Product Evaluation

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: EC-16

Effective Date: December 1, 2016
Re-evaluation Date: October 2020

Product Name: Allura Fiber Cement Siding Products

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Distributed under the brand name Allura will be acceptable for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

Product Description:

The fiber cement lap and panel siding products evaluated in this report are cellulose fiber reinforced cement siding boards comprised of cellulose fiber bundles that are mixed with Portland cement, silica, clay or fly ash and limestone. The cellulose fiber cement mixture is formed into sheets and then cut to master size. A smooth or embossed pattern is pressed into the masters before they are sent to the final autoclaving process. After the autoclaving process, the masters are cut to product sizes. A primer coating is applied to the siding, and at the customer's request, a finish paint coating may be applied to the siding. All siding must be clearly labeled with the manufacturer's name, plant of production and/or trademark.

The following fiber cement siding products have been accepted:

Lap Siding is nominal 5/16" thick. The siding is available in 5-1/4, 6-1/4, 7-1/4, 8-1/4 and 9-1/4" wide profiles. The siding is 12' in length. The following profiles and textures are available: cedar lap siding with a textured surface; and smooth lap siding.
Shapes Siding is nominal 5/16" thick. The siding panels are 16" wide and 48" long and are available in 4 different configurations: Random Square Straight Edge, Random Square Staggered Edge, Half-Rounds and Octagons with a textured surface.
Perfection Shingles is nominal 7/16". The siding is 8-1/4" wide and 12' long and has a textured surface.
Individual Shakes is nominal 1/4" thick. The shake panels come in 6-1/4, 8-1/4, and 12" widths, are 18" long and have a textured surface.
Vertical Siding is nominal 5/16" thick. The siding is available in 48” x 96”, 108” and 120” wide profiles. The following profiles and textures are available: smooth panel, stucco texture panel, cedar panel no grooves, cedar panel with 3/8" grooves.
Soffit is nominal 1/4" thick. 8' long panels are available in 4' widths. 12' long panels are available in 12", 16" and 24" widths. The panels may be perforated or smooth.

Installation Instructions
General Installation Requirements:
All fasteners shall be corrosion resistant. If non-structural sheathing is installed between the siding and the wall studs, then the length of the fastener shall be increased such that the fasteners penetrate the wall studs a minimum of 1-1/4" unless instructed otherwise. Fiber cement siding must not be used to resist lateral loads.

Wind Resistant Assemblies:

Table 1: Lap Siding, 12 inches in width or less
Face Fastened

Assembly #	Allowable Design Pressure (psf)	Fastening Method	Fastener Type	Min. Framing Type	Max. Framing Spacing (in)	Min. Sheathing
(1) [12F/W/16]	-40	Face Fastened through Overlap	Min. 2-1/2" galvanized roofing nails, 0.092" shank diameter, 0.222" head diameter	2 x 4 Spruce-Pine-Fir	16	5/8” gypsum
Installation (Face Fastened Lap Siding): Wall bracing must be installed as required. A water resistive barrier must be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding must be applied with a minimum 1-1/4 inch overlap. Position the fasteners 3/4 inch from the bottom edge of the siding in order to penetrate both courses. Fasten 3/8 inch from butt ends.						

Table 2A: Lap Siding, 9 1/4 inches in width or less Face Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(2) [9.25F/W/16]	-68	Face fastened to framing	7d galvanized siding nails (2-1/2" long, nominal 0.095" shank diameter, 0.235 head diameter)	2 x 4 Spruce-Pine-Fir	16	N/A
Installation (Face Fastened Lap Siding): Wall bracing must be installed as required. A water resistive barrier must be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding must be applied with a minimum 1-1/4 inch overlap. Position the fasteners 3/4 inch from the bottom edge of the siding in order to penetrate both courses. Fasten 3/8 inch from butt ends.						

Table 2B: Lap Siding, 9 1/4 inches in width or less Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(3) [9.25B/W/16]	-40	Blind fastened to framing	6d galvanized roofing nails (2 inch long, 0.120 shank diameter, 3/8 inch diameter head)	2 x 4 Spruce-Pine-Fir	16	N/A
(4) [9.25B/S/16]	-32	Blind fastened to framing	Min. #8 x 1-5/8 inch long self-tapping, corrosion resistant screws with a 3/8 inch diameter wafer head	Min. 16 gauge 3.625" x 1.375" steel C-stud	16	N/A
Installation (Blind Fastened Lap Siding): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1-1/4 inch overlap. Position the fasteners 3/4 inch from the top edge of the siding. Fasten not less than 3/8 inch from butt ends. For installation over minimum 20ga metal wall studs, a minimum of 1/2 inch thick gypsum shall be applied on the interior surface.						

