

Indian mix specification has evolved from volumetric consideration only and therefore requires a review from their fatigue performance as well. For this purpose a number of non-standard gradations were developed and studied for their fatigue and crack propagation performances. Tests were conducted at-4-point constant strain mode on 240 rectangular beam samples (size 380 mm x 80 mm x 80 mm) made up of bituminous mix with a pre-fabricated crack of size 2 mm x 4 mm at their bottom. Sinusoidal loading was applied until the full failure of sample i.e. when the crack reached to the top repetitions and validated with theoretical models. Using fatigue performance and stiffness value information for various mixes pavement design was carried out for each of them. Finally a particular non-standard gradation is recommended which is expected to perform better than the conventional BC mix.