WHAT IS CLAIMED IS:

1. A vulcanizable polymer composition comprising
   (i) at least one optionally hydrogenated nitrile rubber having a weight average molecular weight M_w of 50,000 g/mol or less and a polydispersity index of less than 2.0 and
   (ii) at least one cross-linking agent.

2. The vulcanizable polymer composition according to claim 1 additionally comprising
   (iii) at least one filler.

3. The vulcanizable polymer composition according to claim 2 additionally comprising
   (iv) one or more further auxiliary compounds.

4. The vulcanizable polymer composition according to claim 3 comprising
   (iv) as further auxiliary compounds at least one vulcanization co-agent.

5. The vulcanizable polymer composition according to claim 4 wherein the vulcanization co-agent is selected from the group consisting of zinc acrylate, zinc diacrylate, zinc methacrylate, zinc dimethacrylate, trimethylolpropanetrimethacrylate (TRIM), butane-dioldimethacrylate BDMA), ethylenglycoldimethacrylate (EDMA), triallyl-isocyanurate (TAIC) and N,N´-1,3-phenylen-bismaleinimide.

6. The vulcanizable polymer composition according to claim 3 comprising one or more auxiliary products (iv) selected from the group consisting of reaction accelerators, vulcanization accelerators, vulcanization acceleration auxiliaries, antioxidants, foaming agents, anti-aging agents, heat stabilizers, light stabilizers, ozone stabilizers, processing aids, plasticizers, tackifiers, blowing agents, dyestuffs, pigments, waxes, extenders, organic acids, inhibitors, metal oxides, and activators.

7. The vulcanizable polymer composition according to any one of claims 1 to 6, wherein component (i) is either a copolymer of acrylonitrile and 1,3-butadiene or a hydrogenated copolymer of acrylonitrile and 1,3-butadiene.

8. The vulcanizable polymer composition according to any one of claims 1 to 7 additionally containing at least one optionally hydrogenated nitrile rubber (v) having a weight average molecular weight M_w of higher than 50,000g/mol and a polydispersity index of higher than 2.0.

9. The vulcanizable polymer composition according to claim 8 additionally containing
(v) at least one optionally hydrogenated nitrile rubber having a Mooney viscosity (ML 1+4 at 100°C) in the range of from 30 to 150, preferably in the range of from 60 to 125, and a polydispersity index in the range of from 2.5 to 6.0, preferably in the range of from 2.9 to 5.0 and more preferably in the range of from 2.9 to 3.5.

10. A process for preparing a vulcanizable polymer composition according to claim 1 comprising mixing at least one component (i) and at least one component (ii).

11. The process according to claim 10 comprising additionally mixing at least one filler (iii) with at least one component (i) and at least one component (ii) and optionally one or more further auxiliary compounds (iv) and optionally one or more higher molecular weight optionally hydrogenated nitrile rubbers (v).

12. A process for preparing a vulcanizate comprising subjecting the vulcanizable polymer composition according to any one of claims 1 to 9 to vulcanization.

13. The process according to claim 12 comprising vulcanizing the vulcanizable polymer composition according to any one of claims 1 to 8 at a temperature in the range of from 80°C to 250°C, preferably of from 120°C to 220°C and more preferably of from 150°C to 200°C most preferably of from 165°C to 190°C.

14. The process according to claim 12 or 13 comprising performing the vulcanization via injection moulding, preferably liquid injection moulding, by transfer moulding or compression moulding.

15. A vulcanizate based on the vulcanizable polymer compositions according to any one of claims 1 to 9.

16. The vulcanizate according to claim 15 obtainable by the process according to any one of claims 12 to 14.

17. The vulcanizate according to any one of claims 15 or 16 having the form of a shaped article, preferably a seal, hose, bearing pad, stator, well head seal, valve plate, wire and cable sheathing, wheel roller, pipe seal, in place gaskets or footwear component. The vulcanizates in the form of said shaped articles are preferably prepared by injection moulding technology, more preferably liquid injection moulding, compression moulding,

transfer moulding, pressure free curing or combinations thereof.. Furthermore, the vulcanizable polymer composition is very well suited for wire and cable production, especially via extrusion processes. The present invention therefore further relates to vulcanizates obtainable by curing the novel low viscosity polymer compositions.

