

In this study, utility of polyparaphenylene terephthalamide (PT) was investigated in hot mix asphalt as a

fiber. For this aim samples were prepared with limestone aggregate at different proportions. Marshall

Stability test was applied and optimum bitumen content was determined. In the second stage of the

study, new samples were prepared using different polyparaphenylene terephthalamide fiber (PTF) rates

of 0.25%, 0.50%, 0.75%, 1.00%, 1.50%, 2.00% based on optimum bitumen content. When examining test

results, samples which prepared using 0.25% PTF rate gave highest Marshall Stability result. At the final

stage of the study, different bitumen contents (4.15%, 4.65% and 5.15%) were conducted for the best fiber

rate (0.25%) and close to this result (0.50% and 0.75%). Thus, the effect of bitumen content on determined

fiber rate at the second stage of the study was investigated. Also Indirect Tensile (IDT) Strength Test was

performed on hot mix asphalt (HMA) samples preparing at 0.25%, 0.50% and 0.75% fiber rates and moisture

sensitivities were determined. All results showed that, the best fiber rate was 0.25% and determined

optimum bitumen content remain constant with the fiber additive for the reference samples. Besides,

some sample groups which prepared using different PTF rates proved the specification limits and it

was said that; PTF can be used in asphalt concrete as a fiber additive.