Fiber-Cement (Hardie HZ-5 Lap) vs. DURATION® Poly-Ash Siding

While fiber-cement (FC) has an initially lower product cost than DURATION® poly-ash (DPA) siding products, poly-ash out-performs fiber-cement in nearly every metric:

Overall Aesthetics:

The objective of traditional style "non-wood" sidings is to simulate real wood. FC is a consistently thin, lap profile siding and not a beveled profile siding product. FC measures 5/16" thickness continuously across the face. DPA beveled siding standardly measures 7/16" or 5/8" at the butt end and tapers to approximately 3/16". As a result, DPA produces dramatically heavier shadow lines than FC and a much more "substantial" look.

Pictured: Edge View :DPA 5/8" x 8 and James Hardie 5/16" x 8 Cedarmill

Pictured: Face View: DPA 5/8” x 8 and James Hardie 5/16” x 8 Cedarmill

FC is available in a Woodgrain (Cedarmill) face and a “smooth” face. The FC woodgrain face is generally perceived as “overly woodgrain” and, as a result, a poor simulation of actual woodgrain, thereby resulting in a “fake” appearance that’s evident from a significant distance (the street). The so-called “smooth” product has more of a “cardboard” surface as shown below and, as a result, also fails to simulate real wood.

Pictured: James Hardie 5/16” x 8” Smooth w/ applied paint

The DPA smooth product is indistinguishable from painted cedar – even from inches away. It is also available in a much more realistic woodgrain face.

Pictured: DURATION 5/8" x 9-1/4" Smooth w/ applied paint

Safety:

This is the exact font size of the Silica Warning in James Hardie's FC installation instructions:

SILICA WARNING

DANGER: May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product. Refer to the current product Safety Data Sheet before use. The hazard associated with fiber cement arises from crystalline silica present in the dust generated by activities such as cutting, machining, drilling, routing, sawing, crushing, or otherwise abrading fiber cement, and when cleaning up, disposing of or moving the dust. When doing any of these activities in a manner that generates dust you must (1) comply with the OSHA standard for silica dust and/or other applicable law, (2) follow James Hardie cutting instructions to reduce or limit the release of dust; (3) warn others in the area to avoid breathing the dust; (4) when using mechanical saw or high speed cutting tools, work outdoors and use dust collection equipment; and (5) if no other dust controls are available, wear a dust mask or respirator that meets NIOSH requirements (e.g. N-95 dust mask). During clean-up, use a well maintained vacuum and filter appropriate for capturing fine (respirable) dust or use wet clean-up methods - never dry sweep.

Here's what it says:

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Translation – The dust is highly dangerous… and those associated with the installation of this product (building owners, general contractors, actual installers) must be cognizant of this potential liability unless all OSHA guidelines are strictly adhered to.

It goes without saying why the print is so small.

DPA requires only standard dust protection as is recommended when cutting any type of material, including real wood.

Performance:

There is a reason why you've never seen a demonstration where FC is suspended in water. The reason is that FC will rapidly deteriorate when subjected directly to water. FC relies on paint (and other means of sealing) to protect the core material from contact with water. If water gets to the substrate of FC, it will deteriorate. If water gets to the substrate of DPA, DPA is completely unaffected.

Pictured: DURATION Poly-Ash moulding suspended in water

Pictured: The result of water infiltration on the ends of FC siding boards

Installation – Product Lengths:

FC siding comes in 12’ lengths. DPA siding comes in 16’ lengths. Not only does a longer length speed installation, but results in (on average) 30% fewer joints.

Installation – Cut Edge Treatment:

FC MUST have all cut edges properly sealed. This requires a substantial amount of time and can likely be impossible to do properly should installation temperature or weather conditions not allow. James Hardie suggests caulk, but doesn’t recommend caulk at joint treatments on prefinished product because of potential discoloration. The same must then be true on edge treatments. It’s clear that caulk cannot be relied upon to seal products permanently

