Claims

1. A polyolefin sealant film comprising an outer layer, a core layer, and an inner layer, and optionally at least one sub-skin layer, the outer layer being made of an outer layer composition comprising from 90 to 100 wt.-% of a propylene polymer component AO, based on the total weight of the outer layer composition,

   wherein the outer layer composition has a xylene soluble (XS) fraction of less than 3.5 wt.%, determined according to ISO 16152, and

   the propylene polymer component AO is a propylene homopolymer.

2. The polyolefin sealant film according to claim 1, wherein the propylene polymer component AO in the outer layer composition comprises an isotactic propylene homopolymer, and more preferably a propylene homopolymer having an MFR_2 of from 1.0 to 5.0 g/10min, determined according to ISO 1133, and/or a melting point of from 155 to 175 °C, determined according to ISO 11357-3.

3. The polyolefin sealant film according to any one of the preceding claims, wherein the outer layer composition comprises from 95 to 100 wt.% and preferably from 98 to 100 wt.% of the propylene polymer component AO, based on the total weight of the outer layer composition; and/or wherein the sealant film comprises a barrier coating layer on the outer layer, wherein the barrier coating layer preferably comprises a barrier coating component selected from the group consisting of the metals Al, Au, Ag, Cr, Zn, Ti, Si and Cu and oxides of these metals, and mixtures thereof.

4. The polyolefin sealant film according to any one of the preceding claims, wherein at least one of the layers of the sealant film is made of a composition comprising a linear low density polyethylene (LLDPE) component, preferably a multimodal copolymer component (AC), and/or a catalytically produced polyethylene component (BC), which is an ethylene copolymer, preferably an ethylene terpolymer (II), having a melt flow rate MFR_5 of from 0.6 to 4 g/10min, determined according to ISO 1133, and/or

a high pressure produced low density polyethylene (LDPE) component (CC).

5. The polyolefin sealant film according to claim 4, wherein the sealant film comprises from 40 to 70 wt.% of the AC component; and/or from 15 to 35 wt.% of the BC component; and/or from 5 to 15 wt.% of the CC component, based on the total weight of the sealant film.

6. The polyolefin sealant film according to any one of claims 4 or 5, wherein the AC component has a density of from 910 to 925 kg/cm^3 and an MFR_2 of from 0.5 to 5.0 g/10min; and/or the BC component has a density of from 920 to 940 kg/cm^3 and an MFR_2 of from 0.1 to 2.0 g/10min; and/or the CC component has a density of from 910 to 930 kg/cm^3 and an MFR_2 of from 0.1 to 2.5 g/10min, the MFR_2 being determined according to ISO 1133.

7. The polyolefin sealant film according to any one of the preceding claims, wherein the sealant film has an oxygen transmission rate (OTR) (23 °C; 100 % O_2; 0 % RH) of less than 200 cm^3/m^2/d, determined according to ISO 15105-1; and/or a water vapor transmission rate (WVTR) (38 °C; 90 % RH) of less than 1.5 g/m^2/d, determined according to ISO 15106-2.

8. A laminated polyolefin film comprising the polyolefin sealant film according to any one of the preceding claims and a substrate film.

9. The laminated polyolefin film according to claim 8, wherein the laminated polyolefin film has:

   a) a water vapor transmission rate (WVTR) (38 °C; 90 % RH) of less than 1.0 g/m^2/d, determined according to ISO 15106-2; and/or

   b) an oxygen transmission rate (OTR) (23 °C; 100 % O_2; 0 % RH) of less than 25 cm^3/m^2/d, determined according to ISO 15105-1; and/or

   c) a dart drop impact (DDI) of at least 145 g, determined according to ASTM D1709, Method A; and/or

   d) a tensile modulus in machine direction (MD) of at least 800 MPa, determined according to ISO 527-3; and/or

   e) a thickness of from 50 to 90 µm.

10. A laminated polyolefin film comprising a substrate film and a sealant film, wherein the laminated polyolefin film has:

    a) a water vapor transmission rate (WVTR) (38 °C; 90 % RH) of less than 1.0 g/m^2/d, determined according to ISO 15106-2;
    b) an oxygen transmission rate (OTR) (23 °C; 100 % O_2; 0 % RH) of less than 25 cm^3/m^2/d, determined according to ISO 15105-1;
    c) a dart drop impact (DDI) of at least 145 g, determined according to ASTM D1709, Method A;
    d) a tensile modulus in machine direction (MD) of at least 800 MPa, determined according to ISO 527-3; and
    e) a thickness of from 50 to 90 µm,

    wherein the sealant film comprises an outer layer as defined in claim 1.

11. The laminated polyolefin film according to claim 10, wherein the laminated polyolefin film comprises a polyolefin sealant film according to any one of claims 1 to 7.

12. The laminated polyolefin film according to any one of claims 8 to 11, wherein the substrate film comprises at least one ethylene polymer, preferably consists of at least one ethylene polymer.

13. The laminated polyolefin film according to any one of claims 8 to 12, wherein the laminated polyolefin film comprises the propylene polymer component AO in a content of less than 10 wt.%, preferably less than 8 wt.%, more preferably less than 7 wt.%, based on the total weight of the laminated polyolefin film; and/or the at least one ethylene polymer in a content of at least 90 wt.%, based on the total weight of the laminated polyolefin film.

14. An article comprising the laminated polyolefin film according to any one of claims 8 to 13.

15. Use of the laminated polyolefin film according to any one of claims 8 to 13 for producing an article, preferably a vertical or horizontal form fill seal packaging, pouch, sack or bag.