Energy Savings

& LIFE CYCLE IMPACTS OF FLY ASH USE

Equivalent Energy Savings & Life Cycle Impacts of Using One Ton of Fly Ash in Concrete:

Metric	Amount
Energy Savings in Dollars	$129.10
Water Savings	376.3 liters (99.4 gallons)
Total CO_2-Equivalent Greenhouse Gases Avoided (average)	718,000 grams (approximately 0.80 tons)
Passenger Cars Not Driven for a Year	0.2
Gasoline Consumption Avoided	310 liters (82 gallons)
Oil Consumption Avoided	1.7 barrels (53.5 gallons)

In June 2008, the US Environmental Protection Agency, in conjunction with the US Department of Transportation and the US Department of Energy, presented a report to Congress entitled "Study on Increasing the Usage of Recovered Mineral Components in Federally Funded Projects Involving Procurement of Cement or Concrete to Address the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users"[1]. According to the study's Executive Summary, "Recovered mineral component (RMC) use yields positive environmental benefits through lower resource consumption. To overcome procurement data limitations, for ground granulated blast-furnace slag (GGBFS), coal combustion fly ash (coal fly ash), and silica fume, the report derives estimates of their use in Federal projects by roughly apportioning total volumes to Federal and non-Federal projects (based upon the estimated proportion of total cement demand related to federally-funded projects). For the years 2004 and 2005, our life cycle analysis indicates that the use of GGBFS, coal fly ash, and silica fume in Federal concrete projects alone resulted in significant reductions in greenhouse gas (GHG) emissions, criteria air pollutants, and energy and water use. For these two years combined, the analysis indicates reduced energy use of 31.5 billion mega joules, avoided CO_2 equivalent air emissions of 3.8 million metric tons, and water savings of 2.1 billion liters. The report further illustrates how these benefits may accrue over a longer time period (through 2015) given alternative use scenarios."

1 June 3, 2008, EPA Report to Congress (EPA530-R-08-007) Study on Increasing the Usage of Recovered Mineral Components in Federally Funded Projects Involving Procurement of Cement or Concrete to Address the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P1003EUM.TXT

For more information or answers to questions about the use of fly ash in specific applications, contact your nearest Boral Resources Technical Sales Representative or call 1-770-684-0102

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