

Abstract

Glass is a clear, transparent and solid material derived from the melting of several basic components and then the cooling process to form a solid phase. Data from the National Waste Management Information System in Banyumas, glass waste contributes 5% of the total waste generated in Central Java, which is 535.23 tons per day. Glass can be used as a substitute for fine aggregate, glass waste can be used as a mixture of bricks. The object of this research is the process of making red bricks with a mixture of glass waste and particle testing. The subjects in this study were laminated and tempered glass waste in the Banyumas district. The filler materials needed in this study were clay and glass powder. The 20% mixture gets the highest compressive strength value. Whereas in the water absorption test the data obtained, bricks with a glass mixture of 30% and 60% were in accordance with the requirements, namely 20 gr/dm²/min. From the test results it can be concluded that glass powder can increase the resistance of bricks to existing pressure, especially in a mixture of 20% to get the highest compressive strength value. Whereas in the water absorption test the data obtained, bricks with a mixture of 30% and 60% glass were in accordance with the requirements, namely 20 gr/dm²/min, while bricks with a mixture of 20%, 40% and 50% did not meet the requirements because 20 gr/dm²/min.

Keywords: *Glass, Laminated, Tempered, Waste, Bricks*