CLAIMS:

1. A glass comprising a plurality of components, the glass having a composition of the components comprising:

- greater than or equal to 60.0 mol.% and less than or equal to 75.0 mol.% SiO_2,
- greater than or equal to 10.0 mol.% and less than or equal to 18.0 mol.% Al_2O_3,
- greater than or equal to 0.0 mol.% and less than or equal to 10.0 mol.% Li_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% Na_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 3.8 mol.% B_2O_3,
- greater than or equal to 0.0 mol.% and less than or equal to 3.0 mol.% P_2O_5,
- greater than or equal to 0.0 mol.% and less than or equal to 2.0 mol.% ZnO,
- greater than or equal to 0.0 mol.% and less than or equal to 0.7 mol.% La_2O_3,
- greater than or equal to 0.0 at.% and less than or equal to 3.0 at.% F,
- a sum of CaO + MgO greater than or equal to 5.0 mol.%,
- a sum of Li_2O + Na_2O greater than or equal to 0.5 mol.%,
- a sum of Li_2O + MgO greater than or equal to 0.0 mol.% and less than or equal to 10.0 mol.% ,
- a sum of MgO + ZnO greater than or equal to 0.0 mol.% and less than or equal to 10.0 mol.%,
- a sum of CaO + SrO greater than or equal to 0.0 mol.% and less than or equal to 9.0 mol.%, and
- a sum of ZrO_2 + TiO_2 + FeO + Fe_2O_3 greater than or equal to 0.0 mol.% and less than or equal to 1.5 mol.%,

wherein the glass has

- an aluminum-binding parameter P_{Al} that is greater than or equal to -2.8,
- a modifier-binding parameter P_{mod} that is less than or equal to 2.8 and
- an anorthite precipitation parameter P_{anort} that is less than or equal to 10,

where

- P_{Al} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{Al} = R_2O + RO + P_2O_5 + 1.6 * RE_mO_n - Al_2O_3,$$

- P_{mod} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{mod} = R_2O + RO - Al_2O_3 - P_2O_5 - RE_mO_n, \text{ and}$$

- P_{anort} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{anort} = \min(CaO + SrO + 0.5 * BaO + Na_2O + 0.5 * K_2O, Al_2O_3),$$

where R_2O is a total sum of monovalent metal oxides, RO is a total sum of divalent metal oxides, RE_mO_n is a total sum of rare earth metal oxides in all redox states present, and an asterisk (*) means multiplication.

2. The glass of claim 1, wherein the composition of the components comprises:

- greater than or equal to 0.3 mol.% and less than or equal to 7.5 mol.% CaO,
- greater than or equal to 0.3 mol.% and less than or equal to 7.5 mol.% Li_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% MgO,
- greater than or equal to 0.0 mol.% and less than or equal to 0.5 mol.% SnO_2, and
- greater than or equal to 0.0 mol.% and less than or equal to 0.3 mol.% Fe_2O_3.

3. The glass of claim 1, wherein the glass has

- a logarithm of liquidus viscosity $\log(\eta_{liq}\ [P])$ that is greater than or equal to 5.0.

4. The glass of claim 1, wherein the glass has

- a cordierite precipitation parameter P_{cord} that is less than or equal to 5.0,
- a cristobalite precipitation parameter P_{crist} that is less than or equal to 28 and
- spodumene precipitation parameter P_{spod} that is less than or equal to 7.5,

where

- P_{cord} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{cord} = MgO + MnO + FeO,$$

- P_{crist} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{crist} = SiO_2 - 6 * (Na_2O + K_2O) - 4 * Li_2O - 2 * (CaO + SrO + BaO) - 2.5 * MgO,$$

- P_{spod} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{spod} = \min(Li_2O, Al_2O_3 - K_2O - 0.5 * Na_2O).$$

5. The glass of claim 1, wherein the glass satisfies the condition:

- $P_{spm} > 32$,

where

- P_{spm} is a specific modulus parameter, calculated from the glass composition in terms of mol.% of the components according to the Formula (II):

$$P_{spm} = 32.10 + 0.47744 * SiO_2 - 1.6506 * Al_2O_3 - 0.11775 * B_2O_3 - 0.30166 * P_2O_5 + 0.20187 * TiO_2 + 0.20219 * ZrO_2 + 0.96268 * MgO + 0.83379 * CaO + 0.53685 * SrO + 0.41218 * BaO + 0.63264 * ZnO + 0.75365 * MnO + 0.62984 * CuO - 1.2496 * Na_2O - 1.5154 * K_2O + 1.4746 * Cu_2O - 0.037941 * Y_2O_3 - 0.75836 * La_2O_3 - 1.8052 * (R_2O + RO - Al_2O_3) - 0.47488 * (SiO_2 - (6 * K_2O + 6 * Na_2O + 4 * Li_2O + 2 * RO)), \quad \text{(II)}.$$