CUT EDGE TREATMENT

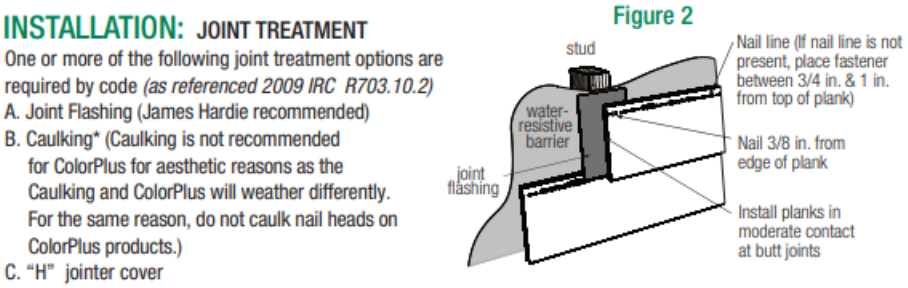
Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

Pictured: James Hardie cut edge treatment instructions

DPA requires no edge sealing, thereby vastly improving installation time.

Installation – Joint Treatment:

FC boards must be installed in “moderate contact”, whatever that means… and a joint flashing is recommended behind the joint. With DPA, the siding material gets butted end to end. Again, this speeds installation

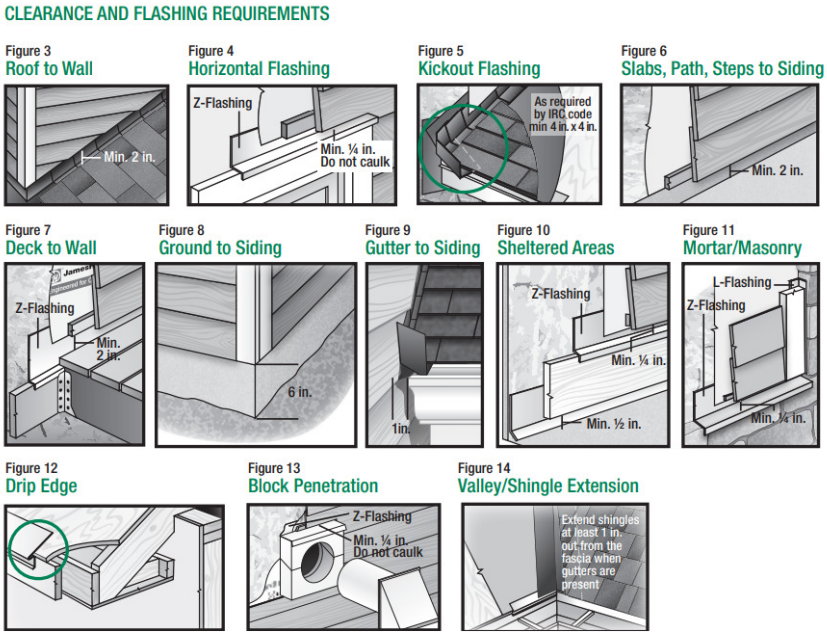


Pictured: James Hardie joint treatment instructions

In the event a substrate is not flat, DPA boards also have the ability to be sanded so that faces are smooth. FC boards cannot be sanded and tend to telegraph substrate imperfections

Installation – Clearance Requirements:

The requirements for proper clearances between FC and other materials/locations is substantial – requiring not only additional installation time and planning, but additional materials to bridge the gaps. Clearances also generally result in unsightly details. Failure to maintain these clearances, however, voids the product performance warranty



Pictured: James Hardie clearance and flashing requirements

Pictured: James Hardie installed too close to grade and immediately failing

DPA has no clearance requirements from grade, roofing, or patios. So, in the case of siding a dormer area, as an example, the DPA can be cut to the roof angle and placed directly contacting the roof or slightly off the roof – without ANY edge treatment, clearance, or additional material used between the roofing material and the siding. There is a significant labor savings as a result and no opportunity to void a product performance warranty.

Installation – Temperature:

DPA can be installed in any temperature (think the months of December through March). FC can only be properly installed (without voiding the warranty) when products are capable of being effectively applied to all cut edges for sealing. FC products do not carry any warranty at all in the state of Alaska – telling.

