## Limestone waste used as cement replacement in ordinary concrete

Bogdan I. Neacsiu\*

\* Student of third year of **Faculty of Mechatronics and Integrated Armament Systems**, Military Tehnical Academy, Bucharest.

\* Author to whom correspondence should be addressed; E-Mail: bogdan.neacsiu@yahoo.com

Academic year: 2015-2016.

1

## ACKNOWLEDGEMENTS

The author appreciate the support received from the Basque Regional Government through IT781-13 and also are thankful to the Precast Company Alberdi S.A., for providing the materials used throughout the work.

The investigation was made with the support of PhD student Maggi Isabel Madrid Guerrero and Associate Professor Jesús Cuadrado Rojo.

## REFERENCES

[1] Sakai K, Noguchi T. The sustainable use of concrete. CRC Press – Taylor & Francis Group; 2012. ISBN 978-0415667203.

[2] Mahasenan, Natesan; Steve Smith; Kenneth Humphreys; Y. Kaya (2003). "The Cement Industry and Global Climate Change: Current and Potential Future Cement Industry CO<sub>2</sub>Emissions". Greenhouse Gas Control Technologies – 6th International Conference. Oxford: Pergamon. pp. 995–1000. ISBN 978-0-08-044276-1.

[3] http://www.researchgate.net/post/What\_is\_green\_concrete.

[4] Bonavetti V, Donza H, Menéndez G, Cabrera O, Irassar EF. Limestone filler cement in low W/C concrete: a rational use of energy. Cem Concr Res 2003;33(6):865–71.

[5] Poppe AM, De Schutter G. Cement hydration in the presence of high filler contents. Cem Concr Res 2005;35(12):2290–9.

[6] I of. Soroka, N. Stern, The effect fillers on strength of cement mortars, Cem. Concr. Res. 7 (4) (1977),pages:449–456.

[7] L. Opoczky, Progress of the particle size distribution during the intergrinding of a clinker–limestone mixture, Zem.–Kalk–Gips 45 (12) (1992),pages:648–651.

[8] Dr. Abdul Hakeem Hamed Ahmed, Rana Burhan Abdurrahman, Zena Adel Mohammed. "Influence of Limestone Powder as Partial Replacement of Cement on Concrete and the Effect of High Temperature on It";(2009),pages:24-34.

[9] Bentz, Dale P., Ahmad Ardani, Tim Barrett, Scott Z. Jones, Didier Lootens, Max A. Peltz, Taijiro Sato, Paul E. Stutzman, Jussara Tanesi, and W. Jason Weiss. 2015. "Multi-Scale Investigation of the Performance of Limestone in Concrete." Construction and Building Materials. Vol. 75. Pp:1-10. Elsevier Ltd: 1–10. Doi:10.1016/j.conbuildmat.2014.10.042.

[10] Li,Leo G.,and Albert K.H.Kwan.2015.Adding Limestone Fines as Cimentitious Paste Replacement to Improve Tensile Strength,Stiffness and Durability of Concrete.Cement and Concrete Composites.Vol. 60. Pp:17-24.Elsevier Ltd. Doi:10.1016/j.cemconcomp.2015.02.006

[11] Chen, J.J., A.K.H. Kwan, and Y. Jiang. 2014. Adding Limestone Fines as Cement Paste Replacement to Reduce Water Permeability and Sorptivity of Concrete. Construction and Building Materials. Vol. 56. Pp:87-93. Elsevier Ltd. Doi:10.1016/j.conbuildmat.2014.01.066.