4. Process according to claim 1, wherein said oxide coating is crystalline, the ratio of the reactive metal compounds being so selected that a crystalline layer is formed.

5. Process according to claim 1, said heating being at a temperature no higher than the temperature of the transformation range.

6. Process according to claim 1 wherein said second component includes H_3BO_3, P_2O_5, As_2O_5 or a mixture thereof.

7. Process according to claim 1 and including in the organic solvent a stabilizer.

8. Process according to claim 7, wherein the stabilizer is acetyl acetone or triethanolamine.

9. Process according to claim 1, said second component metal compound being alkoxide or ester.

10. Process according to claim 1, wherein said substrate is a glass having a softening point higher then the temperature of said heating.

11. Process according to claim 1, wherein said substrate is a metal having a melting point higher than the temperature of said heating.

12. Process according to claim 4, wherein said multicomponent coating is magnesium aluminum spinel.

13. Process according to claim 3, and heating the glass coating to transform it into a glass ceramic.

14. Process according to claim 1, the first component being alkoxide.

15. Process according to claim 5, the second component being alkoxide or ester.

16. Process according to claim 1, said first component being alkoxide, and said second component being alkoxide or ester.

17. Process according to claim 1, said first component being at least one of alkoxides of lithium, sodium, and potassium, said second component being at least one of compounds of magnesium, boron, titanium, silicon, phosphorus, aluminum, zirconium, lead, zinc, and arsenic.

18. Process according to claim 17, said second component being alkoxide or ester.

19. Process according to claim 16, said second component being alkoxide.

20. Process according to claim 1, said first component being at least one of alkoxides of lithium, sodium and potassium, said second component being at least one of P_2O_5, As_2O_3 and H_3BO_4.

21. Process according to claim 1, the organic solvent being an alcohol, ketone or ester.

22. process according to claim 1, the organic solvent being an alcohol.

23. Process according to claim 1, wherein coating with said solvent is effected by immersing the substrate in the solution containing the reaction product, withdrawing the wetted substrate in ambient air, and allowing solvent to evaporate from the withdrawn substrate.

24. Process of making a glass, or crystalline oxidic multi-component oxide coating on a substrate which comprises:

a. dissolving in an organic solvent as a first component at least one of alkali metal alkoxides and alkali earth metal alkoxides, and as a second component at least one of metal compounds of Groups IB, IIB, III, IV, V, VI, VII A or VIII of the periodic system, maintaining the solution at a temperature and for a time for reaction of said first component with said second component, and formation of a solution containing the reaction product, the proportion of the metal compounds in said organic solution corresponding to the composition of the glass,

b. coating the substrate with said solution, evaporating solvent from the solvent coating in the presence of moisture, to obtain said reaction product in hydrolyzed, gel form, and

c. heating said reaction product in hydrolyzed, gel form at a temperature in or below the transformation range for a time sufficient to convert said reaction product to said glass or crystalline multicomponent oxide coating substance,

d. the proportion of the invidivual components dissolved in the organic solvent being such that the composition of the glass produced is in the glassy or crystalline region of the, respective, multicomponent oxide glass or crystalline coating.

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