

**EVALUATION REPORT OF
CENTRIA TOTALCLAD XRIB PANELS**

**FLORIDA BUILDING CODE 8TH EDITION (2023)
FLORIDA PRODUCT APPROVAL
FL 21858.1-R4
STRUCTURAL COMPONENTS
STRUCTURAL ROOF**

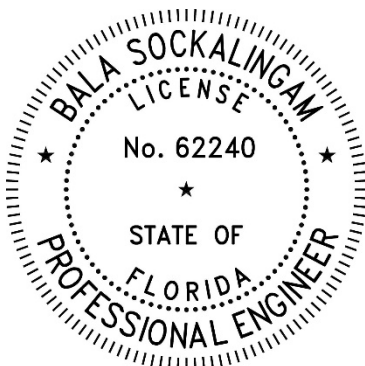
**Prepared For:
CENTRIA**

**A Nucor Company
1005 Beaver Grade Road
Moon Township, PA 15108
Telephone: (412) 299-8151**

**Prepared By:
Bala Sockalingam, Ph.D., P.E.
Florida Professional Engineer #62240
1216 N Lansing Ave., Suite C
Tulsa, OK 74106
Telephone: (918) 492-5992**

**This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (1 Page)
Load Span Table (1 Page)**

**Report No. C2756-1
Date: 1.23.2024**



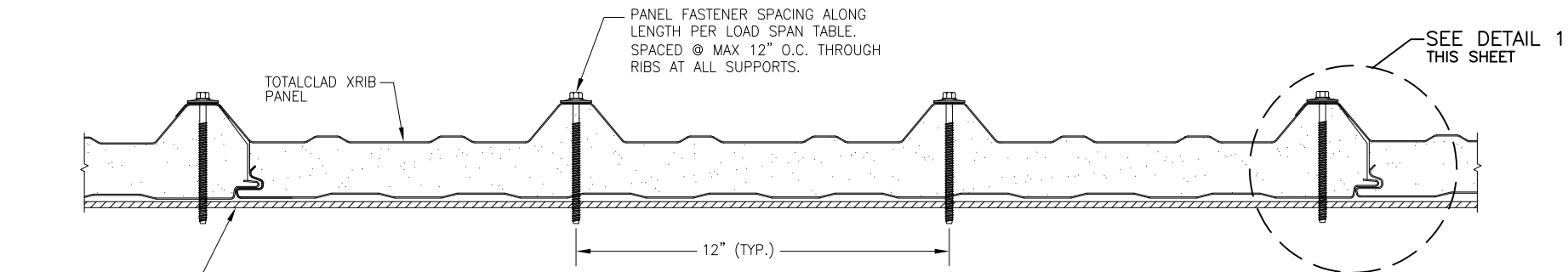
This item has been digitally signed and sealed by Bala Sockalingam, PE, on the date indicated.

Printed copies of this document are not considered signed and sealed and this signature must be verified on any electronic copies.

