

ISSN: 2249-7137 Vol. 11, Issue 9, September 2021 Impact Factor: SJIF 2021 = 7.492



ACADEMICIA An International Multidisciplinary Research Journal



(Double Blind Refereed & Peer Reviewed Journal)

DOI: 10.5958/2249-7137.2021.01924.8

IGNITED ROCKS - ENERGY-SAVING RAW MATERIALS FOR PRODUCTION OF PORTLANDCEMENT CLINKER

Mironyuk Nina Anatoleyevna*; Maxsudova Nozimaxon Djaparxanovna**; Atabayev Farrux Baxtiyorovich***; Abdullayeva Nigoram Maxmudovna****

> ^{1,4}Academy of Sciences, Institute of General and Organic Chemistry, STROM Research Laboratory and Testing Center, Tashkent UZBEKISTAN

ABSTRACT

The article discusses the possibility of using and the need to introduce local igneous rocks in order to reduce heat consumption in the production of Portland cement clinker. A list of large surface deposits of igneous rocks with explored and undiluted reserves of raw materials on the territory of Uzbekistan is presented. Their chemical and mineralogical composition and melting temperature range have been determined. The compositions of raw mixtures and the activity of clinkers when using igneous rocks as an aluminosilicate additive and flux as a mineralizer are indicated. The benefits and prospects of using igneous rocks in clinker production are summarized.

KEYWORDS: Igneous Rocks, Aluminosilicate Raw Materials, Floating Mineralizers, Melting Temperature Range, Raw Mix, Clinker

REFERENCES

- **1.** Rubin V.L., AkhmedzhanovKh.I. It is time to actively tackle energy problems. Cement and its application. 2005. No. 5. 35 p.
- 2. Pashchenko K.A. The theory of cement. Kiev. : Budivelnik. 1991 .-- 108 p.
- **3.** Sanjasuren R., ErdenabatTs., Rumyantsev P.F. et al. Synthesis of Portland cement clinker using basaltoid rock // J. Ulan-Ude. 2010.-p. 1-4.

ISSN: 2249-7137 Vol. 11, Issue 9, September 2021 Impact Factor: SJIF 2021 = 7.492

ACADEMICIA

- **4.** Zhanikulov N.N. Creation of energy- and resource-saving technologies of Portland cements and wall ceramics using coal mining waste and technogenic raw materials // Dissertation for the degree of Doctor of Philosophy (PhD). Republic of Kazakhstan, Shymkent, 2020.144 p.
- 5. Taimasov, B.T. Complex use of natural and technogenic raw materials in the production of low-energy-consuming cements: monograph / B.T. Taimasov, T.M. Khudyakova, N.N. Zhanikulov. Shymkent: SKSU them. M. Auezova, 2017 .-- 205 p.
- **6.** Gribenyuk VM, KoshevoyYu.N. The use of rocks in the production of building materials. Tutorial. Ekaterinburg. Publishing house Ural. un-that. 2017 .-- 100 p.
- 7. MakhmudovaV.Sh., Iskandarova M.I. Low-temperature fired cements from basalt rocks of Uzbekistan // Tez. report Int. conf. on chemical technology HT 07 dedicated to the 100th anniversary of the birth of Acad. N.M. Zhavoronkova. -M., 2007.T.1. S. 209-212.
- 8. Iskandarova M.I., MakhmudovaV.Sh. Low-temperature fired cements from basalt rocks of Uzbekistan // Int. conf. "Chemical technology", dedicated. to the 100th anniversary of Academician Zhavoronky. Moscow. 2007. Volume 1. S. 209-212.
- **9.** MakhmudovaV.Sh. Development of technology for obtaining low-temperature cements using basalt rocks of Uzbekistan // Avt. diss. Cand. tech. sciences. -Tashkent. 2008 .-- 16 p.
- Pulatov ZP, Butaev E.M. Industrial development of cement production technology using an unconventional component - igneous volcanic rocks. // Cement and its application. 2011. No. 3. - S. 134-136.
- 11. OrazimbetovaG.Zh., Iskandarova M.I. Synthesis and research of clinkers with a high silica modulus based on raw materials from new deposits of Karakalpakstan. // Uzbek Chemical Journal, 2018, -№1, -C.3-9.
- 12. Orazimbetova G.J., Iskandarova M.I., Mironyuk N.A., KurbanovaA.Dj. Investigation of reactivity and synthesis of clinkers from raw materials with the use of basalt rocks. // European Science Review. - Austria, Vienna, September October, 2018. - No. 9-10. - P. 51-55.



ISSN: 2249-7137 Vol. 11, Issue 9, September 2021 Impact Factor: SJIF 2021 = 7.492