

ABSTRACT OF THE DISCLOSURE

TITLE: HIGH STRENGTH POROUS FILM OF POLYPROPYLENE
AND PROCESS FOR PRODUCING SAME

The present invention relates to a high strength porous film of polypropylene and a process for producing same. More particularly, the present invention relates to a porous film of polypropylene excellent in moisture permeability and tensile strength which has been obtained by preparing a non-porous film of polypropylene without substantially adding a plasticizer or a solvent to the starting polypropylene and subjecting the film to a thermal treatment and/or stretching for enhancing crystallinity as well as a process for producing same.

The polypropylene film of the present invention is characterized by possessing the following physical properties:

- (1) a tensile strength of at least 35 MPa in machine direction (MD) and transverse direction (TD);
- (2) a porosity of not more than 80%; and
- (3) a moisture permeability of at least 20 g/m² day

and has been made porous by stretching and/or thermally treating an air-impermeable and biaxially stretched polypropylene film which has been obtained without using a plasticizer or a solvent.

Mentioned as a means for making a film porous is a method wherein a biaxially stretched film or an inflation film of polypropylene is uniaxially or biaxially stretched for making it porous, a method wherein the above uniaxially stretching is carried out in the presence of a first liquid substantially incapable of dissolving a polypropylene film, or a method wherein the above thermal treatment or stretching treatment of the polypropylene film is carried out in the first liquid substantially incapable of

dissolving polypropylene and thereafter the film is dipped into a second liquid compatible with the first liquid and lower in boiling point than the first liquid but inferior in affinity to polypropylene and is then dried up.