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PROCESS FOR APPLYING A THIN FILM CONTAINING LOW LEVELS OF A FUNCTIONAL-POLYSILOXANE AND A NONFUNCTIONAL-POLYSILOXANE TO TISSUE PAPER

ABSTRACT

Disclosed is a process for making soft tissue paper which includes providing a dry tissue web and then applying a sufficient amount of a functional-polysiloxane softener compound to the dry web. The softener application process includes the steps of mixing a functional-polysiloxane compound with a suitable nonvolatile diluent, such as a nonfunctional-polysiloxane, forming an emulsion containing the functional-polysiloxane compound and nonvolatile diluent using a volatile solvent, such as water, and surfactant emulsifier, applying the emulsion to a heated transfer surface, evaporating the volatile solvent from the emulsion to form a film, and then contacting the dry tissue web with the heated transfer surface. Preferably, the tissue web is dried to a moisture level below its equilibrium moisture content before application of the functional-polysiloxane material. The process may further include the steps of applying an effective amount of a surfactant material to enhance softness and/or wettability control; and/or an effective amount of a binder material such as starch, for linting control, and/or to contribute tensile strength to the tissue paper.