

Abstract

The present application relates to a rubber composition, preparation method and vulcanized rubber thereof. The rubber composition comprises uncrosslinked rubber and rubber particles having crosslinked structure dispersed therein, wherein the rubber particles having crosslinked structure are synthetic rubber particles and/or natural rubber particles, e.g. one or more selected from the group consisting of natural rubber particles, styrene-butadiene rubber particles, carboxylated styrene-butadiene rubber particles, nitrile butadiene rubber particles, carboxylated nitrile butadiene rubber particles, chloroprene rubber particles, polybutadiene rubber particles, silicone rubber particles or acrylic rubber particles, styrene-butadiene-vinylpyridine rubber particles and the like, with an average particle size of 20 to 500 nm and a gel content of 60% by weight or higher, and the uncrosslinked rubber is styrene-butadiene rubber, and wherein the weight ratio of the rubber particles having crosslinked structure to the uncrosslinked rubber is 1:99-20:80. The rubber composition is obtained by mixing the components comprising uncrosslinked rubber latex and latex of rubber particles having crosslinked structure and then coagulating them. The latex of rubber particles having crosslinked structure is a rubber latex after radiation crosslinking. The vulcanized rubber of the rubber composition can be improved simultaneously in rolling resistance, wet skid resistance and wear resistance and thus can be used as high performance vehicle tread rubber. (Fig.1)