



Submittal #010:

Applications of Ultra-Lightweight Foamed Glass Aggregate for Resilient Bridge and Retaining Wall Design

Abstract:

Ultra-lightweight Foamed Glass Aggregate (UL-FGA) is an innovative lightweight fill alternative made from recycled glass that is frequently used on resiliency projects. Using a low unit weight, highly frictional, and free-draining backfill for bridge abutments or retaining walls reduces lateral earth pressures up to 90% compared to using normal weight fill. The reduction in lateral load from the UL-FGA backfill can optimize the design of these structural elements, and ultimately, less concrete and steel reinforcement will be required. Additionally, research has been completed to qualify the incorporation of crushed, smaller-sized UL-FGA into composites like reinforced concrete in order to decrease density or increase insulation value. This presentation will cover the application areas for UL-FGA as a lightweight fill around bridges and retaining walls as well as the potential application areas for UL-FGA lightweight concrete on infrastructure projects.

Speaker:

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