CLAIMS

1. A tire tread composition comprising components, by weight of the composition, within the range from:

5 to 75 wt% of a diene elastomer;

0 to 40 wt% of processing oil;

20 to 80 wt% of filler;

a curative agent; and

5 to 30 wt% of a propylene-ethylene-diene terpolymer containing from 2 to 40 wt% of ethylene and/or C_4-C_{20} α-olefins derived units, from 0.5 to 10 wt% of diene derived units, and having a heat of fusion, as determined by DSC, of from 0 J/g to 80 J/g.

2. A tire tread comprising the cured reaction product of the components, by weight of the composition, within the range from:

5 to 75 wt% of a diene elastomer;

0 to 40 wt% of processing oil;

20 to 80 wt% of filler;

a curative agent; and

5 to 30 wt% of a propylene-ethylene-diene terpolymer containing from 2 to 40 wt% of ethylene and/or C_4-C_{20} α-olefins derived units, from 0.5 to 10 wt% of diene derived units, and having a heat of fusion, as determined by DSC, of from 0 J/g to 80 J/g.

3. The tire tread composition of any one of claims 1-2, wherein the filler is a silica-based filler.

4. The tire tread composition of any one of claims 1-3, wherein the filler is a carbon black filler.

5. The tire tread composition of any one of claims 1-4, wherein the filler is a blend of silica-based filler and a carbon black filler.

6. The tire tread composition of any one of claims 1-5, wherein the propylene-ethylene-diene terpolymer contains from 0.5 to 10 wt% ethylidene norbornene.

7. The tire tread composition of any one of claims 1-6, wherein the propylene-ethylene-diene terpolymer contains from 2 wt% to 20 wt% ethylene.

8. The tire tread composition of any one of claims 1-7, wherein the propylene-ethylene-diene terpolymer contains 60 wt% to 95 wt% propylene.

9. The tire tread composition of any one of claims 1-8, wherein the Tg (°C) of the tire tread composition is from 0 to -60.

10. The tire tread composition of any one of claims 1-9, wherein the melt flow rate (MFR) at 2.16 kg weight at 230°C of the propylene-ethylene-diene terpolymer is from 0.2 to 10 g/10 min.

11. The tire tread composition of any one of claims 1-10, wherein the diene elastomer is a styrenic copolymer, a polybutadiene, natural rubber, a polyisoprene, a butadiene copolymer, an isoprene copolymer or blends thereof.

12. A method of balancing the wet traction performance and rolling resistance in a tire tread comprising:

combining at least a filler, a diene-elastomer, and a curative agent with one or more propylene-ethylene-diene terpolymers to form a tire tread; wherein the propylene-ethylene-diene terpolymer containing from 2 wt% to 40 wt% of ethylene and/or C_4-C_{20} α-olefins derived units, from 0.5 to 10 wt% of diene derived units, and having a heat of fusion, as determined by DSC, of from 0 J/g to 80 J/g;

effecting a cure of the components to form a tire tread; and

wherein the level of the propylene-ethylene-diene terpolymer(s) relative to the other components, and its comonomer content, can be varied to improve the balance of wet traction and rolling resistance of a tire tread.

13. The method of claim 12, wherein the filler is a silica-based filler.

14. The method of claim 12, comprising one propylene-ethylene-diene terpolymer; and wherein the amount of the propylene-ethylene-diene terpolymer is varied within a range from 5 wt% to 30 wt%.

15. The method of claim 12, wherein the level of ethylene and/or C_4-C_{20} α-olefins derived units in the one or more propylene-ethylene-diene terpolymer(s) is varied within a range from 2 wt% to 40 wt%; and the level of diene (e.g., ethylidene norbornenes) varied within a range from 0.5 to 10 wt%.