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(54) Title: EXTRUSION PROCESS FOR GRAFTING RUBBERS

(57) Abstract: The invention relates to a process for producing a grafted rubber comprising: a) providing an ethylene propylene rubber having a weight average molecular weight (Mw) of at least 80 kg/mol in a continuous extrusion reactor by feeding the rubber in a slab/melt dosing unit and transporting the rubber to the continuous extrusion reactor by a melt pump; b) drying the rubber in the continuous extrusion reactor to a moisture content of between about 0.2 and about 0.5 wt%; c) providing the dried rubber to a first injection zone of the continuous extrusion reactor at a temperature of between 190 and 250°C, d) in the first injection zone, providing successively a first amount of maleic anhydride and a first free-radical initiator to the dried rubber; e) reacting maleic anhydride with the rubber in a first reaction zone of the continuous extrusion reactor to produce a grafted rubber; f) in a second injection zone, providing successively a second amount of maleic anhydride and a second free-radical initiator, the first and the second free radical initiator is an organic peroxide with a half-life (ty2) of more than 1 second if measured in mono-chlorobenzene at 220°C. g) applying shear to the grafted rubber in a second reaction zone of the continuous extrusion reactor, the shear sufficient to reduce the weight average molecular weight (Mw) of the grafted rubber by a factor of at least 2.

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