

ACOUSTICS2008/1818
Evaluation of the ASTM Standard Reference Test Tire for
purposes of standardized measurement of on-bound tire/pavement
noise

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Currently in the US, efforts are underway to develop standard methods for on-board sound intensity (OBSI) measurement of tire/pavement noise. Up until recently, the default standard tire was the Goodyear Aquatred 3 tire originally selected due to its apparent similarity to Tire A specified in the ISO CPX procedure. Because of longer-term availability, the ASTM Standard Reference Test Tire (SRTT) is the primary candidate for replacement of the Aquatred 3. Issues of concern for the SRTT include tire-to-tire variation, the relation of the SRTT to previously used reference tire, and the "break-in" period required for stable test tires. To address tire-to-tire variability, six SRTT's were tested on variety of asphalt (AC) and Portland cement concrete (PCC) surfaces. These included four new tires and two that had been in use for some time. Two of the new tires were retested with increasing use to examine any break-in period effect. For comparison, the older Aquatred 3 was also tested on these same surfaces using both OBSI and controlled pass-by measurements. The results of these measurements are presented along with their implication to for reference tire selection.