CLAIMS

1. A film comprising a polyethylene multimodal resin, wherein:

the polyethylene multimodal resin comprises the polymerized reaction product of ethylene and at least one alpha-olefin copolymer, and wherein the polyethylene multimodal resin comprises a melt strength (MS) $\geq X_1/I_2 + y$, wherein X_1 is equal to 3.9, y is equal to 1.4, and I_2 is a melt index of the copolymer measured according to ASTM 1238 at 2.16 kg and 190 °C, and MS is the melt strength in cN (Rheotens device, 190°C, 2.4 mm/s^2, 120 mm from the die exit to the center of the wheels, extrusion rate of 38.2 s^{-1}, capillary die of 30 mm length, 2 mm diameter and 180° entrance angle), and wherein the polyethylene multimodal resin has a melt flow ratio (I_{10}/I_2) greater than 5; and

wherein the film comprises a normalized dart strength (DS) greater than or equal to 9,876 minus 10,512 times the density of the polyethylene multimodal resin (DS $\geq$ 9,876 - 10,512 (ρ), wherein the normalized DS is measured in gram (g) according to ASTM 1709 Method A divided by the film thickness in mils; and

wherein the film comprises a normalized machine direction (MD) tear of greater than 190 gf/mil, wherein MD tear is measured according to ASTM D1922-15.

2. The film according to claim 1, wherein the film is a monolayer film.

3. The film according to any one of the preceding claims, wherein the film further comprises a layer of low density polyethylene resin having a density from 0.910 to 0.930 g/cc.

4. The film according to any one of the preceding claims, wherein the polyethylene multimodal resin comprises a density from 0.900 to 0.975 g/cc.

5. The film according to any one of the preceding claims, wherein the polyethylene multimodal resin comprises a density from 0.910 to 0.930 g/cc.

6. The film of any preceding claim, wherein the polyethylene multimodal resin has a density greater than or equal to 0.918 g/cc, and a melt strength of at least 7 cN, and wherein the film has a dart strength of greater than 150 g/mil.

7. The film of any preceding claim, wherein the polyethylene multimodal resin has a density from 0.910 to 0.930 g/cc, a melt strength of at least 7 cN, and a melt flow ratio (I_{10}/I_2) from 5 to 10, and wherein the film has dart strength of greater than 400 g/mil.

8. The film of any preceding claim, wherein the polyethylene multimodal resin has a melt strength of at least 7 cN, and the film has a machine direction tear of greater than 85 gf/mil as measured according to ASTM D1922-15.

9. The film of any preceding claim, wherein the polyethylene multimodal resin has a melt strength of at least 8 cN, and a rheology ratio $V_{0.1}/V_{100}$ of less than or equal to 6, and wherein the film has a dart strength of greater than 800 g, wherein $V_{0.1}$ is the viscosity of the ethylene-based polymer at 190 °C at an angular frequency of 0.1 radians/second, and V_{100} is the viscosity of the ethylene-based polymer at 190 °C at an angular frequency of 100 radians/second.

10. The film of any one of the preceding claims, wherein the polyethylene multimodal resin has an overall density of from 0.918 to 0.925 g/cc or a melt strength greater than or equal to 6 cN.