Finishing:

DPA is supplied ready to finish and allows for easy and economical finishing in the field of any color. Unlike primed FC, which requires finishing of cut edges, DPA does not. DPA, though frequently supplied with a primed face (which is for aesthetic reasons only), does not require priming over the raw or unfinished material. Field finishing provides multiple benefits including: (1) providing the exact color the client wants (2) allowing for a complete and clean "finish" of the project on the site when dust and dirt on the site

are no longer likely to be an issue, and, most importantly (3) the ability to "touch-up" and/or repair siding in the future in an inconspicuous manner.

Touch-up / Repair:

While prefinished FC is economical, it not only requires a great deal of care during installation (so as not to mar the prefinish) but it is virtually impossible to touch up or repair for two main reasons: (1) field applied paint/touch-up typically "flashes"…meaning it presents as a different sheen or surface texture and (2) larger repairs result in the inability to simulate the texture (either the "smooth" or the "woodgrain") resulting in an obvious "patch". James Hardie suggests that if a touch-up area is larger than the size of a dime with their prefinished product, the entire board should be replaced. The following is from James Hardie's finishing instructions:

- If the touch up area is larger than the size of a dime, the use of ColorPlus® Touch-up Kit is NOT recommended. It is advised to replace the damage siding with a new section of ColorPlus® siding.

Further, FC does not respond well to impact… whether it be sports balls or other items that contact the surface. DPA is much denser in this regard and able to be patched with standard wood fillers/epoxies if necessary with the "smooth" surface textured re-created using 50-60 grit sandpaper in a horizontal motion.

Pictured: Fiber cement siding impacted in various ways on a commercial building

Re-Finishing:

At some point, all paint finishes need to be re-painted… and standardly, surfaces to be repainted are cleaned and lightly sanded to readily accept the new finish. FC, however, cannot be sanded and alternative options for "prepping" the surface (including power-washing) can actually do additional harm by forcing moisture into the substrate.

DPA can be power-washed and sanded for re-finishing at any time without fear of harming the product.

Maintenance:

Once DPA is installed, related maintenance is virtually nil – simple inspections from time to time are all that are suggested. Exposure to de-icers, irrigation systems, foliage, etc. are not a concern with DPA. With FC, a variety of ongoing "recommendations" are required which, if not done, will void the product warranty. The following are from James Hardie's site regarding maintenance.

Please follow these recommendations on caring for your James Hardie products. Damage to siding and trim arising from improper cleaning or maintenance may not be covered by the James Hardie warranty.

Exterior House Washing Recommendations for Fiber Cement Siding and Trim

Follow these recommendations to clean the exterior of your home and to help maintain the beauty and value of your James Hardie siding.

- Wash down the exterior surfaces every 6 to 12 months with a garden hose to remove dirt and debris, gently clean your siding with a soft brush or wet soft cloth in a side to side motion in the direction of the plank siding.
  NOTE: Clean by working small sections at a time, starting from the top down to prevent dripping or streaking onto the cleaned area.

- Avoiding direct contact with deicing salts, as these salts may prematurely damage the finished look of the siding. We recommend the use of sand or gravel to manage snowy or icy surfaces near siding.

- Keeping vegetation such as shrubs, bushes, and small trees trimmed back and away from the home and siding.

- Adjusting sprinkler systems so they do not excessively spray on siding or continuously soak the ground near your house.

Historical Acceptance:

DPA is widely accepted in HARB (Historical Architectural Review Board) controlled areas. Areas like Charleston, SC and Martha's Vineyard are historically significant, for example. They allow DPA, but no other composite materials…and they especially exclude FC.

Environmental Impact:

FC products require a lot of energy for their production and are not considered "green". DPA products contain a minimum of 70% recycled content as verified by SCS Global Services.

Mouldings & Millwork Availability of Same Material:

FC products do not have moulding offerings produced from the same material. As a result, an entirely new product must be introduced to address moulding, millwork, and any specialty needs. FC product cannot be milled or profiled.

DPA offers a full range of standard mouldings and one-piece outside corners as well as customized mouldings and millwork. Materials can be safely milled, planed, sanded, and shaped on a job site. As a result, the entire exterior of a building can be clad in like material to provide consistency in application, appearance, finishing, performance, and warranty.

For more information or further questions, please contact:

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DURATION® MOULDING & MILLWORK