



# BERRIDGE BULLETIN

1720 MAURY STREET / HOUSTON, TEXAS / 77026 / (713) 223-4971 / 1-800-231-8127 / FAX 713-236-9422

March 15, 1995

To: Berridge Licensees, Sales Representatives and Sales & Management Personnel

From: David Doyle, Marketing

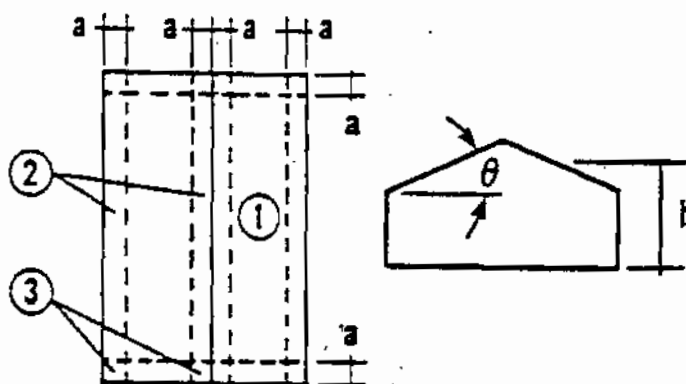
Subj: **CEGS-07416 Certification of Berridge Zee-Lock System  
for use on Military Construction Projects**

Effective February 14, 1995, the Berridge Zee-Lock panel system is an approved standing seam roof panel for use on military construction projects. This approval is based on static wind uplift resistance testing pursuant to military procedure CEGS-07416.

Three quantification tests were performed: The first Zee-Lock test was performed mounted to 4'-0" o.c. purlins to replicate mid-roof conditions (see Fig. 1, Zone 1). The second and third tests used 2'-0" o.c. purlins for peripheral zone conditions (see Fig. 1, Zones 2 & 3). The third test added a 24-ga. Wind Clip (see Fig. 2 & attached page Z-9) for enhanced pry resistance. This Wind Clip will be installed after seaming the Zee-Lock single lock seam.

The reason both "mid-roof" and "peripheral" or roof edge tests are required is that wind suction (uplift) pressure on metal roof panels is greatest at building corners, eave lines, hips and ridge lines. Roof assembly design must therefore accommodate the accumulated wind roof loads both on the edges and middle roof zones. Simply put, while 4'-0" purlin spacing may be used in mid-roof zones, 2'-0" purlin spacing will be required in edge zones (see Fig. 1). The method for calculating the edge zone minimum width is shown in Figure 1.

**FIG.1  
EDGE & MID ROOF ZONES**



The figure above represents a simple gabled roof and where the mid and edge roof zones are located:

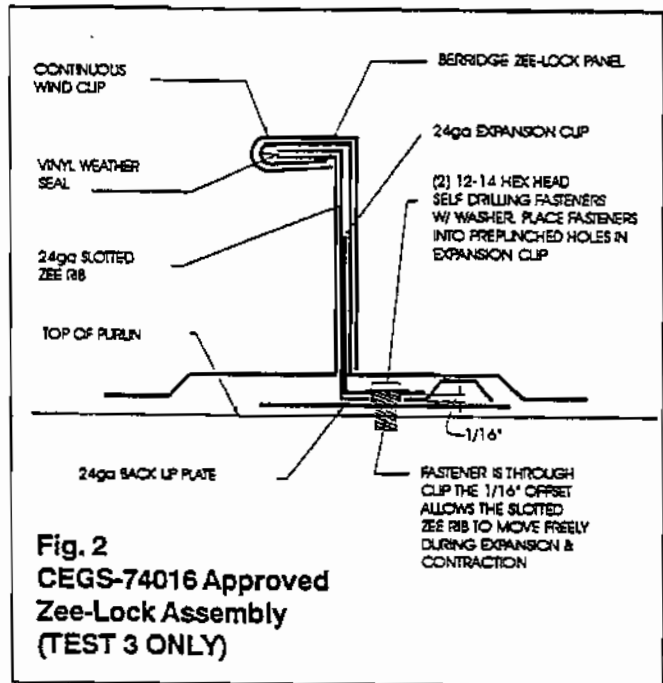
**Zone 1** is the Mid Roof Zone where 4' - 0" max. purlin spacing may be used.


