

Abstract

The present application relates to a modified rubber masterbatch and preparation method thereof, rubber composition prepared therewith and vulcanized rubber and preparation method thereof. The modified rubber component 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, have an average particle size of 20-500 nm and a gel content of 60% by weight or higher, and wherein the uncrosslinked rubber is styrene-butadiene rubber. The weight ratio of the rubber particles having crosslinked structure to the uncrosslinked rubber is greater than 20:80 and less than or equal to 80:20. The rubber composition comprises a blend of modified rubber component and base rubber, in which the modified rubber masterbatch is present in an amount of 1 to 70 parts by weight, relative to per 100 parts by weight of the base rubber. The vulcanized rubber of the rubber composition has not only low rolling resistance and excellent wet skid resistance, but also excellent wear resistance, and thus can be used for producing high performance tread rubber.