineering (RSUCE), 162 Sotsialisticheskaya str., Rostov-on-Don, 344022, Russian Federation; +7 (863) 20-19-057; diatomit_kvd@mail.ru;

Kotlyar Anton Vladimirovich — postgraduate student, Department of Construction Materials, Rostov State University of Civil Engineering (RSUCE), 162 Sotsialisticheskaya str., Rostov-on-Don, 344022, Russian Federation; +7 (863) 20-19-057; diatomit_kvd@mail.ru;

Terekhina Yuliya Viktorovna — Assistant Lecturer, Department of Construction Materials, Rostov State University of Civil Engineering (RSUCE), 162 Sotsialisticheskaya str., Rostov-on-Don, 344022, Russian Federation; +7 (863) 20-19-057; diatomit_kvd@mail.ru.