6. The glass of claim 1, wherein the glass satisfies the condition:

- $P_{160kP} > 1150$,

where

- P_{160kP} is a parameter predicting the temperature at which the glass has a viscosity of 160 kP, calculated from the glass composition in terms of mol.% of the components according to the Formula (III):

$$P_{160kP} = 1058 + 2.5492 * SiO_2 - 25.725 * Al_2O_3 - 11.327 * B_2O_3 - 10.014 * P_2O_5 - 14.309 * TiO_2 - 11.594 * ZrO_2 + 30.559 * MgO + 29.290 * CaO + 30.592 * SrO + 30.079 * BaO + 23.323 * ZnO + 19.724 * MnO + 11.888 * PbO + 11.462 * CuO + 17.090 * Li_2O + 16.475 * Na_2O + 11.386 * K_2O + 14.422 * Y_2O_3 - 36.909 * La_2O_3 - 34.144 * (Fe_2O_3 + FeO) - 35.001 * (R_2O + RO - Al_2O_3), \quad \text{(III)}.$$

7. The glass of claim 1, wherein the glass has

- a temperature T_{200P} at which the glass has a viscosity of 200 Poise that is less than or equal to 1700 °C.

8. A glass comprising a plurality of components, the glass having a composition of the components comprising:

- greater than or equal to 60.0 mol.% and less than or equal to 80.0 mol.% SiO_2,
- greater than or equal to 10.0 mol.% and less than or equal to 18.0 mol.% Al_2O_3,
- greater than or equal to 0.5 mol.% and less than or equal to 7.5 mol.% Li_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 0.5 mol.% ZrO_2,
- greater than or equal to 0.0 mol.% and less than or equal to 3.0 mol.% RE_mO_n,
- greater than or equal to 0.0 at.% and less than or equal to 0.5 at.% F and
- optionally comprising one or more components selected from P_2O_5, B_2O_3, MgO, CaO, BaO, ZnO, MnO, Na_2O, K_2O, Fe_2O_3, FeO, Cu_2O, Rb_2O, Ag_2O, Cs_2O, Au_2O, Hg_2O, Tl_2O, BeO, CoO, NiO, CuO, SrO, CdO, SnO, PbO and TiO_2,

wherein the composition of the components satisfies the condition:

- $0.00 \leq \min(RE_mO_n, P_2O_5)\ [\text{mol.\%}] \leq 0.30$,

and wherein the glass has

- a cristobalite precipitation parameter P_{crist} that is less than or equal to 28,
- an anorthite precipitation parameter P_{anort} that is less than or equal to 10,
- a cordierite precipitation parameter P_{cord} that is less than or equal to 5.0 and
- a spodumene precipitation parameter P_{spod} that is less than or equal to 7.5,

where

- P_{crist} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{crist} = SiO_2 - 6 * (Na_2O + K_2O) - 4 * Li_2O - 2 * (CaO + SrO + BaO) - 2.5 * MgO,$$

- P_{anort} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{anort} = \min(CaO + SrO + 0.5 * BaO + Na_2O + 0.5 * K_2O, Al_2O_3),$$

- P_{cord} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{cord} = MgO + MnO + FeO,$$

- P_{spod} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{spod} = \min(Li_2O, Al_2O_3 - K_2O - 0.5 * Na_2O)$$

and wherein the glass satisfies the conditions:

- $P_{spm} > 32$,
- $P_{anpt} > 680$ and
- $P_{160kP} > 1150$,

where

- P_{anpt} is an annealing point parameter, calculated from the glass composition in terms of mol.% of the components according to the Formula (I):

$$P_{anpt} = 664.7 + 5.2303 * SiO_2 - 11.493 * B_2O_3 - 7.1742 * P_2O_5 + 8.3980 * ZrO_2 - 2.0585 * MgO - 2.1088 * CaO - 3.8995 * BaO - 10.323 * ZnO - 9.0727 * MnO - 23.455 * Li_2O - 33.819 * Na_2O - 25.204 * K_2O + 15.745 * Y_2O_3 + 8.9047 * La_2O_3 - 33.960 * (Fe_2O_3 + FeO) - 5.6704 * (R_2O + RO - Al_2O_3) - 4.2545 * (SiO_2 - (6 * K_2O + 6 * Na_2O + 4 * Li_2O + 2 * RO)) - 19.439 * Cu_2O, \quad (I)$$

