Durabilitas campuran beton aspal dengan slag nikel soroako sebagai agregat kasar

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Abstrak

Nickel slag which is a waste product of nickel mining in Soroako, Kabupaten Luwu Utara, and Province South Sulawesi deposited in allarge amount and is not used optimally. The use of Nickel slag for road construction by mining authority just as base materials. For that reason, this study is aimed to evaluate technically the use of Soraoako?s Nickel slag as coarse aggregate in wearing course asphaltic mixtures focused to evaluate asphaltic durability. The mixture used in this study is a No 11 of SNI gradation type. The nickel slag content is combined with coarse aggregate in variation of 0%, 25%, 50%, 75% and 100%. The optimum asphalt content is determined by varied asphalt content in range of 4.5% to 6.5% by 0, 5% increment. The mixture durability test is conducted according to standard Marshall immersion (24 hours immersed at temperature of 600 C) andmodified Marshall Immersion (immersed at temperature of600 C for 4, 7 and 14 days). Performance analysis of the mixture is expressed by Retained Strength Index (1KS), the First Durability Index (IDP) and the Second Durability Index (IDK). As the result, it was known that Nickel slag Streak can be used finely either combined by conventional coarse aggregate or as the coarse aggregate in asphaltic mixture. The mixture that content Nickel slag Soroako is more durable against water infiltration compared the mixture that content conventional course aggregate.