CLAIMS

1. A copolymer of a conjugated diene compound and a non-conjugated olefin, wherein

the cis-1,4 bond content of a unit derived from the conjugated diene compound is more than 92 %.

2. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the content of a unit derived from the non-conjugated olefin is 50 mol% or less.

3. The copolymer according to claim 1, wherein the content of 1,2 adduct units (including 3,4 adduct units) of the conjugated diene compound in the unit derived from the conjugated diene compound is 5 % or less.

4. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the copolymer has a molecular weight distribution (Mw/Mn) of 10 or less.

5. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the non-conjugated olefin is an acyclic olefin.

6. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the non-conjugated olefin has 2 to 10 carbon atoms.

7. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 5 or 6, wherein the non-conjugated olefin is at least one selected from the group consisting of ethylene, propylene, and 1-butene.

8. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 7, wherein the non-conjugated olefin is ethylene.

9. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the conjugated diene compound has 4 to 8 carbon atoms.

10. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 9, wherein the conjugated diene compound is at least one selected from the group consisting of 1,3-butadiene and isoprene.

11. A rubber composition comprising the copolymer according to claim 1.

12. The rubber composition according to claim 11 further comprising a conjugated diene-based polymer.

13. The rubber composition according to claim 11 or 12 further comprising carbon black, wherein the carbon black has a nitrogen adsorption specific surface area (N_2SA) of more than 50 m^2/g.

14. The rubber composition according to claim 13, wherein the content of the carbon black is 10 parts by mass to 70 parts by mass per 100 parts by mass of the rubber component.

15. The rubber composition according to claim 12, wherein the conjugated diene-based polymer is natural rubber.

16. The rubber composition according to claim 15, wherein the content of the natural rubber per 100 parts by mass of the rubber component is at least 10 parts by mass.

17. The rubber composition according to claim 12, wherein a mass ratio of the copolymer of a conjugated diene compound and a non-conjugated olefin to the conjugated diene-based polymer is 10/90 to 90/10.

18. The rubber composition according to claim 11 further comprising a crosslinking agent by 0.1 parts by mass to 20 parts by mass per 100 parts by mass of the rubber component.

19. A rubber composition for tire treads using the rubber composition according to claim 11 for tire tread members.

20. A crosslinked rubber composition obtained by crosslinking the rubber composition according to claim 11.

21. A tire manufactured by using the rubber composition according to claim 11 or the crosslinked rubber composition according to claim 20.

22. A tire using the rubber composition according to claim 11 or the crosslinked rubber composition according to claim 20 for tire tread members.

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1. A copolymer of a conjugated diene compound and a non-conjugated olefin, wherein the cis-1,4 bond content of a unit derived from the conjugated diene compound is more than 92%.

2. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the content of a unit derived from the non-conjugated olefin is 50 mol % or less.

3. The copolymer according to claim 1, wherein the content of 1,2 adduct units (including 3,4 adduct units) of the conjugated diene compound in the unit derived from the conjugated diene compound is 5% or less.

4. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the copolymer has a molecular weight distribution (Mw/Mn) of 10 or less.

5. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the non-conjugated olefin is an acyclic olefin.

6. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the non-conjugated olefin has 2 to 10 carbon atoms.

7. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 5, wherein the non-conjugated olefin is at least one selected from the group consisting of ethylene, propylene, and 1-butene.

8. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 7, wherein the non-conjugated olefin is ethylene.

9. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 1, wherein the conjugated diene compound has 4 to 8 carbon atoms.

10. The copolymer of a conjugated diene compound and a non-conjugated olefin according to claim 9, wherein the conjugated diene compound is at least one selected from the group consisting of 1,3-butadiene and isoprene.

11. A rubber composition comprising the copolymer according to claim 1.

12. The rubber composition according to claim 11 further comprising a conjugated diene-based polymer.

13. The rubber composition according to claim 11 further comprising carbon black, wherein the carbon black has a nitrogen adsorption specific surface area (N_2SA) of more than 50 m^2/g.

14. The rubber composition according to claim 13, wherein the content of the carbon black is 10 parts by mass to 70 parts by mass per 100 parts by mass of the rubber component.

15. The rubber composition according to claim 12, wherein the conjugated diene-based polymer is natural rubber.

16. The rubber composition according to claim 15, wherein the content of the natural rubber per 100 parts by mass of the rubber component is at least 10 parts by mass.

17. The rubber composition according to claim 12, wherein a mass ratio of the copolymer of a conjugated diene compound and a non-conjugated olefin to the conjugated diene-based polymer is 10/90 to 90/10.

18. The rubber composition according to claim 11 further comprising a crosslinking agent by 0.1 parts by mass to 20 parts by mass per 100 parts by mass of the rubber component.

19. A rubber composition for tire treads using the rubber composition according to claim 11 for tire tread members.

20. A crosslinked rubber composition obtained by crosslinking the rubber composition according to claim 11.

21. A tire manufactured by using the rubber composition according to claim 11.

22. A tire using the rubber composition according to claim 11 for tire tread members.