RE-USE OF BOTTOM ASH IN ROAD CONSTRUCTION: ENVIRONMENTAL AND MECHANICAL CRITICAL POINTS

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Incineration of municipal solid waste

Bottom ash (Si, Fe, Ca, Al, Na, K oxides)

Potential road construction material
Municipal Solid Waste Incinerator Bottom Ash in Asphalt concretes for base layers

✓ Mechanical & Physical suitability:

The reuse of the bottom ash as substitute of the coarse aggregate is feasible. (Integration with fine natural aggregate in order to avoid excessive bitumen absorption).

✓ Environmental suitability:

Critical, depending on the interpretation of the reference standard.
Municipal Solid Waste Incinerator Bottom Ash in Asphalt concretes for base layers

UNI EN 12457-2:2004

Leaching – Compliance test for leaching of granular waste materials and sludges

One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 4 mm (without or with size reduction)
Municipal Solid Waste Incinerator Bottom Ash in Asphalt concretes for base layers

**OPEN QUESTION:**

- The leaching test should be done on compacted laboratory samples, or this verification should be conducted on grains of asphalt concretes?
Municipal Solid Waste Incinerator Bottom Ash in Cement bound mixtures for road foundations

✓ Mechanical & Physical suitability:

The reuse of the bottom ash as integral substitute of the natural aggregate appears to be feasible.

Development of small bubbles.

✓ Environmental suitability:

Still under investigation.

Utilisation Of Bottom Ash In Road Construction: Environmental And Mechanical Critical Points

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OPEN QUESTION:

- How is it possible to obtain an accelerated stabilization of the bottom ash?