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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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(54) Title: IMPROVED POLYMERIZATION PROCESSES USING METALLOCENE CATALYSTS, THEIR POLYMER PRODUCTS AND END USES

(57) Abstract: A process for the production of an ethylene alpha-olefin copolymer is disclosed, the process including polymerizing ethylene and at least one alpha- olefin by contacting the ethylene and the at least one alpha-olefin with a metallocene catalyst in at least one gas phase reactor at a reactor pressure of from 0.7 to 70 bar and a reactor temperature of from 20°C to 150°C to form an ethylene alpha-olefin copolymer. The resulting ethylene alpha-olefin copolymer may have a density D of 0.927 g/cc or less, a melt index (I_2) of from 0.1 to 100 dg/min, a MWD of from 1.5 to 5.0. The resulting ethylene alpha-olefin copolymer may also have a peak melting temperature Tmax second meit satisfying the following relation: $T_{max\ second\ melt} > D*398 - 245$.

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