- P_{spm} is a specific modulus parameter, calculated from the glass composition in terms of mol.% of the components according to the Formula (II):

$$P_{spm} = 32.10 + 0.47744 * SiO_2 - 1.6506 * Al_2O_3 - 0.11775 * B_2O_3 - 0.30166 * P_2O_5 + 0.20187 * TiO_2 + 0.20219 * ZrO_2 + 0.96268 * MgO + 0.83379 * CaO + 0.53685 * SrO + 0.41218 * BaO + 0.63264 * ZnO + 0.75365 * MnO + 0.62984 * CuO - 1.2496 * Na_2O - 1.5154 * K_2O + 1.4746 * Cu_2O - 0.037941 * Y_2O_3 - 0.75836 * La_2O_3 - 1.8052 * (R_2O + RO - Al_2O_3) - 0.47488 * (SiO_2 - (6 * K_2O + 6 * Na_2O + 4 * Li_2O + 2 * RO)), \quad (II)$$

- P_{160kP} is a parameter predicting the temperature at which the glass has a viscosity of 160 kP, calculated from the glass composition in terms of mol.% of the components according to the Formula (III):

$$P_{160kP} = 1058 + 2.5492 * SiO_2 - 25.725 * Al_2O_3 - 11.327 * B_2O_3 - 10.014 * P_2O_5 - 14.309 * TiO_2 - 11.594 * ZrO_2 + 30.559 * MgO + 29.290 * CaO + 30.592 * SrO + 30.079 * BaO + 23.323 * ZnO + 19.724 * MnO + 11.888 * PbO + 11.462 * CuO + 17.090 * Li_2O + 16.475 * Na_2O + 11.386 * K_2O + 14.422 * Y_2O_3 - 36.909 * La_2O_3 - 34.144 * (Fe_2O_3 + FeO) - 35.001 * (R_2O + RO - Al_2O_3), \quad (III)$$

where R_2O is a total sum of monovalent metal oxides, RO is a total sum of divalent metal oxides, RE_mO_n is a total sum of rare earth metal oxides in all redox states present, and an asterisk (*) means multiplication.

9. The glass of claim 8, wherein

- P_{crist} is less than or equal to 28,
- P_{anort} is less than or equal to 10,
- P_{cord} is less than or equal to 5.0,
- P_{spod} is less than or equal to 7.5,

and wherein the glass has

- a specific modulus E/d_{RT} that is greater than or equal to 32 GPa·cm^3/g,
- an annealing point An.P. that is greater than or equal to 680 °C and
- a temperature T_{160kP} at which the glass has a viscosity of 160 kP that is greater than or equal to 1150 °C,

where E is a Young's modulus and d_{RT} is a density.

10. The glass of claim 8, wherein the composition of the components comprises:

- greater than or equal to 60.0 mol.% and less than or equal to 75.0 mol.% SiO_2,
- greater than or equal to 0.3 mol.% and less than or equal to 7.5 mol.% CaO,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% MgO,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% Na_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 4.0 mol.% P_2O_5,
- greater than or equal to 0.0 mol.% and less than or equal to 0.5 mol.% SnO_2 and
- greater than or equal to 0.0 mol.% and less than or equal to 0.3 mol.% Fe_2O_3.

11. The glass of claim 8, wherein the glass has

- a logarithm of liquidus viscosity $\log(\eta_{liq}\,[P])$ that is greater than or equal to 5.0.

12. The glass of claim 8, wherein

- $P_{spm} > 33$.

13. The glass of claim 8, wherein the glass has

- a temperature T_{200P} at which the glass has a viscosity of 200 Poise that is less than or equal to 1700 °C.

14. A glass comprising a plurality of components, the glass having a composition of the components comprising:

- greater than or equal to 60.0 mol.% and less than or equal to 75.0 mol.% SiO_2,
- greater than or equal to 10.5 mol.% and less than or equal to 18.0 mol.% Al_2O_3,
- greater than or equal to 0.0 mol.% and less than or equal to 10.0 mol.% CaO,
- greater than or equal to 0.0 mol.% and less than or equal to 7.8 mol.% Li_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 4.3 mol.% MgO,
- greater than or equal to 0.0 mol.% and less than or equal to 0.5 mol.% ZrO_2,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% RE_mO_n and
- optionally comprising one or more components selected from B_2O_3, P_2O_5, TiO_2, SrO, BaO, ZnO, MnO, CuO, Na_2O, K_2O, Cu_2O, Rb_2O, Ag_2O, Cs_2O, Au_2O, Hg_2O, Tl_2O, BeO, FeO, CoO, NiO, CdO, SnO, PbO and Fe_2O_3,

wherein the glass has

- a cristobalite precipitation parameter P_{crist} that is less than or equal to 28,
- an anorthite precipitation parameter P_{anort} that is less than or equal to 10 and
- a modifier-binding parameter P_{mod} that is greater than or equal to -3.0 and

wherein the glass satisfies the condition:

