

ABSTRACT

The present invention is intended to provide an ethylene copolymer having excellent mechanical properties and moldability, a process for preparing the copolymer, a
5 resin composition containing the copolymer and uses thereof. The ethylene copolymer has the following properties: the copolymer comprises 40 to 99 % by mol of ethylene constituent units and 1 to 60 % by mol of C₃₋₂₀ α -olefin constituent units; the ratio (M_z/M_w) of a Z
10 average molecular weight (M_z) to a weight-average molecular weight (M_w), each molecular weight being measured by GPC, is in the range of 10 to 30, and said ratio (M_z/M_w) and ratio (M_w/M_n) of a weight-average
molecular weight (M_w) to a number-average molecular
15 weight (M_n), each molecular weight being measured by GPC, satisfy the relation (M_z/M_w) > (M_w/M_n); the intrinsic viscosity is in the range of 0.5 to 4 dl/g; the ratio ($\eta^{*0.01}/\eta^{*8}$) of a melt viscosity ($\eta^{*0.01}$) at a shear rate of 0.01 rad/sec, as measured at 190°C, to a melt
20 viscosity (η^{*8}) at a shear rate of 8 rad/sec, as measured at 190°C, and the intrinsic viscosity (η) satisfy the relation ($\eta^{*0.01}/\eta^{*8}$) $\geq$ 0.843 $\times$ (η)+1.0; and the absolute value of an activation energy (E_a) of a shift factor of melt viscoelasticity is not more than 4 $\times$ 10⁴ J/mol $\cdot$ K.