PRI Construction Materials Technologies LLC

6412 Badger Drive
Tampa, FL 33610
813.621.5777
https://www.pri-group.com/

Laboratory Test Report

Report for:	Leonel Aarón Borja Alemán Aircrete Mexico Calle 3, Número 7 Parque, Industrial PLATAH Villa of Tezontepec Hidalgo, 43880
Product Name:	Aircrete Cladding 2”
Project No.:	2351T0003
Dates Tested:	May 18th - 20th, 2021
Test Methods:	TAS 202 / ASTM E330
Results Summary:	L/360 = ±50 psf
Miami-Dade Notification:	PRI2120568

Purpose: Evaluate the wind load resistance of Aircrete Mexico’s 2” Aircrete cladding installed over 2x4 wooden studs at 16” O.C. per the methods outlined in TAS 202 and ASTM E330.

Test Description: Testing was conducted in accordance with the methods and protocols outlined in Testing Application Standard (TAS) 202-94 Criteria for Testing Impact & Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure, and ASTM E330/E330M-14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

Sampling: The following materials were received by PRI via common carrier. All other materials for testing were procured thru local distribution.

Product	Source	Date	Sampling
Aircrete Cladding 2” Aircrete Adhesive Mortar	Villa of Tezontepec Hidalgo, Mexico	March 26th, 2021	Aircrete Mexico

Cladding Panels: Nominal 48” wide x 24” tall x 2” thick Four (4) per assembly
Nominal 80” wide x 24” tall x 2” thick Four (4) per assembly

Cladding Description:

Manufacturing Date:	November 11th, 2020
Age:	140 days
Finishing Type:	Without Finishing
Curing:	Autoclave Process
Mixing:	General Mixture contained in Appendix A
Reinforcement:	Embedded 11ga steel wire (See Appendix)

Assembly Detail: Test assemblies were constructed from nominal 2x4 SYP studs spaced 16” O.C. Each test assembly was approximately 129” wide by 96” tall containing eight (8) cladding panels with each row staggered. The first row of panels were set into a 1/2” bed of Aircrete mortar. Panels were attached on the ends with two (2) #10 x 3-1/2” screws located approximately 3/4” from the edges and 8” O.C. The interior of the panels were attached to each vertical intermediate with three (3) #10 x 3-1/2” screws located at the centerline and 3” from the ends. All anchors were counter sunk 1/4” into the cladding panels and sealed with Aircrete mortar. 1/8” thick layers of Aircrete mortar was troweled between each adjacent panel and between each row. A weather resistive barrier was stapled on the studs prior to attaching the cladding panels. See Appendix A for detailed drawings and photographs.

Testing Location: Testing was conducted at PRI-CMT located in Tampa, FL. Calibration of testing instrumentation was performed by either a ISO accredited calibration laboratory or by a PRI-CMT representative in compliance with PRI-CMT In-House quality control program governed by ISO/IEC 17025-17.

Official List of Witnesses:

Name	**Company**
Tim Efaw	PRI-CMT
Ken Binnion	PRI-CMT
Leonel Aarón Borja Alemán	Aircrete

Equipment Utilized: Computer controlled reversible blower with pressure transducers.
Water Spray Rack
Gas Mass with LFE
Linear Distance transducers.

Continued on the next page…

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com

Test Results: Conditions at beginning of testing 22°C (73°F) with 50% Rh.

Table 1: Assembly 1 TAS 202 / ASTM E330

Test Specification:	Test Pressure[3]	Allowable	Recorded Measurement	Result
Air Infiltration ASTM E283	75 Pa (1.57 psf)	≤ 0.3 L/s/m^2 (≤ 0.06 cfm/ft^2)	0.3 L/s/m^2 (0.05 cfm/ft^2)	**Pass[1]**
½ Uniform Load ASTM E330[2] TAS 202 ½ Load	±38 psf	Deflection Report Only	Positive: 0.01”	**Pass**
			Negative: 0.01”	
Uniform Load Deflection ASTM E330[2] TAS 202 Design Pressure	±50 psf	Deflection L/360 ≤ 0.04”	Positive: 0.01”	**Pass**
			Negative: 0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	
Water Intrusion ASTM E331	300 Pa (6.26 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[4]**
	360 Pa (7.52 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[5]**
Uniform Load Structural ASTM E330[2] TAS 202 Full Test Load	±75 psf	Deflection Report Only	Positive: 0.01”	**Pass[6]**
			Negative: 0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	

Notes:
1. The tested specimen meets or exceeds the performance levels specified in AAMA 501 Methods of Test for Exterior Walls for air leakage resistance.
2. Loads were held for 30 seconds.
3. Deflection and permanent set were captured between the vertical framing member, unsupported span measured 14”.
4. Tested for continuous 2hrs with pressure differential and water.
5. Tested for 15 min with pressure differential and water.
6. Upon completion of testing the specimen did not have indication of deterioration or incipient failure, such as cracking, fastener loosening, local yielding exceeding 10% of maximum deflection, or loss of adhesive bond.

