Sealing Requirements
Minerit HD

Minerit HD is a non-pigmented raw fiber cement board with no surface coating. It is an air-cured product that consists of Portland cement, mineral fillers, plastic and cellulose fibers. Minerit HD is an air cured product and by nature alkalic when fresh. It can be used in a variety of different applications including exterior wall cladding.

Minerit HD is a natural material and variations may occur in individual boards and from board to board. Depending on the application, Minerit HD can be left uncoated or it must be sealed.

Figure 1: Minerit HD – 8 mm sample

Uncoated Minerit HD

When Minerit HD is installed as is, with no coating/sealant, the fiber cement is likely to exhibit efflorescence and staining over extended periods of time depending on the type of exposure and climate conditions. Therefore, it cannot be installed in a rainscreen system without the use of a coating. Without a coating, the product will still structurally perform for the life of the building, but its appearance will alter over time. In industrial applications where the surface appearance of the board is of less importance, the panels do not need to be but sealed but efflorescence will likely occur.

Sealing Minerit HD

When using Minerit HD for cladding in a rainscreen system, the panels must be sealed, typically on all sides. They can be painted on-site with acrylic paint systems or transparent stains suitable for cement-based materials. If painting the surface of Minerit HD, refer to page two. All surface coating products must be alkali resistant. If a vapor permeable paint is used, then only the visible surface of the board can be coated. If a non-vapor permeable sealant or paint is used, all six sides of the panel must be sealed to prevent any moisture from entering. Even when sealed, Minerit HD still needs to be installed in accordance with AFCC's installation guidelines in order for the system to function properly.

Painting Minerit HD Facade Boards on Site

Paints

It is recommended that the paint or sealant manufacturer is consulted to ensure their product is suitable on a fiber cement substrate. The paints must be alkali resistant; because of the surface of fresh Minerit HD is alkalic due to the free lime released by the hydration reactions of Portland cement. If coating the boards is to take place on site, the boards need to be totally dry and under cover in a dust free area.

Water based paints are suitable, especially **100% acrylic** type.

When you paint the boards on site, you need to apply the paint on the face side only provided that:

- The finished paint layer allows water vapor and carbon dioxide to travel through it. This is absolutely necessary, because the aging reactions of the board must proceed at the same speed on both sides of the board. Otherwise warping will occur.
- Every paint type and application system must be checked in advance for its permeability. The paint layer must not decrease the water vapor permeability of the board more than 40%.
- It is also advisable to check the adhesion of the paint to the surface of the board.

Other general rules in painting:

- The surface must be clean (beware of greasy gloves).
- The surface must be dry.
- Follow the temperature range recommendations of the paint producer; avoid temperatures below +5 degrees C or direct hot sunshine.

If the above parameters (water vapor and carbon dioxide permeability) cannot be determined and verified, then all six surfaces of the boards must be coated, painted and/or sealed in the same manner, with the same application of materials. This results in a "balanced" board with all six sides (faces and edges) in equilibrium.

Testing paints

Surface coating tests should be performed before applying the coatings to the entire project to ensure he painted product has adequate esthetical value and it is durable enough in the environment it is going to be installed.

- Make sure that the color and shade of the top layer paint stands.
- Make sure that the gloss of the paint either remains unchanged or ages elegantly.
- Test carefully the adhesion of the primer paint to the board surface and also the top layer adhesion to the primer paint.

AFCC will not accept responsibility of the paints/sealant or painting/sealing work. It is 100% up to the painting company to ensure that the paints, application methods and the painting process are suitable for Minerit boards and the paints selected.

**Contact American Fiber Cement Corporation with any questions pertaining to painting or sealing.*