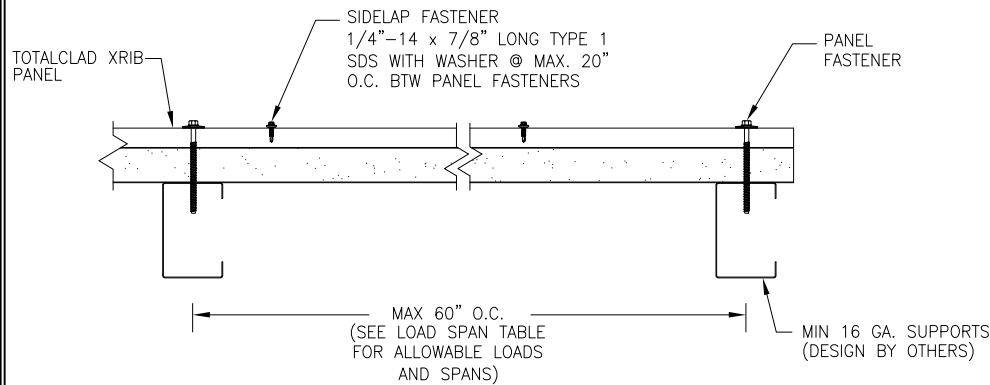
**2024.01.23
17:10:59 -06'00'**

Manufacturer:	CENTRIA, a Nucor Company
Product Name:	TotalClad XRib Panels
Panel Description:	TotalClad XRib Panels are factory-assembled, metal faced, sandwich panels with a chemically bonded continuously foamed-in-place foam plastic core. Maximum 36" coverage. Panel thickness: 1.5", 2", 2.5", 3" & 4".
Panel Core:	Polyurethane foam plastic designated as FE-242HD or FE-242FA. Nominal core density is 2.17 pcf with flame spread index of 20 and smoke-developed index of 450 when tested in accordance with ASTM E84-11.
Exterior skin:	Min. 26 ga., 33 ksi galvanized coated steel (ASTM A653), galvalume AZ50 or AZ55 coated steel (ASTM A792) or stainless steel (ASTM A240) with 1.25" high rib profiles with embossed, smooth or coated finish. Corrosion resistant as per FBC 2023 Section 1507.4.3. Minimum base metal thickness is 0.017".
Interior skin:	Min. 26 ga., 33 ksi galvanized coated steel (ASTM A653), galvalume AZ50 or AZ55 coated steel (ASTM A792) or stainless steel (ASTM A240) with 'Micro Planked' profiles with embossed or smooth finish. Corrosion resistant as per FBC 2023 Section 1507.4.3. Minimum base metal thickness is 0.017".
Support Description:	Min. 16 ga., 50 ksi steel section (Must be designed by others)
Slope:	1/2:12 or greater in accordance with FBC 2023 Section 1507.4.2
Design Pressure:	Uplift loads are shown in the load span table. The allowable loads for panel strength, connection and deflection limit of L/180 were developed from test data. Maximum panel span is 60".
Panel Attachment:	Panels will be fastened to min. 16 ga. steel supports with 1/4"-14 hex head Type A or B 304 stainless steel self-tapping screws with nominal 1" diameter washers through ribs spaced at 12" o.c. Fasteners are corrosion resistant as per FBC 2023 Section 1507.4.4. Fastener shall be of sufficient length to penetrate through the support a minimum of 3/4".
Sidelap Attachment:	1/4"-14 x 7/8" long Type 1 hex head self-drilling screw with washer at max. 20" o.c. between panel fasteners. Fasteners are corrosion resistant as per FBC 2023 Section 1507.4.4.

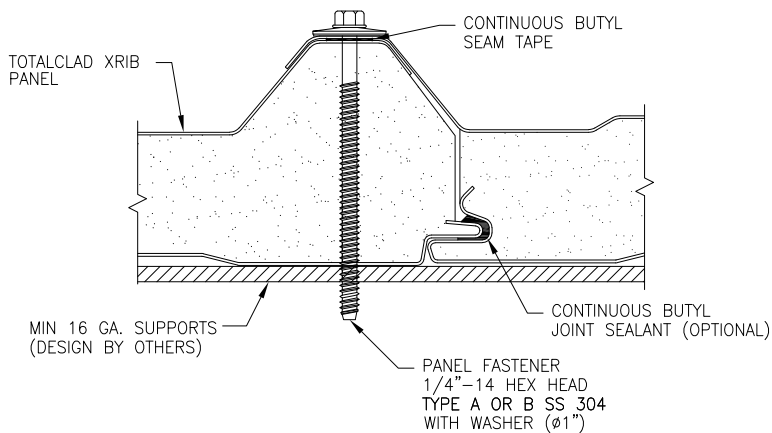
Test Standards:	Roof assembly tested in accordance with ASTM E1592-05 'Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference' and FM 4471 Section 4.4 'Foot Traffic Resistance'.
Test Equivalency:	The test procedures in ASTM E84-11 comply with test procedures prescribed in ASTM E84-18b. The test procedures in ASTM E1592-05 comply with test procedures prescribed in ASTM E1592-05(2017).
Code Compliance:	The product described herein has demonstrated compliance with FBC 2023 Section 1507.4 and 2603.3.
Product Limitations:	Design wind loads shall be determined for each project in accordance with FBC 2023 Section 1609 or ASCE 7-22 using allowable stress design. The maximum support spacing listed herein shall not be exceeded. The design pressure for reduced support spacing may be computed using rational analysis prepared by a Florida Professional Engineer or CENTRIA load span table. This evaluation report is not applicable in High Velocity Hurricane Zone.
Supporting Documents:	ASTM E1592 Test Report ENCON Technology Inc. C1900-1, Reporting Date 5/6/2013 ASTM E84 Test Report Underwriters Laboratories, Inc., Northbrook, IL 11NK15951, Reporting Date 3/19/2012 FM 4471 Test Report FM Approvals Project ID 3036092, Reporting Date 4/6/2011 (CENTRIA is authorized to use the above Metl-Span Test Reports)



