

## ASSESSING THE ROLE OF MIX PROPERTIES ON THE CHEMICAL RESISTANCE OF BITUMINOUS FRICTION COURSES

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### *ABSTRACT*

Every day, thousands of shipments containing hazardous materials, hazmats, are safely transported on the road, in the air and on the sea. In particular, about 15-20% of road freight transports in Europe deal with hazmats. The transport of hazardous materials can be very important for the continuance of strong and effective national and international economies. A timely and cost-effective disaster management is so required; it is a matter of safety and security and requires a synergetic, multi-phase, multi-event approach. As a consequence, in this paper, the two main objectives have been the design and construction of a device to test Hot Mix Asphalt chemical resistance and the assessment of relationships in order to estimate how much a transported fluid can be dangerous for a given asphalt concrete depending on mix characteristics (asphalt content, nominal maximum aggregate size, effective porosity, etc.). Traditional and new design parameters have been compared in order to detect strategies for a multipurpose design of bituminous friction courses. This can be useful in deciding the suitable typology of Hot Mix Asphalt to use in areas when conditions of high vulnerability or/and high probability do occur.

**KEY WORDS:** Hazmat, chemical resistance, pavement, porosity, asphalt content.