

ABSTRACT

BRANCHED CONJUGATED DIENE-AROMATIC VINYL COPOLYMER AND PRODUCTION METHOD FOR THE SAME

To provide a branched conjugated diene-aromatic vinyl copolymer, which has satisfactory processability when it is processed into a vulcanizate, provides a vulcanizate having an excellent balance between low hysteresis loss property and wet skid resistivance and satisfying practically sufficient abrasion resistance and fracture characteristics, and further has excellent productivity, and to provide a production method thereof. A branched conjugated diene-aromatic vinyl copolymer (C) being a random copolymer wherein bound aromatic vinyl content in the conjugated diene-aromatic vinyl copolymer (C) is from 30 to 38 % by mass; a vinyl linkage content in total linkage units of a conjugated diene is from 30 to 43 mol%; a polystyrene-equivalent weight average molecular weight (M_w -C) of the conjugated diene-aromatic vinyl copolymer (C) obtained by gel permeation chromatography (GPC) is from 700,000 to 1,000,000; a ratio $((M_w\text{-C})/(M_n\text{-C}))$ of a weight average molecular weight (M_w -C) to a number average molecular weight (M_n -C) is from 1.7 to 3.0, and a Mooney viscosity (ML -C) and a Mooney stress relaxation rate (MSR -C) measured at 120°C satisfy the relationship represented by the following Expression (1):

$$\{214-(ML\text{-}C)\}/300 \leq (MSR\text{-}C) \leq \{260-(ML\text{-}C)\}/300 \dots (1)$$

where $100 \leq (ML\text{-}C) \leq 140$.