

CLAIMS

1. An elastomeric composition comprising, per 100 parts by weight of rubber (phr):
about 30 to about 50 phr of polybutadiene having a cis-1,4 linkage content of at least
5 95%;
about 40 to about 60 phr of a styrene/butadiene copolymer;
about 0 to about 20 phr of natural rubber or polyisoprene;
about 0 to about 30 phr of a processing oil;
about 10 to about 30 phr of a hydrocarbon resin;
10 about 50 to about 75 phr of a filler;
a curative agent;
a silane coupling agent;
an antioxidant; and
about 5 to about 40 phr of a propylene-ethylene-diene terpolymer containing from about
15 2 to about 30 wt% of ethylene and/or C₄-C₂₀ α -olefins derived units.
2. The elastomeric composition of claim 1, wherein the propylene-ethylene-diene terpolymer is functionalized with bis-[3-(triethoxysilyl)-propyl]-tetrasulfide.
- 20 3. The elastomeric composition of claim 1, wherein the filler is a silica-based filler.
4. The elastomeric composition of claim 1, wherein the filler is a carbon black filler.
5. The elastomeric composition of claim 1, wherein the filler is blend of a silica-based
25 filler and a carbon black filler.
6. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-diene terpolymer is present in the amount of about 5 phr to about 25 phr.
- 30 7. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-diene terpolymer is present in the amount of about 10 phr to about 20 phr.
8. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-

diene terpolymer contains from about 0.5 wt% to about 5 wt% ethylidene norbornene based on the terpolymer.

9. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
5 diene terpolymer contains from about 1 wt% to about 5 wt% ethylidene norbornene based on the terpolymer.

10. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
10 diene terpolymer contains from about 2 wt% to about 4 wt% ethylidene norbornene based on the terpolymer.

11. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
diene terpolymer contains from about 5 wt% to about 25 wt% ethylene based on the terpolymer.

12. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
15 diene terpolymer contains from about 7.5 wt% to about 22.5 wt% ethylene based on the terpolymer.

13. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
20 diene terpolymer contains about 65 wt% to about 95 wt% propylene based on the terpolymer.

14. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
diene terpolymer contains about 70 wt% to about 95 wt% propylene based on the terpolymer.

15. The elastomeric composition of any preceding claim, wherein the propylene-ethylene-
25 diene terpolymer contains about 75 wt% to about 90 wt% propylene based on the terpolymer.

16. The elastomeric composition of any preceding claim, wherein the glass transition
30 temperature (T_g) of the propylene-ethylene-diene terpolymer is from about 0°C to about -60°C.

17. The elastomeric composition of any preceding claim, wherein the melt flow rate (MFR)
at 2.16 kg weight at 230°C of the propylene-ethylene-diene terpolymer is from about 0.2 to
about 10 g/10 min.

18. A tire tread composition comprising the elastomeric composition of any preceding claim.
- 5 19. An article comprising the tire tread composition of claim 18.
20. A method of making the elastomeric composition of claims 1-17, comprising the steps of:
- 10 (a) blending polybutadiene, the styrene/butadiene copolymer, natural rubber or polyisoprene, the filler, the processing oil, and the propylene-ethylene diene terpolymer to form a first component at a temperature in the range from about 110°C to about 200°C;
- (b) blending the curative agent with the first component at a temperature in the range of about less than 110°C; and
- (c) recovering the elastomeric composition.
- 15 21. A method of balancing the wet traction performance and rolling resistance in a tire tread comprising the elastomeric composition of claims 1-17:
- combining at least the filler, polybutadiene, the styrene/butadiene copolymer, natural rubber or polyisoprene, and the curative agent with one or more of the propylene-ethylene-
- 20 diene terpolymers to form the tire tread;
- 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.