- $P_{spm} - (92.5 - 0.05 * P_{160kP}) > 0.000$,

where

- P_{spm} is a specific modulus parameter, calculated from the glass composition in terms of mol.% of the components according to the Formula (II):

$$P_{spm} = 32.10 + 0.47744 * SiO_2 - 1.6506 * Al_2O_3 - 0.11775 * B_2O_3 - 0.30166 * P_2O_5 + 0.20187 * TiO_2 + 0.20219 * ZrO_2 + 0.96268 * MgO + 0.83379 * CaO + 0.53685 * SrO + 0.41218 * BaO + 0.63264 * ZnO + 0.75365 * MnO + 0.62984 * CuO - 1.2496 * Na_2O - 1.5154 * K_2O + 1.4746 * Cu_2O - 0.037941 * Y_2O_3 - 0.75836 * La_2O_3 - 1.8052 * (R_2O + RO - Al_2O_3) - 0.47488 * (SiO_2 - (6 * K_2O + 6 * Na_2O + 4 * Li_2O + 2 * RO)), \quad (II)$$

- P_{160kP} is a parameter predicting a temperature at which the glass has a viscosity of 160 kP, calculated from the glass composition in terms of mol.% of the components according to the Formula (III):

$$P_{160kP} = 1058 + 2.5492 * SiO_2 - 25.725 * Al_2O_3 - 11.327 * B_2O_3 - 10.014 * P_2O_5 - 14.309 * TiO_2 - 11.594 * ZrO_2 + 30.559 * MgO + 29.290 * CaO + 30.592 * SrO + 30.079 * BaO + 23.323 * ZnO + 19.724 * MnO + 11.888 * PbO + 11.462 * CuO + 17.090 * Li_2O + 16.475 * Na_2O + 11.386 * K_2O + 14.422 * Y_2O_3 - 36.909 * La_2O_3 - 34.144 * (Fe_2O_3 + FeO) - 35.001 * (R_2O + RO - Al_2O_3), \quad (III)$$

- P_{crist} is a value of a cristobalite precipitation parameter, calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{crist} = SiO_2 - 6 * (Na_2O + K_2O) - 4 * Li_2O - 2 * (CaO + SrO + BaO) - 2.5 * MgO,$$

- P_{anort} is a value of an anorthite precipitation parameter, calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{anort} = \min(CaO + SrO + 0.5 * BaO + Na_2O + 0.5 * K_2O, Al_2O_3),$$

- P_{mod} is a value of a modifier-binding parameter, calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{mod} = R_2O + RO - Al_2O_3 - P_2O_5 - RE_mO_n,$$

where R_2O is a total sum of monovalent metal oxides, RO is a total sum of divalent metal oxides, RE_mO_n is a total sum of rare earth metal oxides in all redox states present, and an asterisk (*) means multiplication.

15. The glass of claim 14, wherein

- P_{crist} is less than or equal to 28,
- P_{anort} is less than or equal to 10 and
- P_{mod} is greater than or equal to -3.0 and

wherein the glass satisfies the condition:

- $E/d_{RT} - (92.5 - 0.05 * T_{160kP}) > 0.000$,

where

- E/d_{RT} [GPa·cm^3/g] is a specific modulus of the glass, E is a Young's modulus and d_{RT} is a density, and
- T_{160kP} [°C] is a temperature at which the glass has a viscosity of 160 kP.

16. The glass of claim 14, wherein the composition of the components comprises:

- greater than or equal to 0.3 mol.% and less than or equal to 7.5 mol.% CaO,
- greater than or equal to 0.3 mol.% and less than or equal to 7.5 mol.% Li_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 5.0 mol.% Na_2O,
- greater than or equal to 0.0 mol.% and less than or equal to 4.0 mol.% P_2O_5,
- greater than or equal to 0.0 mol.% and less than or equal to 0.5 mol.% SnO_2 and
- greater than or equal to 0.0 mol.% and less than or equal to 0.3 mol.% Fe_2O_3.

17. The glass of claim 14, wherein the glass has

- a logarithm of liquidus viscosity, $\log(\eta_{liq}\ [P])$ that is greater than or equal to 5.0.

18. The glass of claim 14, wherein the glass has

- a cordierite precipitation parameter P_{cord} that is less than or equal to 5.0 and
- a spodumene precipitation parameter P_{spod} that is less than or equal to 7.5

where

- P_{cord} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{cord} = MgO + MnO + FeO,$$

- P_{spod} is calculated from the glass composition in terms of mol.% of the components according to the following formula:

$$P_{spod} = \min(Li_2O, Al_2O_3 - K_2O - 0.5 * Na_2O).$$

19. The glass of claim 14, wherein

- $P_{spm} > 32$.

20. The glass of claim 14, wherein the glass has a temperature T_{200P} at which the glass has a viscosity of 200 Poises that is less than or equal to 1700 °C.