What is Linear Low Density Polyethylene (LLDPE)?

Although the densities of LDPE and LLDPE (0.921 - 0.926 g / cc) are similar, LLDPE shows better tear and impact film properties than LDPE. Excellent chemical resistance for lightweight and strong buffers. Good water vapor and alcohol barrier properties. A weak gas barrier that can be sterilized with EtO (EtO means Et Hylene O xide, a cancer-causing gas used for sterilization of most plastics) or gamma radiation. Good stress cracking and impact resistance.

Mixtures of branched (LDPE) and linear (LLDPE) low density polyethylene mixtures are normally used in the production of plastic films. This is done to obtain advantageous properties specific to the combination of both resins such as improved mechanical properties of LLDPE and good processability of LDPE. These mixtures can be divided into two categories or areas: LLDPE-rich mixtures and LDPE-rich mixtures. The ratio of the mixture composition may shift to each area depending on the presence of each resin in the market, on the processing equipment and the consumption patterns of the local market. For example, while the European market produces mainly LDPE-rich mixtures, it dominates the use of LLDPE-rich mixtures in North America. A continuous increase in LLDPE in the blends has improved some of the following properties: Higher mechanical properties. Better appearance (transparency, brightness, low gel level). Improved sealing properties. Low production and conversion costs.

The benefits offered by LLDPE have changed the market to use LLDPE-rich blends in applications such as high-performance bags, cushioning films, rubber separation films, industrial linings, elastic films, ice bags, bags for complementary packaging and garbage bags.

LLDPE1

LLDPE2

LLDPE3

LLDPE4