

We claim:

1. An impact-modified polyamide composition comprising:
 - from 5 wt% to 85 wt% of polyamide polymer;
 - from 10 wt% to 60 wt% glass fiber;
 - from 3 wt% to 30 wt% of an impact modifier; and
 - a melt stabilizer at a concentration less than 5 wt%;wherein the weight ratio of the impact modifier to the melt stabilizer ranges from 1.0:1 to 100:1; and
 - wherein the polyamide composition demonstrates an un-notched Charpy impact energy loss at 23 °C that is greater than 80 kJ/m² and a tensile strength greater than 135 MPa.
2. The polyamide composition of claim 1, wherein the weight ratio of the polyamide polymer to the glass fiber ranges from 0.1 to 10.
3. The polyamide composition of claim 1, wherein the weight ratio of the polyamide polymer to the impact modifier ranges from 0.2 to 30.
4. The polyamide composition of claim 1, wherein the weight ratio of the impact modifier to the melt stabilizer ranges from 1:1 to 40:1.
5. The polyamide composition of claim 1, wherein the polyamide composition demonstrates a 60° tan delta greater than 0.04.
6. The polyamide composition of claim 1, wherein the polyamide composition demonstrates a 90° tan delta greater than 0.1.
7. The polyamide composition of claim 1, wherein the impact modifier comprises a modified olefin.

8. The polyamide composition of claim 1, wherein the impact modifier comprises a maleic anhydride-modified olefin, acrylate, or acrylic, or combinations thereof.
9. The polyamide composition of claim 1, wherein the impact modifier comprises a maleic anhydride-modified olefin.
10. The polyamide composition of claim 1, wherein the impact modifier has a glass transition temperature less than 0°C.
11. The polyamide composition of claim 1, wherein the melt stabilizer comprises a saturated fatty acid.
12. The polyamide composition of claim 1, wherein the melt stabilizer comprises stearic acid.
13. The polyamide composition of claim 1, wherein the weight ratio of the glass fiber to the impact modifier ranges from 0.3 to 20.
14. The polyamide composition of claim 1, wherein the weight ratio of the impact modifier to the heat stabilizer ranges from 0.5 to 300.
15. The polyamide composition of claim 1, wherein
the impact modifier comprises a maleic anhydride-modified olefin, acrylate, or acrylic, or combinations thereof; and the weight ratio of the impact modifier to the melt stabilizer ranges from 5 to 50; and the melt stabilizer comprises a saturated fatty acid wherein the polyamide composition; and wherein the polyamide composition demonstrates a tensile elongation greater than 2.5 %; and an un-notched Charpy impact energy loss at -40 °C that is greater than 65 kJ/m².
16. The polyamide composition of claim 1, wherein the polyamide polymer comprises a PA66 polymer.

17. The polyamide composition of claim 1, wherein the number average molecular weight of each of the polyamide polymers is independently less than 100,000.
18. The polyamide composition of claim 1, comprising:
 - from 13 wt% to 68 wt% of a PA66 polyamide polymer;
 - from 25 wt% to 40 wt% glass fiber; wherein
 - the polyamide composition has a notched Charpy impact energy loss at 23 °C greater than 11 kJ/m².
19. The polyamide composition of claim 1, comprising:
 - from 13 wt% to 68 wt% PA66 polyamide polymer;
 - from 25 wt% to 40 wt% glass fiber;
 - impact modifier;
 - from 1 wt% to 2 wt% nigrosine;
 - from 0.1 wt% to 1 wt% heat stabilizer;
 - less than 20 wt% PA6 polyamide polymer;
 - less than 3 wt% carbon black; and
 - less than 1 wt% melt stabilizer.
20. An injection molded article comprising the polyamide composition of claim 1.