**Zones 2 & 3** are Edge or Peripheral Zones where 2'-0" max. purlin spacing must be used.

**Edge Zone Distance = a;** a = 10% of minimum building endwall width or 40% of mean roof height (h) whichever is smaller but not less than either 4% of minimum width or 3'-0". Mean roof height (h) is the mid-point between eave and ridge of the gable endwall (see fig. 1 above)

The Zee-Lock panel assembly approved under CEGS-07416 differs from the standard assembly in that the inner Zee-Rib will be slotted to accommodate thermal movement and will be supported by a back-up plate (see fig. 2 at right & attached page Z-9). A prepunched expansion clip fits on the inner rib over the slots. (2) #12 hex head fasteners straddle the fastener location, and the fasteners penetrate the inner rib slots and backup plate to connect to the roof purlins or decking.

The enclosed Page Z-9 "System Overview Corps of Engineers Approved Assembly" Zee-Lock Technical Manual typical installation detail page is for use by the Corps of Engineers or other construction authorities in determining whether Zee-Lock qualifies for a given military project. We have also enclosed a copy of the Corps of Engineers memorandum dated February 14, 1995 which grants approval for Zee-Lock to be used on military construction projects.



 <b>BERRIDGE MANUFACTURING COMPANY</b>	<b>SUBJECT</b> <b>CEGS-07416 Certification</b> <b>of Berridge Zee-Lock System</b> <b>for use on Military Construction Projects</b>	<b>DATE OF ISSUE</b> <b>March 16,</b> <b>1995</b>	<b>PAGE NUMBER</b>
---	---	---	--------------------



DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers  
WASHINGTON, D.C. 20314-1000

REPLY TO  
ATTENTION OF:

CEMP-ET (1110)

