

C L A I M S

1. Foamable polypropylene composition (C) comprising
 - a) a heterophasic propylene copolymer (HECO1) having a melt flow rate MFR₂
5 (230°C, 2.16 kg) measured according to ISO 1133 in the range from 3 to 10 g/10min and a xylene cold soluble (XCS) fraction in the range of 10.0 to 30.0 wt.-%, said heterophasic propylene copolymer (HECO1) comprising
 - i) a matrix (M1) being a propylene polymer (PP1) and
 - ii) an elastomeric propylene copolymer (E1) being dispersed in said matrix,
 - 10 b) optionally a propylene homopolymer (H-PP),
 - c) optionally an inorganic filler (F), and
 - d) at least one foaming agent (FA) selected from chemical and physical foaming agents, whereby the composition (C) comprises:
 - i) 13.0 to 52.99 wt.-% of the heterophasic propylene copolymer (HECO1),
 - 15 ii) 40.0 to 60.0 wt.-% of a heterophasic propylene copolymer (HECO2),
 - iii) 2.0 to 10.0 wt.-% of a high density polyethylene (HDPE),
 - iv) 5.0 to 15.0 wt.-% of a plastomer (PL) being a copolymer of ethylene and a C₄ to C₈ α-olefin,
 - v) 0 to 18.0 wt.-% of the inorganic filler (F), and
 - 20 vi) 0.01 to 4.0 wt.-% of the foaming agent (FA),based on the overall polypropylene composition (C).
2. Foamable polypropylene composition (C) according to claim 1, wherein the heterophasic propylene copolymer (HECO1) has
 - 25 i) a comonomer content of the xylene cold soluble (XCS) fraction ≤ 45.0 mol-%, preferably ≤ 40.0 mol-%, more preferably between 5.0 and 40.0 mol-%, and/or
 - ii) an intrinsic viscosity (IV) of the xylene cold soluble (XCS) fraction > 3.5 dl/g.
3. Foamable polypropylene composition (C) according to claim 1 or 2, further comprising a heterophasic propylene copolymer (HECO2) comprising
 - 30 i) a matrix (M2) being a propylene polymer (PP2) and
 - ii) an elastomeric propylene copolymer (E2) being dispersed in said matrix.

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4. Foamable polypropylene composition (C) according to claim 3, wherein the heterophasic propylene copolymer (HECO2) has
- 5 i) a melt flow rate MFR_2 (230°C, 2.16 kg) measured according to ISO 1133 in the range from 50 to 120 g/10min, and/or
- ii) a xylene cold soluble (XCS) fraction in the range of 12.0 to 35.0 wt.-%, and/or
- iii) a comonomer content of the xylene cold soluble (XCS) fraction in the range from 35.0 to 65.0 mol.-%, and/or
- 10 iv) an intrinsic viscosity (IV) of the xylene cold soluble (XCS) fraction < 3.5 dl/g.
5. Foamable polypropylene composition (C) according to claim 4, further comprising a high density polyethylene (HDPE) and/or a plastomer (PL) being a copolymer of ethylene and a C₄ to C₈ α -olefin.
- 15 6. Foamable polypropylene composition (C) according to any one of the preceding claims, wherein the matrix (M1) of the heterophasic propylene copolymer (HECO1) and/or the matrix (M2) of the heterophasic propylene copolymer (HECO2) has/have a melt flow rate MFR_2 (230°C, 2.16 kg) measured according to ISO 1133 in the range from 50.0 to 200.0 g/10min.
- 20 7. Foamable polypropylene composition (C) according to any one of the preceding claims, wherein the propylene homopolymer (H-PP), preferably a semicrystalline propylene homopolymer (H-PP), has
- 25 i) a melt flow rate MFR_2 (230°C) determined according to ISO 1133 in the range of 40.0 to 120.0 g/10 min, and/or
- ii) a melting temperature T_m in the range from 158 to 168°C.
8. Foamable polypropylene composition (C) according to any one of claims 1 to 7, comprising
- 30 i) 13.0 to 24.99 wt.-% of the heterophasic propylene copolymer (HECO1),
- ii) 40.0 to 60.0 wt.-% of the heterophasic propylene copolymer (HECO2),
- iii) 2.0 to 10.0 wt.-% of the high density polyethylene (HDPE),

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- iv) 5.0 to 15.0 wt.-% of the plastomer (PL) being a copolymer of ethylene and a C₄ to C₈ α -olefin,
 - vi) 0 to 18.0 wt.-% of the inorganic filler (F), and
 - vi) 0.01 to 4.0 wt.-% of the foaming agent (FA),
- 5 based on the overall polypropylene composition (C).
- 9. Foamable polypropylene composition (C) according to any one of the preceding claims, wherein the inorganic filler (F) is talc and/or carbon black.
- 10 10. Foamable polypropylene composition (C) according to any one of the preceding claims, wherein the foaming agent (FA) is a chemical foaming agent, preferably a bicarbonate or a mixture of citric acid and bicarbonate.
- 15 11. Foamable polypropylene composition (C) according to any one of the preceding claims, having before foaming
 - i) a melt flow rate MFR₂ (230°C) determined according to ISO 1133 in the range of 1.0 to 40.0 g/10 min, and/or
 - ii) a Charpy Impact Strength (NIS+23) measured according to ISO 179-1eA:2000 at +23°C of at least 14 kJ/m², like in the range of 14 to 60 kJ/m², and/or
 - 20 iii) a flexural modulus according to ISO 178 on plaques of 2 mm thickness of at least 1300 MPa, like in the range of 1300 to 2600 MPa, and/or
 - iv) a puncture energy measured according to ISO 6603-2 (on 60x60x2 mm³ specimens) at +23°C of at least 28 J, like in the range of 28 to 38 J.
- 25 12. Foamable polypropylene composition (C) according to any one of the preceding claims, having after foaming on plaques of 3 mm thickness.
 - i) a flexural modulus according to ISO 178 of at least 800 MPa, like in the range of 800 to 1900 MPa, and/or
 - 30 ii) a puncture energy measured according to ISO 6603-2 (on 60x60x2 mm³ specimens) at +23°C of at least 10 J, like in the range of 10 to 28 J.

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13. Use of the foamable polypropylene composition (C) according to any one of claims 1 to 12 for the production of a foamed part.
14. Foamed part, preferably foamed automotive part, comprising the foamable
5 polypropylene composition (C) according to any one of claims 1 to 12.