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(54) Title: PROCESSES FOR PRODUCING HIGH PROPYLENE CONTENT PEDM HAVING LOW GLASS TRANSITION TEMPERATURES USING TETRAHYDROINDACENYL CATALYST SYSTEMS

(57) Abstract: The present disclosure provides methods for producing an olefin polymer by contacting a C₃-C₄₀ olefin, ethylene and a diene with a catalyst system including an activator and a metallocene catalyst compound comprising a substituted or unsubstituted indacenyl group and obtaining a C₃-C₄₀ olefin-ethylene-diene terpolymer typically comprising from 30 to 55 mol% ethylene, from 69.09 to 45 mol% C₃ to C₄₀ comonomer, and from 0.01 to 7 mol% diene wherein the T_g of the terpolymer is -28 °C or less. Preferably, a propylene-ethylene-ethylidene norbornene is obtained.



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