

Making Lightweight Concrete with Meerschaum

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Abstract : Meerschaum, which is found in the earth's crust, is a white and clay like hydrous magnesium silicate. It has a wide area of use from production of carious ornaments to chemical industry. It has a white and irregular crystalline structure. It is wet and moist when extracted, which is a good form for processing. At drying phase, it gradually loses its moisture and becomes lighter and harder. In through-dry state, meerschaum is durable and floats on the water. After processing of meerschaum, A ratio between %15 to %40 of the amount becomes waste. This waste is usually kept in a dry-atmosphere which is isolated from environmental effects so that to be used right away when needed. In this study, use of meerschaum waste as aggregate in lightweight concrete is studied. Stress-strain diagrams for concrete with meerschaum aggregate are obtained. Then, stress-strain diagrams of lightweight concrete and concrete with regular aggregate are compared. It is concluded that meerschaum waste can be used in production of lightweight concrete.

Keywords : lightweight concrete, meerschaum, aggregate, sepiolite, stress-strain diagram

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