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WHAT IS CLAIMED IS:

1. A vulcanizable polymer composition comprising

(i) at least one optionally hydrogenated nitrile rubber having a weight average molecular weight M_w of 50,000 g/mol or less and a polydispersity index of less than 2.0 and

(ii) at least one cross-linking agent, and

at least one optionally hydrogenated nitrile rubber (v) having a Mooney viscosity (ML 1+4 at 100°C) in the range of from 30 to 150, and a polydispersity index in the range of from 2.5 to 6.0.

2. The vulcanizable polymer composition according to claim 1 additionally comprising

(iii) at least one filler.

3. The vulcanizable polymer composition according to claim 2 additionally comprising

(iv) one or more further auxiliary compounds.

4. The vulcanizable polymer composition according to claim 3 comprising

(iv) as further auxiliary compounds at least one vulcanization co-agent.

5. The vulcanizable polymer composition according to claim 4 wherein the vulcanization co-agent is selected from the group consisting of zinc acrylate, zinc diacrylate, zinc methacrylate, zinc dimethacrylate, trimethylolpropanetrimethacrylate (TRIM), butane-dioldimethacrylate (BDMA), ethylenglycoldimethacrylate (EDMA), triallyl-isocyanurate (TAIC) and N,N′-1,3-phenylen-bismaleinimide.

6. The vulcanizable polymer composition according to claim 3 comprising one or more auxiliary products (iv) selected from the group consisting of reaction accelerators, vulcanization accelerators, vulcanization acceleration auxiliaries, antioxidants, foaming agents, anti-aging agents, heat stabilizers, light stabilizers, ozone stabilizers, processing aids, plasticizers, tackifiers, blowing agents, dyestuffs, pigments, waxes, extenders, organic acids, inhibitors, metal oxides, and activators.

7. The vulcanizable polymer composition according to any one of claims 1 to 6, wherein component (i) is either a copolymer of acrylonitrile and 1,3-butadiene or a hydrogenated copolymer of acrylonitrile and 1,3-butadiene.

8. The vulcanizable polymer composition according to claim 7 containing

(v) at least one optionally hydrogenated nitrile rubber having a Mooney viscosity (ML 1+4 at 100°C) in the range of from 60 to 125, and a polydispersity index in the range of from 2.9 to 5.0 and more preferably in the range of from 2.9 to 3.5.

9. A process for preparing a vulcanizable polymer composition according to claim 1 comprising mixing at least one component (i) and at least one component (ii).

10. The process according to claim 9 comprising additionally mixing at least one filler (iii) with at least one component (i) and at least one component (ii) and optionally one or more further auxiliary compounds (iv) and optionally one or more higher molecular weight optionally hydrogenated nitrile rubbers (v).

11. A process for preparing a vulcanizate comprising subjecting the vulcanizable polymer composition according to any one of claims 1 to 8 to vulcanization.

12. The process according to claim 11 comprising vulcanizing the vulcanizable polymer composition according to any one of claims 1 to 8 at a temperature in the range of from 80°C to 250°C, preferably of from 120°C to 220°C and more preferably of from 150°C to 200°C most preferably of from 165°C to 190°C.

13. The process according to claim 11 or 12 comprising performing the vulcanization via injection moulding, preferably liquid injection moulding, by transfer moulding or compression moulding.

14. A vulcanizate based on the vulcanizable polymer compositions according to any one of claims 1 to 8.

15. The vulcanizate based on the vulcanizable polymer compositions according to any one of claims 1 to 8 obtainable by the process according to any one of claims 11 to 13.

16. The vulcanizate according to any one of claims 14 or 15 having the form of a shaped article, preferably a seal, hose, bearing pad, stator, well head seal, valve plate, wire and cable sheathing, wheel roller, pipe seal, in place gaskets or footwear component.