

## **Using Crumb of Tyres in Hot Asphalt Mixture as Part of Aggregate**

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### **Abstract**

This study have used crumb of tyres in asphalt mixture as apart of aggregate. Three sizes of grade of crumb tyres were used in asphalt mixture (No. 4 (4.75 mm), No. 8 (2.36) mm and No. 50 (300 $\mu$ mm)). Three percentages of asphalt cement (4, 5 and 6) by weight with three percentages of crumb tyres (2, 4 and 8)% by weight were used with aggregates for preparing asphalt mixture specimens. Asphalt mixture specimens were prepared according to Marshall methods ASTM (D-1559). Thirty six specimens were prepared for evaluating Marshall properties (Marshall stability and flow, air voids percentage, bulk density, maximum bulk density, and Marshall Stiffness). Indirect Tensile Strength test (ITS) ASTM (D-1075) at 25oC has been used for evaluating resistance of asphalt mixture for cracking. For this purpose twenty four specimens were prepared for evaluating cracking resistance of asphalt mixture contain crumb tyres as part of aggregates. The study showed that the crumb of tyres has more effects on the performance of asphalt mixture by increasing the Marshall stability, flow, air voids, and decreasing bulk density and indirect tensile strength.