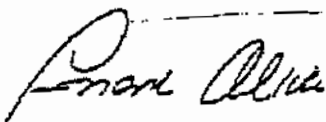
14 February 1995

MEMORANDUM FOR SEE DISTRIBUTION

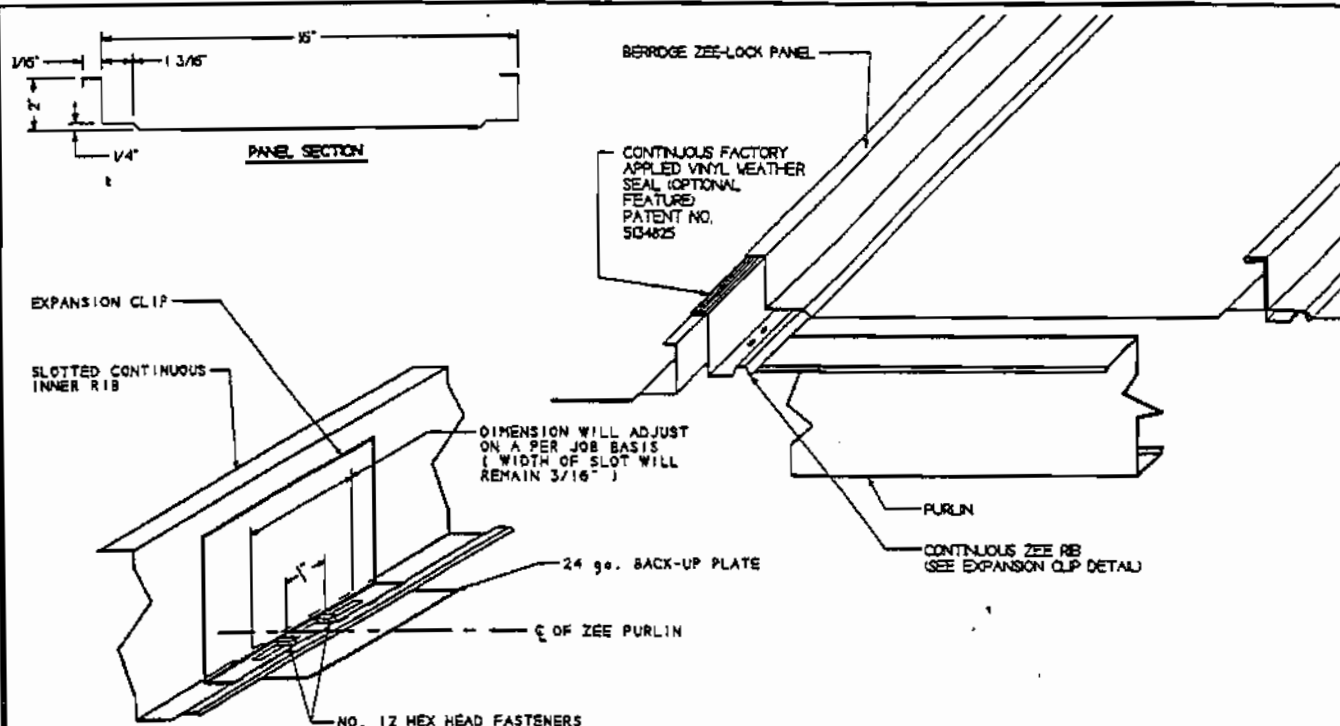
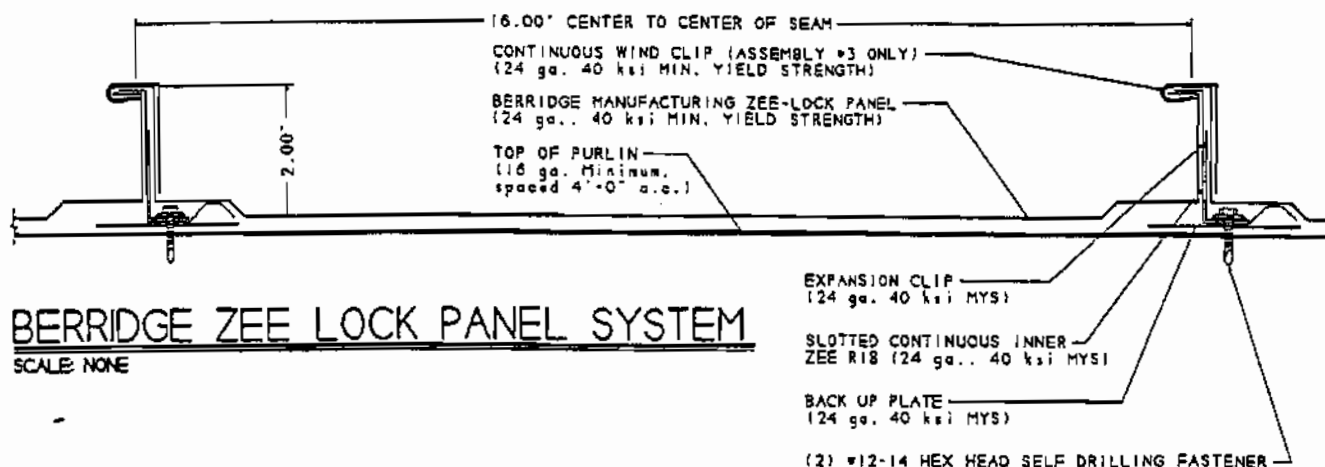
SUBJECT: Certification of Berridge Zee Lock Panel System for Use on Military Construction Projects

1. Reference CEGS-07416, Standing Seam Metal Roof System (October 1991).
2. As required in the referenced specification, each Standing Seam Metal Roof (SSMR) system to be used on a military construction project must be tested in accordance with specified requirements and test procedures, and results submitted for acceptance. Once a system has been approved, it is qualified for use on other projects as long as the system remains unchanged.
3. Berridge Manufacturing Company has completed the test on 24 gage Zee Lock panel system and submitted it for acceptance. The test was witnessed and certified by an independent professional engineer. The 24 gage Zee Lock panel system has met all the requirements of the test and is approved for use on military construction, provided that it also meets the project requirements. The results of the test are enclosed for your use and information (encl 1). A complete report of the test is on file at HQUSACE, CEMP-ET, and is available upon request.
4. You will be notified of the status as other standing seam metal roof manufacturers complete the test and submit their results for approval. A list of approved SSMR systems is also enclosed (encl 2).
5. Point of contact for this action is Daniel T. Chen, P.E., 202-504-4912.

