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MULTI-LAYER HIGH OPACITY FILM STRUCTURE
OF IMPROVED WHITENESS AND MACHINABILITY

ABSTRACT

A multi-layer opaque, biaxially oriented polymeric film structure. The film structure includes a thermoplastic polymer matrix core layer having a first surface and a second surface, within which is located a strata of voids, positioned at least substantially within a substantial number of the voids is at least one spherical void-initiating particle which is phase distinct and incompatible with the matrix material, the void space occupied by the particle being substantially less than the volume of the void, the population of the voids in the core being such as to cause a significant degree of opacity, a first thermoplastic polymer skin layer having a first surface and a second surface, the first surface of the first skin layer adhering to the first surface of the core layer, the first skin layer including up to about 12% by weight of titanium dioxide contact pigment, and a second thermoplastic polymer skin layer having a first surface and a second surface, the first surface of the second skin layer adhering to the second surface of the core layer, the second skin layer including finely divided, uniformly dispersed inorganic material in an amount effective to impart antiblocking characteristics and decrease the inherent film-to-film coefficient of friction at the second surface of the second thermoplastic polymer skin layer.