unfrozen fluid composition. While freezing may not initially cause significant property degradation, exposure to multiple freeze-thaw cycles may progressively degrade or entirely destroy the fluid composition's utility in building envelope protection applications. In many instances, once the composition freezes, its reliability is questioned as it may not reliably produce a high-quality membrane.

[0010] A need therefore exists for water-based fluid compositions that are capable of being used at temperatures at or below freezing and in high humidity conditions.

SUMMARY OF THE DISCLOSURE

[0011] To these and other ends, embodiments of the present disclosure include a coating composition for use in the building industry and a method of applying the coating composition, including application to exterior walls of buildings at freezing and subfreezing temperatures.

[0011a] In one aspect, there is provided a coating composition for forming a barrier membrane on an exterior wall of a building, the composition comprising: a fluid mixture of water, a water dispersible polymer binder, and a sufficient amount of alcohol of at least 10 wt%, wherein after spreading the mixture on the exterior wall, at least the binder forms the barrier membrane.

[0011b] In another aspect, there is provided a container filled with the composition described herein.

[0011c] In another aspect, there is provided a method of forming a fluid-applied membrane on a substrate comprising: while the substrate temperature is less than or equal to 0°C, spreading the composition described herein on the substrate, wherein following curing, the fluid-applied membrane forms on the substrate.

[0011d] In another aspect, there is provided a method of applying a membrane composition to a substrate of an exterior wall of a building, comprising: providing a first mixture including at least 82 wt% of an alcohol; providing a fluid composition including a water dispersible polymer binder and water; mixing the first mixture and the fluid composition to form a second mixture having alcohol in an amount of at least 10 wt%; and spreading the second mixture on the substrate.

What is claimed is:

1. A coating composition for forming a barrier membrane on an exterior wall of a building, the composition comprising:

a fluid mixture of water, a water dispersible polymer binder, and a sufficient amount of alcohol of at least 10 wt%,

wherein after spreading the mixture on the exterior wall, at least the binder forms the barrier membrane.

2. The composition of claim 1, wherein the fluid mixture is at least 16 wt% water.

3. The composition of claim 1, wherein the fluid mixture is between 16 wt% and 35 wt% water.

4. The composition of claim 1, wherein the fluid mixture is from 10 wt% to 22 wt% alcohol.

5. The composition of claim 1, wherein the fluid mixture includes alcohol in the range of 10 wt% to 12 wt%.

6. The composition of claim 5, wherein the fluid mixture includes water in the range of 14.5 wt% to 24 wt%.

7. The composition of claim 1, wherein the binder includes a vinyl acetate acrylic copolymer.

8. The composition of claim 1, wherein the amount of water is greater than the amount of the alcohol.

9. The composition of claim 1, further including a thickener present in an amount from 1.3 wt% to 1.7 wt%.

10. The composition of claim 1, wherein the mixture includes from 25 wt% to 45 wt% of a filler.

11. The composition of claim 1, wherein the mixture includes from 24 wt% to 32 wt% of a filler.

12. A container filled with the composition of claim 1.

13. A method of forming a fluid-applied membrane on a substrate comprising:

while the substrate temperature is less than or equal to 0°C, spreading the composition of claim 1 on the substrate, wherein following curing, the fluid-applied membrane forms on the substrate.

14. The method of claim 13, wherein spreading the mixture on the substrate includes rolling or spraying the mixture on the substrate.

15. A method of applying a membrane composition to a substrate of an exterior wall of a building, comprising:

providing a first mixture including at least 82 wt% of an alcohol;

providing a fluid composition including a water dispersible polymer binder and water;

mixing the first mixture and the fluid composition to form a second mixture having alcohol in an amount of at least 10 wt%; and

spreading the second mixture on the substrate.

16. The method of claim 15, wherein the second mixture includes from 14.5 wt% to 24 wt% water.

17. The method of claim 15, wherein mixing includes forming the second mixture with 10 wt% to 22 wt% alcohol.

18. The method of claim 15, wherein mixing includes forming the second mixture with at least 10 wt% to 12 wt% alcohol.

19. The method of claim 15, wherein spreading includes spraying the second mixture and the substrate is a vertical exterior wall.

20. The method of claim 15, wherein spreading includes spreading the second mixture on a substrate at an ambient temperature of between -15°C and -12°C.