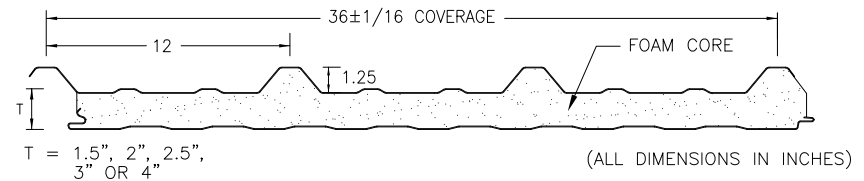
TYPICAL PANEL INSTALLATION X-SECTION



TYPICAL SIDE VIEW



DETAIL 1



TOTALCLAD XRIB PANEL
MIN 26 GA. EXT - INT PROFILES

GENERAL NOTES:

1. THIS STRUCTURAL ROOF PANEL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH 2023 FLORIDA BUILDING CODE (FBC). THE DESIGN PRESSURES AS DETERMINED FROM SECTION 1609 AND ASCE 7-22 MUST BE MULTIPLIED BY 0.6.
2. PANELS ARE MAX 36" WIDE, CONSIST OF MIN. 26 GA. ($t = 0.017"$ MIN.) EXTERIOR OR INTERIOR STEEL SKINS ($F_y = \text{MIN. } 33 \text{ KSI}$) AND ARE SANDWICHED WITH FOAMED-IN-PLACE NON-CFC 2.17 LB/CU. FT. DENSITY POLYURETHANE.
3. PANELS SHALL BE INSTALLED OVER ROOF SUPPORT AS SPECIFIED ON THIS DRAWING.
4. PANELS MUST BE INSTALLED OVER MIN. 2 SUPPORTS. ENDLAPS MAY BE PRESENT AT CENTERLINE OF SUPPORTS PROVIDING THE SEAMS ARE FLASHED & PROPERLY SEALED PER MBCT SPECIFICATIONS AND EACH PANEL END IS SECURED PER THIS DRAWING.
5. REQUIRED DESIGN WIND LOADS SHALL BE DETERMINED FOR EACH PROJECT. THIS PANEL SYSTEM MAY NOT BE INSTALLED WHEN THE REQUIRED DESIGN WIND LOADS ARE GREATER THAN THE ALLOWABLE WIND LOADS SPECIFIED ON LOAD SPAN TABLE.
6. ALL SCREWS SHALL BE CORROSION RESISTANT SCREWS.
7. THE SUPPORTING STRUCTURE, OVER WHICH THE PANELS ARE TO BE INSTALLED, MUST BE MINIMUM 16 GAGE (MIN. 0.059") STEEL WITH MIN. $F_y = 50 \text{ KSI}$.
8. THESE ROOF PANELS SHALL NOT BE CONSIDERED TO OR BE USED FOR TRANSFER OF DIAPHRAGM ACTION OF ROOF TO SUPPORTING STRUCTURE.

DRAWN BY:	B.S.	CHECKED BY:	R.H.
PLOT:		DATE:	2/13/17
DATE			
BY			
REVISION	DESCRIPTION		
NO.			

CENTRIA

1005 BEAVER GRADE ROAD MOON TWP, PA 15108-2944
PHONE: (412) 298-9000 FAX: (412) 298-8317

DRAWING TITLE
TOTALCLAD XRIB PANEL

CONSULTANTS
BALA SOCKALINGAM, PH.D., P.E.

1216 N LANSING AVE, SUITE C
TULSA, OK 74106
PHONE: 918-492-5992 FAX: 866-366-1543

DRAWING NO. **2756-1** REV. **1**

PAGE NO. **1** OF **1**

CENTRIA
TotalClad XRib Panel
Allowable Uplift Loads

Panel Description	Support Spacing (in)	Allowable Uplift load (psf)
TotalClad XRib Panel Min. 26 ga. Exterior & Interior Skins Panel Core Thickness: 1.5", 2", 2.5", 3" & 4"	30	122.5
	36	109.2
	42	93.6
	48	81.9
	54	72.8
	60	65.5

Notes:

1. Allowable load is the lowest value of panel strength, connection strength & deflection limit of L/180.
2. Allowable load is applicable to three or more span conditions.
3. The bold numbers indicate design loads obtained from test report.
4. Panels must be installed as per Evaluation Report FL 21858.1 and CENTRIA current installation procedure.
5. The structural capacity of support beam are not considered and must be examined independently by others.