

Utilization of Local Materials in Green Concrete Technology

Ridho Bayuaji¹

Sustainable development is a concept in green building, which involves ecological, social and economic objectives. It requires to sustain the integrity of resources exploitation, the orientation of technological development and the direction of investments. Concrete is most used construction material worldwide. However, the concrete also brings a great environmental cost. The billions of tons of natural materials mined and processed every year and huge enormous amounts of energy required to produce the cement as well as 7-8% of CO₂ released into the atmosphere in the cement processing.

This paper discusses the various efforts to improve the concrete environmental friendliness or as a green building material. The most potential successful effort in this matter is utilize local substitutes for cement, especially those that are byproducts of industrial processes, like fly ash, ground granulated blast furnace slag and silica fume.

¹Ridho Bayuaji is with Departement of Civil Engineering, Faculty of Civil Engineering and Planning, Institut Teknologi Sepuluh Nopember (ITS) Surabaya Surabaya, Indonesia 60111. Email: bayuaji@ce.its.ac.id