Table 3A : Lap Siding, 8 1/4 inches in width or less Face Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(5) 8.25F/S/24	-55	Face Fastened through Overlap	#8-18 x .390" head diameter x 2" wafer head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8" gypsum
Installation (Face Fastened Lap Siding): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1-1/4 inch overlap. Position the fasteners 3/4 inch from the bottom edge of the siding in order to penetrate both courses. Fasten 3/8 inch from butt ends.						

Table 3B: Lap Siding, 8 1/4 inches in width or less Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(6) [8.25/F/16]	-30/+83	Blind Fastened to Furring	#10 – 13 x 0.450" HD x 2" Type "A" pancake head screw	1 x 4 Spruce-Pine-Fir	16	N/A
(7) [8.25B/F/24]	-28/+91	Blind Fastened Furring	#10 – 13 x 0.450" HD x 2" Type "A" pancake head screw	1 x 4 Spruce-Pine-Fir	24	N/A
(8) [8.25B/S/16]	-29	Blind Fastened to Framing	#10 – 13 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	5/8" gypsum
(9) [8.25B/SJ/16]	-29	Blind Fastened to Framing with Joiner clips at Joints	#10 – 13 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	5/8" gypsum
Installation (Blind Fastened Lap Siding): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1¼ inch overlap. Position the fasteners 3/4 inch from the top edge of the siding. Fasten not less than 3/8 inch from butt ends. For installation over minimum 20ga metal wall studs, a minimum of 1/2 inch thick gypsum shall be applied on the interior surface.						

Table 4A : Lap Siding, 7 1/4 inches in width or less Face Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(10) [7.25F/S/24]	-50	Face Fastened through Overlap	#8-18 x .390" head diameter x 2-1/4" wafer head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8" gypsum and ½" rigid insulation

Table 4B: Lap Siding, 7 1/4 inches in width or less Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(11) [7.25B/S/16]	-36	Blind Fastened to Framing	#10 – 16 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	5/8" gypsum
(12) [7.25B/S/24]	-32	Blind Fastened to Framing	#10 – 16 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8" gypsum
(13) [7.25B/W/16]	-57	Blind Fastened at 8" o.c.	.120" x .375" head diameter x 1-3/4" galvanized roofing nail	2 x 4 Spruce-Pine-Fir	16	15/32" SPF Plywood
(14) [7.25B/W/16]	-40	Blind Fastened at 8" o.c.	#10-13 x .450 HD x 1-1/2" pancake head screw	2 x 4 Spruce-Pine-Fir	16	15/32" SPF Plywood
Installation (Blind Fastened Lap Siding): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1¼ inch overlap. Position the fasteners 3/4 inch from the top edge of the siding. Fasten not less than 3/8 inch from butt ends. For installation over minimum 20ga metal wall studs, a minimum of ½ inch thick gypsum shall be applied on the interior surface.						

Table 5: Lap Siding, 6 ¼ inches in width or less Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(15) 6.25B/S/24	-40	Blind Fastened to Framing	#10 – 16 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8" gypsum
(16) 6.25B/S/16	-58	Blind Fastened to Framing	#10 – 16 x 0.450" HD x 2" Type "A" pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	5/8" gypsum
Installation (Blind Fastened Lap Siding): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1¼ inch overlap. Position the fasteners ¾ inch from the top edge of the siding. Fasten not less than ⅜ inch from butt ends. For installation over minimum 20ga metal wall studs, a minimum of ½ inch thick gypsum shall be applied on the interior surface.						

Table 6: Shapes Siding Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(17) [SB/W/16]	-89	Blind fastened to sheathing	6d galvanized, ring-shank nails	2 x 4 Spruce-Pine-Fir	16	5/8" OSB
(18) [SB/S/16]	-50	Blind fastened to sheathing	#9 x .40 head diameter x 2-1/4" ribbed wafer head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	7/16" OSB
Installation (Blind Fastened Shapes Siding): A water resistive barrier shall be applied to the wall sheathing prior to siding installation. Refer to the manufacturer's installation instructions for installation requirements. Shapes siding has different requirements for fastener placement and overlapping.						

