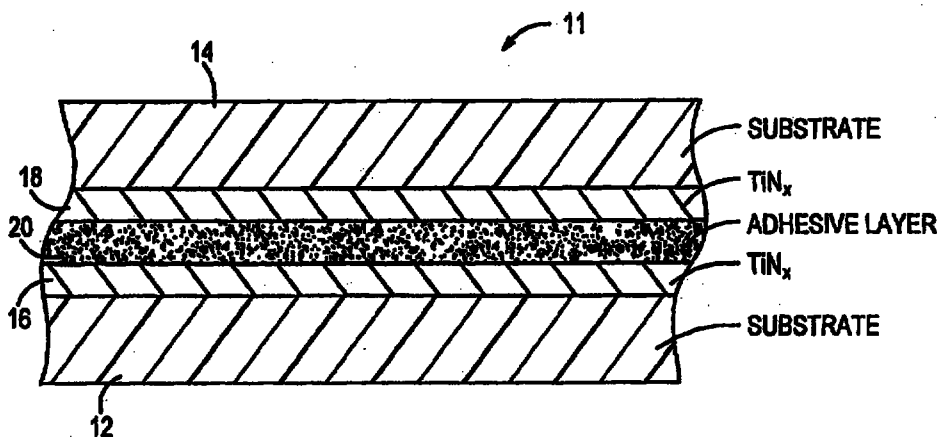




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(54) Title: DUAL TITANIUM NITRIDE LAYERS FOR SOLAR CONTROL



(57) Abstract

A solar control member (11) utilizes a combination of layers that include spaced apart titanium nitride layers (16 and 18) to selectively transmit a higher percentage of visible light than near infrared energy, with a low visible light reflection. The titanium nitride layers are spaced apart by a distance that promotes optical decoupling with respect to occurrence of constructive and destructive interference of visible light. In one embodiment, the titanium nitride layers are spaced apart by a laminating adhesive layer (20). The ratio of transmission at the wavelength of 550 nm to transmission at the wavelength of 1500 is at least 1.25. Each titanium nitride layer is sputter deposited. Care is taken to ensure that each layer does not become too metallic and to ensure that excessive oxygen is not incorporated into the layer. Thus, the nitrogen flow rate and the linespeed are controlled. Sputtering occurs at a fast rate using high powers and a minimum acceptable nitrogen flow, while minimizing background contamination.