# Application of Low Tacticity Polypropylene to Non-Woven Fabrics and Film

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Low Modulus and Low Molecular Weight Polypropylene (LMPP) newly polymerized by using metallocene catalyst was studied for the elastic non-woven fabrics, the ultra fine non-woven fabrics and film. 1. LMPP has a low melting temperature, so when the elastic non-woven fabrics were produced, the bi-component structure or multilayered non-woven fabrics structure was used in order to prevent a sticky problem of emboss roll. As a result, the elastic non-woven fabrics of LMPP, which was produced by the spunbond process at high line speed 400m/min, showed high elastic recovery namely over 85%. 2. Adding a small amount of LMPP to PP improved spinnability, because LMPP had slow crystallization speed. The blend of LMPP to PP has slower crystallization speed than PP. This effect makes slower maximum strain rate and stress during the spinning, and then improves spinnability. The non-woven fabrics composed of fine fibers can be produced by addition of LMPP to PP. 3. The strain and stress curve shows that adding LMPP to PP reduces yield stress at the low strain. This means that it can expect the improvement of the stretchablility of polypropylene. It was found from the investigation of supper-structure that LMPP inserts amorphous parts between lamella crystalline.