Continued on the next page…

Table 2: Assembly 2 TAS 202 / ASTM E330

Test Specification:	Test Pressure[3]	Allowable	Recorded Measurement	Result
Air Infiltration ASTM E283	75 Pa (1.57 psf)	≤ 0.3 L/s/m^2 (≤ 0.06 cfm/ft^2)	0.2 L/s/m^2 (0.04 cfm/ft^2)	**Pass[1]**
½ Uniform Load ASTM E330[2] TAS 202 ½ Load	±38 psf	Deflection Report Only	Positive: <0.01”	**Pass**
			Negative: 0.01”	
Uniform Load Deflection ASTM E330[2] TAS 202 Design Pressure	±50 psf	Deflection L/360 ≤ 0.04”	Positive: 0.01”	**Pass**
			Negative: <0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	
Water Intrusion ASTM E331	300 Pa (6.26 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[4]**
	360 Pa (7.52 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[5]**
Uniform Load Structural ASTM E330[2] TAS 202 Full Test Load	±75 psf	Deflection Report Only	Positive: 0.02”	**Pass[6]**
			Negative: <0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	

Notes:

1. The tested specimen meets or exceeds the performance levels specified in AAMA 501 Methods of Test for Exterior Walls for air leakage resistance.
2. Loads were held for 30 seconds.
3. Deflection and permanent set were captured between the vertical framing member, unsupported span measured 14”.
4. Tested for continuous 2hrs with pressure differential and water.
5. Tested for 15 min with pressure differential and water.
6. Upon completion of testing the specimen did not have indication of deterioration or incipient failure, such as cracking, fastener loosening, local yielding exceeding 10% of maximum deflection, or loss of adhesive bond.

Continued on the next page…

Table 3: Assembly 3 TAS 202 / ASTM E330

Test Specification:	Test Pressure[3]	Allowable	Recorded Measurement	Result
Air Infiltration ASTM E283	75 Pa (1.57 psf)	≤ 0.3 L/s/m^2 (≤ 0.06 cfm/ft^2)	0.2 L/s/m^2 (0.04 cfm/ft^2)	**Pass[1]**
½ Uniform Load ASTM E330[2] TAS 202 ½ Load	±38 psf	Deflection Report Only	Positive: <0.01”	**Pass**
			Negative: 0.01”	
Uniform Load Deflection ASTM E330[2] TAS 202 Design Pressure	±50 psf	Deflection L/360 ≤ 0.04”	Positive: <0.01”	**Pass**
			Negative: 0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	
Water Intrusion ASTM E331	300 Pa (6.26 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[4]**
	360 Pa (7.52 psf)	No penetration of water beyond innermost plane, excluding trim and hardware.	No Leakage	**Pass[5]**
Uniform Load Structural ASTM E330[2] TAS 202 Full Test Load	±75 psf	Deflection Report Only	Positive: <0.01”	**Pass[6]**
			Negative: 0.01”	
		Permanent Set 90% Recovery over Maximum Deflection	Positive: <0.01”	
			Negative: <0.01”	

Notes:

1. The tested specimen meets or exceeds the performance levels specified in AAMA 501 Methods of Test for Exterior Walls for air leakage resistance.
2. Loads were held for 30 seconds.
3. Deflection and permanent set were captured between the vertical framing member, unsupported span measured 14”.
4. Tested for continuous 2hrs with pressure differential and water.
5. Tested for 15 min with pressure differential and water.
6. Upon completion of testing the specimen did not have indication of deterioration or incipient failure, such as cracking, fastener loosening, local yielding exceeding 10% of maximum deflection, or loss of adhesive bond.

