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(54) Title: HIGH-DENSITY POLYETHYLENE COMPOSITIONS AND METHOD OF MAKING THE SAME

(57) Abstract: The instant invention is a high-density polyethylene composition, method of making the same, and articles made therefrom. The high-density polyethylene composition of the instant invention includes an ethylene alpha-olefin copolymer having a density in the range of 0.935 to 0.952 g/cm^3, a melt index (I_2) in the range of 30 to 75 g/10 minutes, an I_{21} / I_2 ratio in the range of 13-35, a M_w/M_n ratio in the range of 3.5-8. The high-density polyethylene composition has a brittleness temperature of at least less than -20 °C. The process for producing a high-density polyethylene composition according to instant invention includes the following steps: (1) introducing ethylene, and one or more alpha-olefin comonomers into a reactor; (2) (co)polymerizing the ethylene in the presence of the one or more alpha-olefin comonomers in the reactor; and (3) thereby producing the high-density polyethylene composition, wherein the high- density polyethylene composition having a density in the range of 0.935 to 0.952 g/cm^3, a melt index (I2) in the range of 30 to 75 g/10 minutes, an I_{21} / I_2 ratio in the range of 13-35, a M_w/M_n ratio in the range of 3.5-8, and a brittleness temperature of at least less than -20 "C. Articles according to the instant invention include the inventive high-density polyethylene composition.