Table 7: Perfection Shingles Blind Fastened					
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**
(19) [PB/W/16]	-31	Blind fastened to framing	Min. 1 3/4 inch galvanized roofing nails, 0.120" shank diameter, 3/8" HD	2 x 4 Spruce-Pine-Fir	16
Installation (Blind Fastened Perfection Shingles): Wall bracing shall be installed as required. A water resistive barrier shall be applied to the wall studs prior to siding installation. Vertical joints shall occur over wall framing. The siding shall be applied with a minimum 1¼ inch overlap. Position the fasteners 3/4 inch from the top edge of the siding. Fasten 3/8 inch from butt ends.					

Table 8: Individual Shakes Blind Fastened						
Assembly Number	**Allowable Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(20) [IB/W/16]	-31	Blind fastened to sheathing; two nails per shake	Min. 1½ inch long galvanized roofing nails, 0.120" shank diameter, 3/8" HD	2 x 4 Spruce-Pine-Fir	16	7/16" OSB
Installation (Blind Fastened Individual Shakes): A water resistive barrier shall be applied to the wall sheathing prior to siding installation. The siding shall be applied with a minimum ten-inch overlap. Position the fasteners nine-inches up from the bottom edge of the siding. Fasten one-inch from the side edges.						

Table 9: Smooth Vertical Siding 4’ x 8’						
Assembly Number	**Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(21) VPB/PLY/16	-60	Fastened to Sheathing at 6” o.c.	#8 x 0.040” HD x 1-5/8” ribbed wafer head screws	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	15/32” SPF Plywood
(22) VPB/SGP/24	-33	Fastened through Polyiso and Sheathing at 6” o.c.	#9 x 0.040” HD x 2-1/4” ribbed wafer head screws	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8” Gypsum & ½” Polyiso
(23) VPB/SP/24	-29	Fastened through Sheathing at 6” o.c.	#9 x 0.040” HD x 2-1/4” ribbed wafer head screws	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	½” Polyiso
(24) [VPT/SH/24]	-47	Siding fastened to easytrim @ 12” o.c. to horizontal 20 ga hat channel spaced 16” o.c.	#10 – 16 x 0.450” HD x 2” Type “A” pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8” Gypsum
(25) [VP/WOSB/16]	-42	Fastened to Z-Girt using Commercial Fastening Pattern A	#10 – 13 x 0.450” HD x 2” pancake head screw	2 x 4 Spruce-Pine-Fir	16	7/16” OSB w/ 2” Z-Girts
(26) VPB/S/24	-39	Fastened to framing using Commercial Fastening Pattern C	#10 – 12 x 0.450” HD x 1-1/2” pancake head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	24	5/8” Gypsum
(27) [VPT/WOSB/16]	-42	Fastened to framing at 6” o.c.	.120” x .375” head diameter x 1-3/4” galvanized roofing nail	2 x 4 Spruce-Pine-Fir	16	7/16” OSB
Installation (Vertical Siding): Panels must be installed with framing spacing between 12” to 24” o.c. and a minimum 7/16” OSB, ½” plywood, or other sheathing. Fasten the siding at all stud locations. Do not fasten closer than 2” from the corners in either direction. Place fasteners no closer than 3/8” form edge. Space fasteners a max of 6” o.c. on al ledges and 12” o.c. at intermediate framing members. Paint all field-cut edges. Butt all vertical panel joints together. Do not caulk vertical joints unless covering vertical joint with trim batten.						

Table 10: Soffit, 24 inches in width or less						
Assembly Number	**Design Pressure (psf)**	**Fastening Method**	**Fastener Type**	**Min. Framing Type**	**Max. Framing Spacing (in)**	**Min. Sheathing**
(28) [S/S/16]	-70	Fastened 4" o.c. at perimeter and intermediate wall	#8 x 1-1/4" length x .315 head diameter ribbed bugle head screw	Min. 20 gauge 3.625" x 1.375" steel C-stud	16	N/A
(29) [S/W/16] **(30)**	-70	Fastened 4" o.c. at perimeter and intermediate wall	6d x 2" galvanized common nail	2 x 4 Spruce-Pine-Fir	16	N/A
Installation (Soffit): The soffit shall be fastened ¾" from the side edge, 3/8" from the butt end, and 2-inches from the corner. Butt ends should be in contact, fastened at corresponding ends, and supported by framing. Cut edges shall be primed or painted prior to soffit installation.						

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.