Continued on the next page…

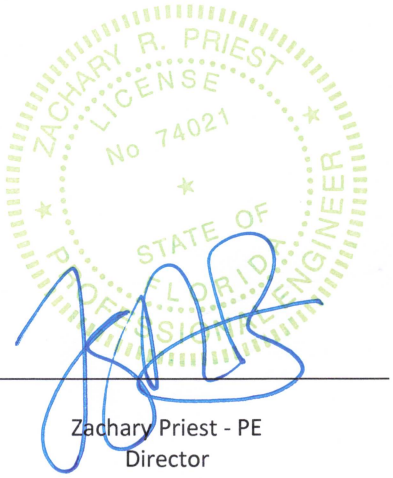
Statement of Attestation:
Testing was conducted in accordance with the methods designated in Testing Application Standard (TAS) 202-94 Impact & Nonimpact Resistance Building Envelope Components using Uniform Static Air Pressure, and ASTM E330/E330M-14 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference. Upon completion of testing, the test specimens met the requirements of sections 1620 and 1626 of The Florida Building Code. The laboratory test results presented in this report are representative of the specimen supplied. This report does not constitute certification of this product which may only be granted by the certification program administrator.

Detailed drawings showing wall thickness of all members, construction detail, and hardware application are on file and have been compared to the sample submitted. Electronic documentation will be retained for a period of ten years. Manufacturer’s drawings, sketches, photographs are contained in Appendix A.

Limitations of Use:
L/360 = ±50 psf

Signed: _____
Timothy Efaw
Manager

Date: 06/21/2021



Signed: _____
Zachary Priest - PE
Director

Date: 06/21/2021

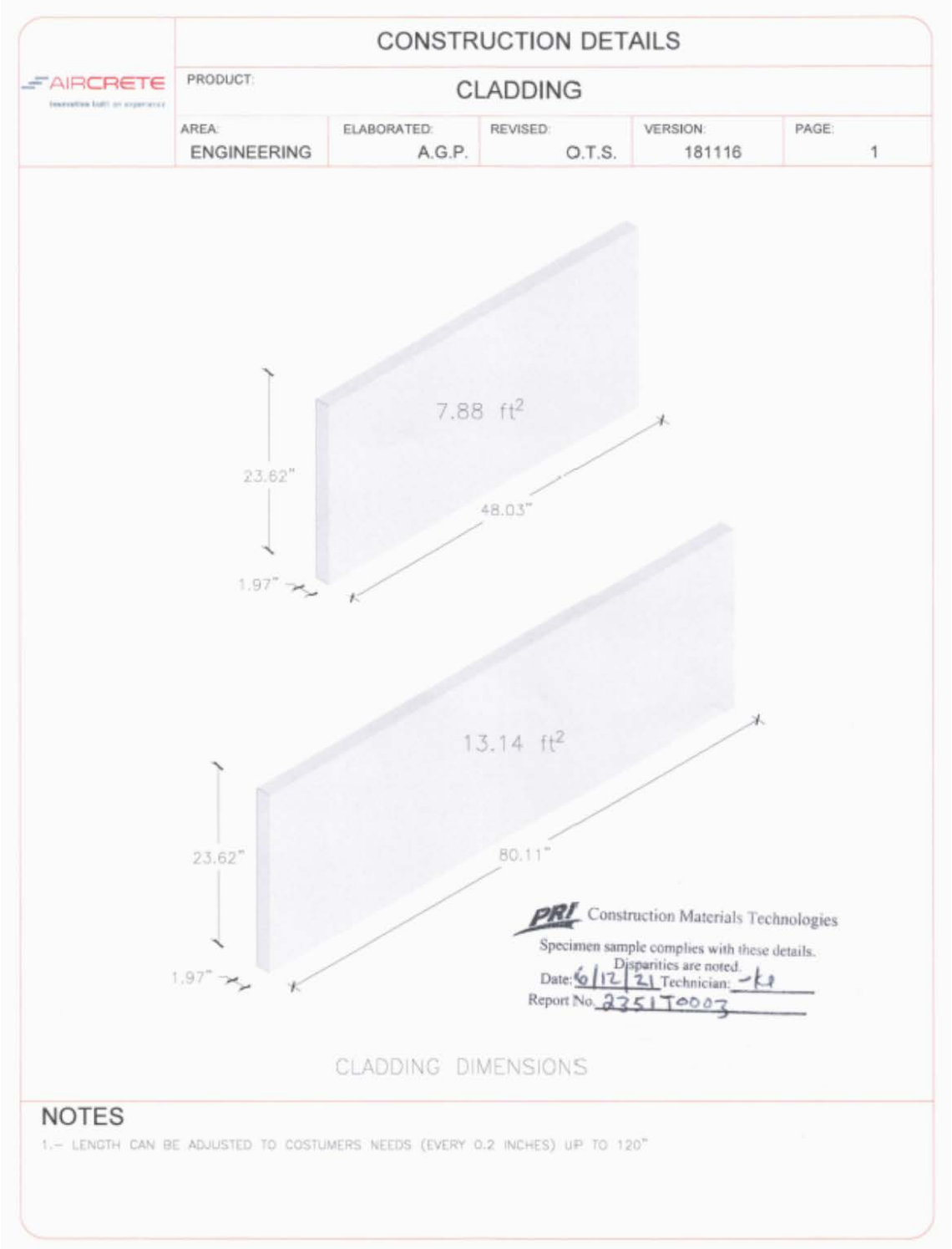
Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	06/21/2021	12	

