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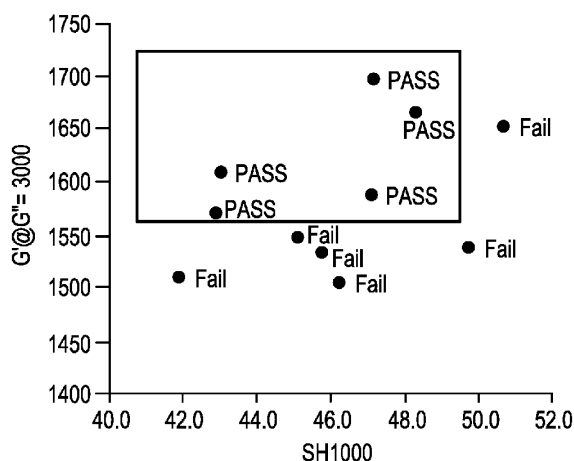
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(54) Title: METHOD OF INCREASING BUBBLE STABILITY OF A POLYETHYLENE RESIN

FIG. 3

(inventive method (PASS))



(57) Abstract: A method of increasing bubble stability of a needful high molecular weight bimodal high-density polyethylene resin in need thereof, the method comprising subjecting the needful high molecular weight bimodal high-density polyethylene resin to a determined amount of oxygen tailoring of the resin so as to independently increase both the resin's melt storage modulus G' (at G'' = 3000 pascals) and complex viscosity ratio SH1000, and thereby make an oxygen-tailored high molecular weight bimodal high-density polyethylene resin having a targeted increase in bubble stability. The method uses a tailoring effective amount of molecular oxygen (O₂) to achieve the desired oxygen tailoring. The method uses these advanced rheological properties from dynamic mechanical spectroscopy, but analyzes the data in a different way that is more sensitive to changes in resin composition and properties, and yet achieves a resin regime having a targeted increase in bubble stability.

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