2 Encls

  
RICHARD C. ARMSTRONG, P.E.  
Chief, Engineering Division  
Directorate of Military Programs

DISTRIBUTION:  
(See Page 2)



### TEST RESULTS

TEST PROCEDURE: CEGS-07416

TEST SERIES	TEST DATE	PANEL SPAN	PANEL GAUGE	COE DESIGN LOAD BASED ON DEFORMATION	COE DESIGN LOAD BASED ON FAILURE	TEST APPLICATION DESCRIPTION
I	8-24-94	4'-0" Q.C.	24	90/L3 - 70 psf	90/L65 - 55.2 psf	MIDDLE ROOF APPLICATION (Panel expansion clips fastened to 16 ga. "C" purlins spaced at 4'-0" on center.)
I	9-12-94	2'-0" Q.C.	24	15/L3 - 88 psf	15/L65 - 69.7 psf	CORNER ROOF APPLICATION (Panel expansion clips fastened to 16 ga. "C" purlins spaced at 2'-0" on center.)
I	9-16-94	2'-0" Q.C.	24	100/L3 - 76.9 psf	162/L65 - 98.2 psf	CORNER ROOF APPLICATION W/ WIND CLIPS (Panel expansion clips fastened to 16 ga. "C" purlins spaced at 2'-0" on center.)

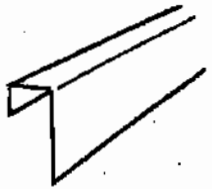
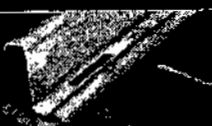
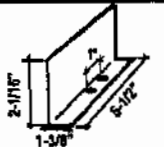
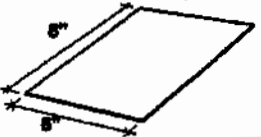


SYSTEM OVERVIEW  
CORPS OF ENGINEERS  
APPROVED ASSEMBLY  
ZEE LOCK PANEL

DATE  
8-26-94

Z-9

**ZEE-LOCK COMPONENTS REQUIRED FOR CORPS OF ENGINEERS CEGS 07416 RATING**

	APPLICATION	MATERIAL	WT	SIZE	PRICE
 <b>ZEE-LOCK WIND CLIP*</b>	24 GA. 40 K.S.I. CONTINUOUS WIND CLIP (*REQUIRED ON TEST SERIES #3 ONLY)	<b>GALVANIZED G-90 GRADE "C" UNFINISHED</b>	3.25# /10' LONG	10' LENGTHS	
 <b>SLOTTED THERMAL EXPANSION CONTINUOUS ZEE-RIB</b>	24-GA. 40 K.S.I. CONTINUOUS SLOTTED ZEE-RIB		SEE PG C-9	CONTINUOUS LENGTHS (MAX. 40'0")	see page C-9 for Zee-Rib pricing (Field-slotted with Berridge Notching Tool - below)
 <b>ZEE-LOCK THERMAL EXPANSION CLIP</b>	24-GA. 40 K.S.I. PRE-PUNCHED (2 HOLES - COUNTERSUNK) EXPANSION CLIP		30 /LBS BOX	500 PCS/ BOX	
 <b>24-GA. BACK-UP PLATE</b>	24 GA. 40 K.S.I. BACK-UP PLATE		.25 LBS EACH	6" X 6" SQUARE	

**SPECIAL NOTES:**

1. PALLET & CRATING CHARGE (NON-REFUNDABLE) SUBJ. TO INQUIRY (MIN.\$30.00 PER PALLET)
2. PRICES ARE F.O.B. BMC, SEGUIN, TEXAS (NO SALES TAX INCLUDED).
3. NO RETURNS FOR CREDIT ALLOWED UNLESS AUTHORIZED IN WRITING.
4. VINYL WEATHERSEAL U.S. PATENT NO. 5134825.


**Berridge Manufacturing Co.**

Sales Office: 6515 Fratt Rd., San Antonio, TX 78218

 210-650-3050  
 TOLL-FREE  
 1-800-669-0009  
 FAX 210-650-0379

**ZEE-LOCK ACCESSORIES**

DATE 06/01/05

PAGE C- 11