What is claimed is:

1. An olefin block copolymer comprising first and second segments, each comprising an ethylene or propylene repeating unit and an α-olefin repeating unit at different mole fractions,

wherein the second segment is dispersed in the form of a closed curve as a dispersed phase on the first segment according to a TEM (Transmission Electron Microscope) image.

2. The olefin block copolymer as claimed in claim 1, wherein the dispersed phase of the second segment shaped in the form of a closed curve has a diameter of 0.3 to 2.0 μm.

3. The olefin block copolymer as claimed in claim 1, wherein the first segment is a hard segment comprising a first mole fraction of the α-olefin repeating unit, and the second segment is a soft segment comprising a second mole fraction of the α-olefin repeating unit,

wherein the second mole fraction is greater than the first mole fraction.

4. The olefin block copolymer as claimed in claim 3, wherein the mole fraction of the α-olefin repeating unit contained in the entire block copolymer has a value between the first and second mole fractions.

~~5. The olefin block copolymer as claimed in claim 3, wherein the~~ mole fraction Y (mol.%) of the hard segment and the mole fraction X (mol.%) of the ethylene or propylene repeating unit as contained in the entire block copolymer satisfy Mathematical Formula 1 as follows:

[Mathematical Formula 1]

$$(Y - 100) \geq 6(X - 100)$$

6. The olefin block copolymer as claimed in claim 5, wherein the olefin block copolymer comprises 80 to 98 mol.% of the ethylene or propylene repeating unit and a remaining content of the α-olefin repeating unit, and satisfies the Mathematical Formula 1 in the entire content range of the ethylene or propylene repeating unit.

7. The olefin block copolymer as claimed in claim 3, wherein the olefin block copolymer comprises 20 to 95 mol.% of the hard segment and 5 to 80 mol.% of the soft segment.

8. The olefin block copolymer as claimed in claim 3, wherein the hard segment has a higher value than the soft segment in at least one property of the degree of crystallization, density, and melting temperature.

9. The olefin block copolymer as claimed in claim 1, wherein the ~~olefin block copolymer has a crystallization temperature Tc of 95 to 120 ℃.~~

~~10. The olefin block copolymer as claimed in claim 1, wherein the~~ olefin block copolymer has a melting temperature Tm of 110 to 135 ℃.

11. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a density of 0.85 to 0.92 g/cm^3.

12. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a weight average molecular weight of 5,000 to 3,000,000 and a molecular weight distribution of 2.5 to 6.

13. The olefin block copolymer as claimed in claim 1, wherein the α-olefin repeating unit is a repeating unit derived from at least one α-olefin selected from the group consisting of 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-heptene, 1-octene, 1-decene, 1-undecene, 1-dodecene, 1-tetradecene, 1-hexadecene, and 1-itocene.

14. An olefin block copolymer comprising first and second segments, each comprising an ethylene or propylene repeating unit and an α-olefin repeating unit at different mole fractions,

wherein the first segment comprises a higher mole fraction of the ethylene or propylene repeating unit than the second segment,

~~wherein the mole fraction Y (mol.%) of the first segment and the mole~~

~~fraction X (mol.%) of the ethylene or propylene repeating unit in the entire block~~ copolymer satisfy Mathematical Formula 1 as follows:

[Mathematical Formula 1]

$$(Y - 100) \geq 6(X - 100)$$

15. The olefin block copolymer as claimed in claim 14, wherein the olefin block copolymer comprises 80 to 98 mol.% of the ethylene or propylene repeating unit and a remaining content of the α-olefin repeating unit and satisfies the Mathematical Formula 1 in the entire content range of the ethylene ~~or propylene repeating unit.~~

CLAIMS

1. An olefin block copolymer comprising first and second segments, each comprising an ethylene or propylene repeating unit and a C_4 or more α-olefin repeating unit at different mole fractions,

wherein the first segment is a hard segment comprising a first mole fraction of the α-olefin repeating unit, and the second segment is a soft segment comprising a second mole fraction greater than the first mole fraction of the α-olefin repeating unit, and

wherein the second segment is dispersed in the form of a closed curve as a dispersed phase on the first segment according to a TEM (Transmission Electron Microscope) image, and the dispersed phase has a diameter of 0.3 to 2.0 μm.

2. The olefin block copolymer as claimed in claim 1, wherein the mole fraction of the α-olefin repeating unit contained in the entire block copolymer has a value between the first and second mole fractions.

3. The olefin block copolymer as claimed in claim 1, wherein the mole fraction Y (mol.%) of the hard segment and the mole fraction X (mol.%) of the ethylene or propylene repeating unit as contained in the entire block copolymer satisfy Mathematical Formula 1 as follows:

[Mathematical Formula 1]

$$(Y - 100) \geq 6(X - 100)$$

4. The olefin block copolymer as claimed in claim 3, wherein the olefin block copolymer comprises 80 to 98 mol.% of the ethylene or propylene repeating unit and a remaining content of the α-olefin repeating unit, and satisfies the Mathematical Formula 1 in the entire content range of the ethylene or propylene repeating unit.

5. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer comprises 20 to 95 mol.% of the hard segment and 5 to 80 mol.% of the soft segment.

6. The olefin block copolymer as claimed in claim 1, wherein the hard segment has a higher value than the soft segment in at least one property of the degree of crystallization, density, and melting temperature.

7. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a crystallization temperature Tc of 95 to 120 ℃.

8. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a melting temperature Tm of 110 to 135 ℃.

9. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a density of 0.85 to 0.92 g/cm^3.

10. The olefin block copolymer as claimed in claim 1, wherein the olefin block copolymer has a weight average molecular weight of 5,000 to 3,000,000 and a molecular weight distribution of 2.5 to 6.

11. The olefin block copolymer as claimed in claim 1, wherein the α-olefin repeating unit is a repeating unit derived from at least one α-olefin selected from the group consisting of 1-butene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-heptene, 1-octene, 1-decene, 1-undecene, 1-dodecene, 1-tetradecene, 1-hexadecene, and 1-itocene.