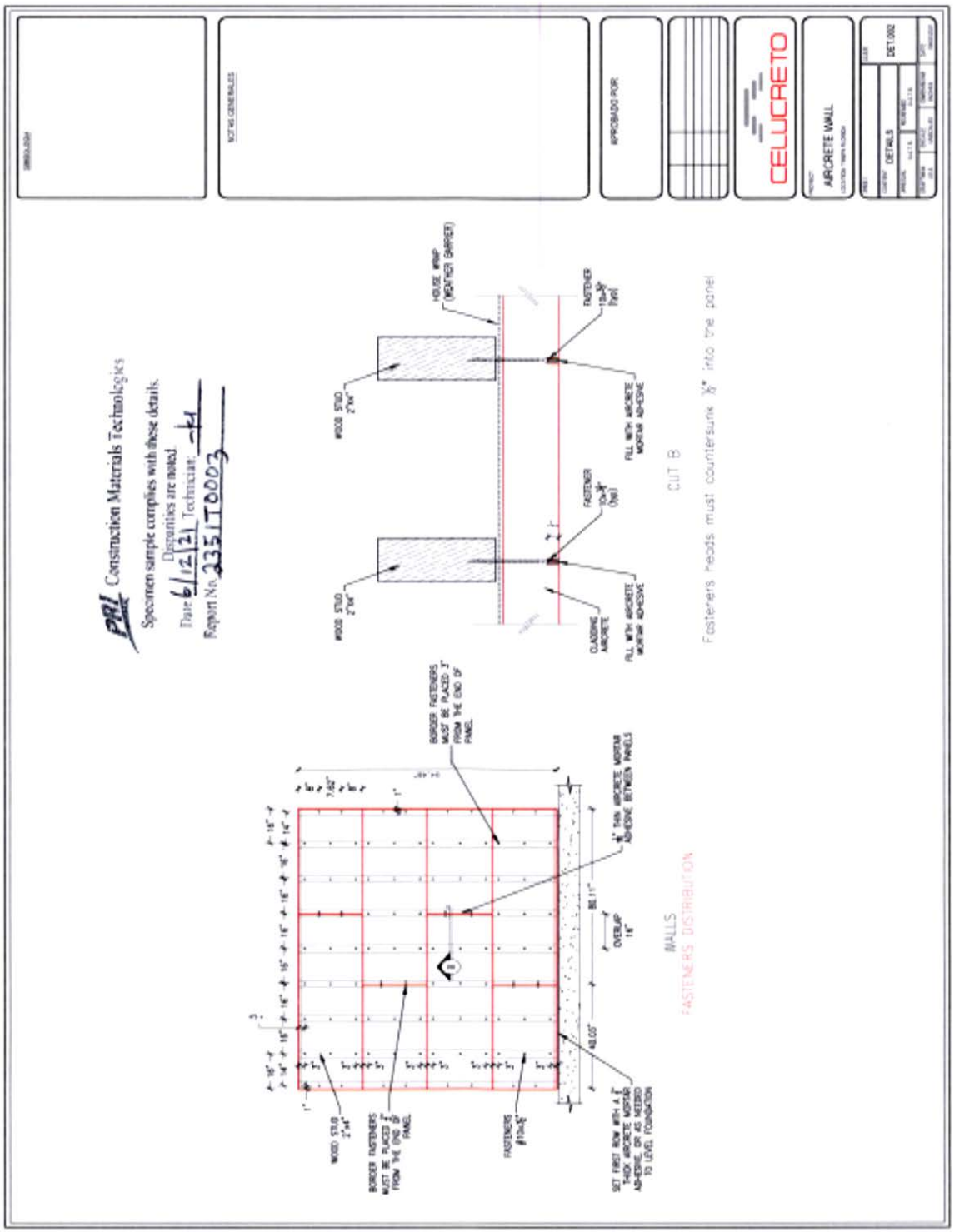
Appendix Follows…

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com

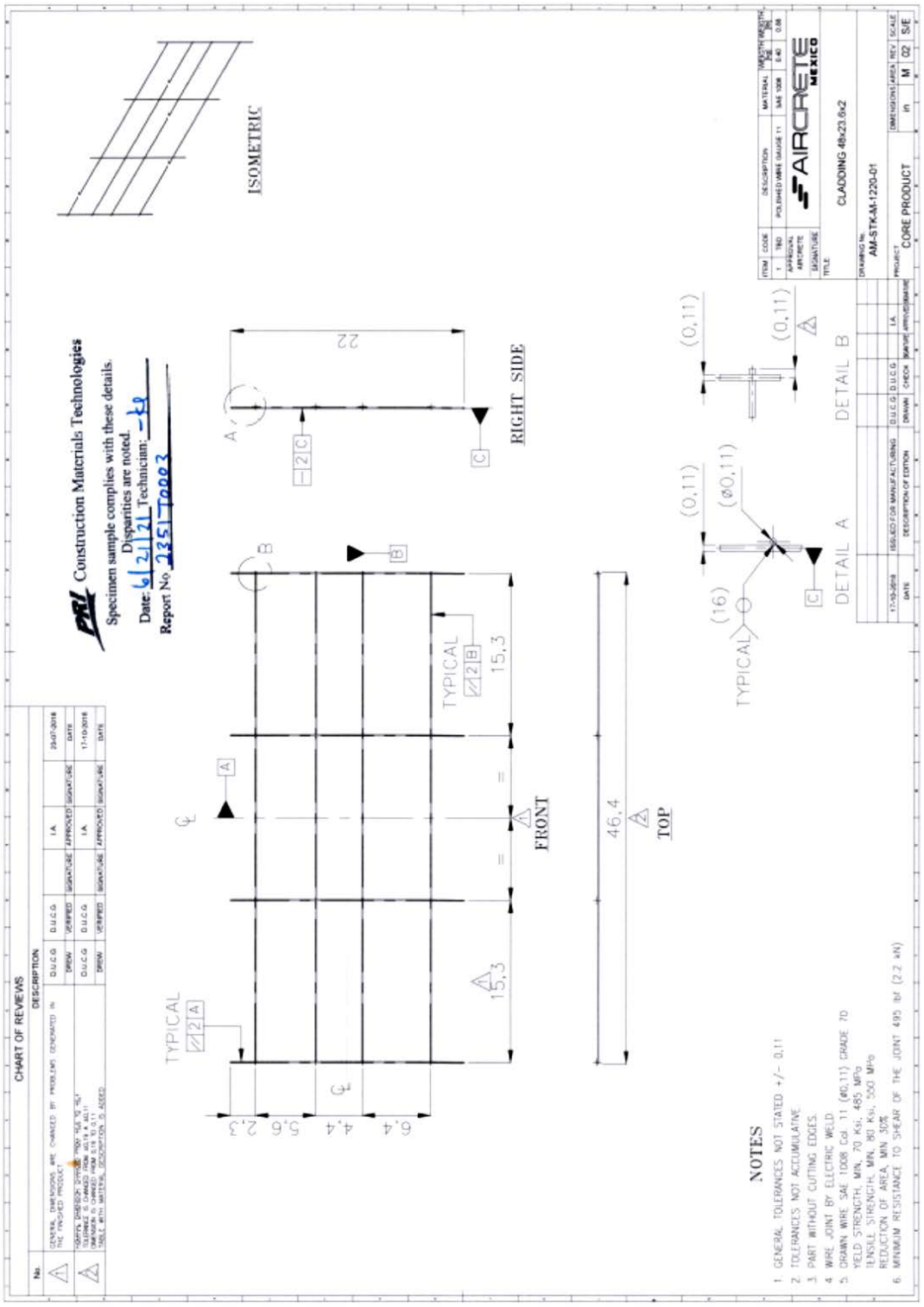
Manufacturer Drawings



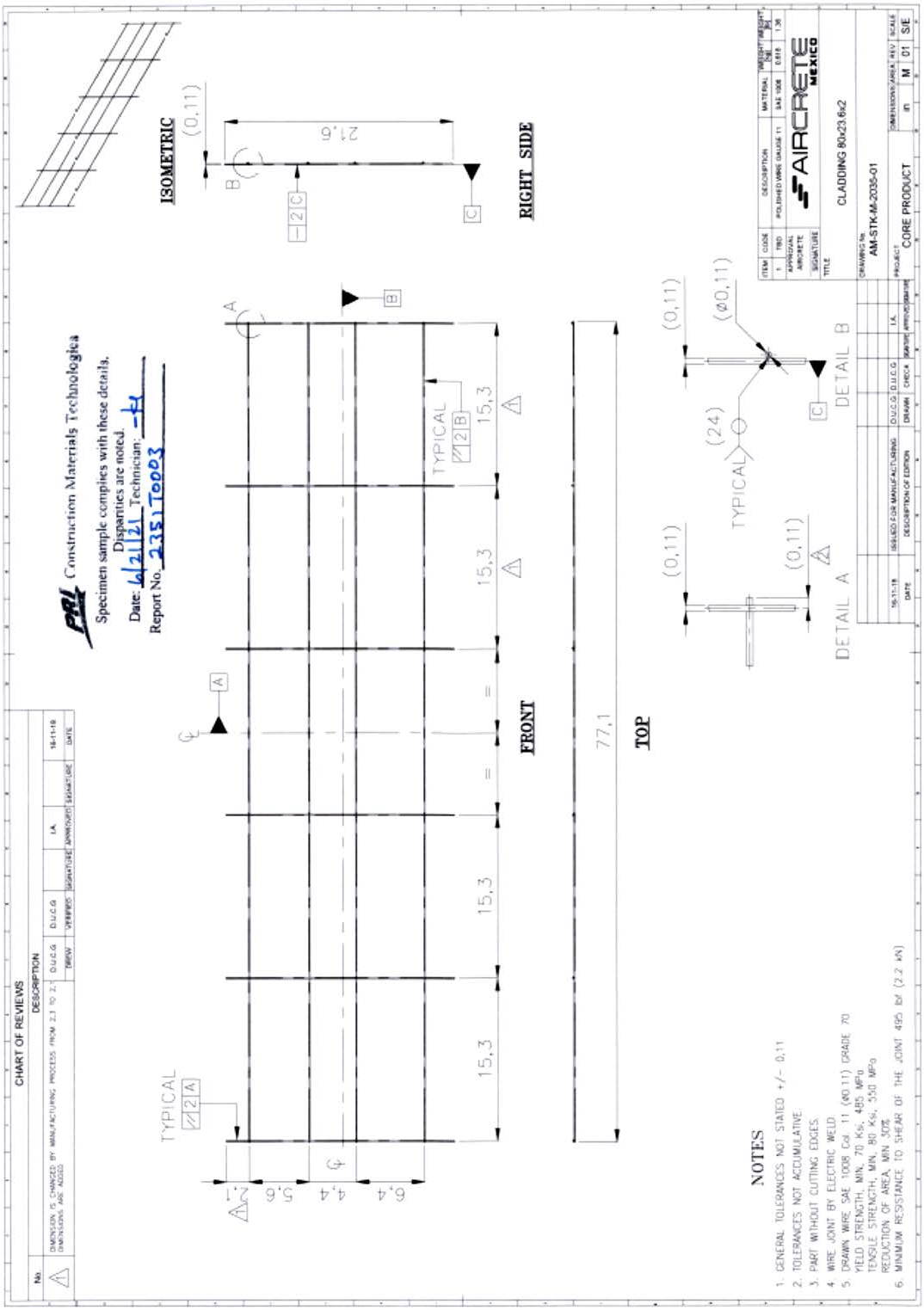
Continued on the next page…



Continued on the next page…



Continued on the next page…



Continued on the next page…

Photographs

Assembly Setup - Typical

Continued on the next page…

General Mixture – (Provided by Client)

Mixture parameters	
Density of design (490 kg/m3)	kg/m3
Cement	108
Lime (available CaO ˜87 scada)	81.4
Gypsum	25.3
Additive (lt)	0.46
Fresh mud (.= 1,7kg/m3)	371
Silica sand on fresh sludge	244.8
Return sludge (20,3%) (.= 1,4kg/m3) dry	124.4
Total water	379.7
Aluminum 19F 75% / 7004 25%	0.3
Soap	0.07

End of Report

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com