



*Protection is a concrete idea.*



# Hi-R Masonry Wall System Tips for Block Manufacturers

**Concrete Block Insulating Systems**

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# **IMPORTANT**

The design of the Hi-R Wall System assumes the concrete units manufactured meet the requirements of ASTM C 90 “Standard Strength for Load Bearing Concrete Masonry Units.”

# **HI-R MASONRY WALL SYSTEM TIPS FOR BLOCK MANUFACTURER**

## **I. PLANT CHECK LIST**

- 1. Block Machine Type-Year & Model**
- 2. Cuber Type-Model, Automatic or Semiautomatic**
- 3. Splitter Type-Model, Angle of Conveyor**
- 4. Curing System Type-Model**
- 5. Availability of 18 inch vibrators**
- 6. Intended mix design and aggregate type**
- 7. Wooden pallet size and direction of stringers**
- 8. Block size and type to be run**
- 9. Mould configuration (cavities, web design, etc)**

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### **COMMENTARY: Plant Check List**

**1. Machine type is necessary to evaluate mould availability, vibrator requirements, and typical manufacturing difficulties.**

**2. HI-R is difficult to run on fully automatic cubers. Drag plate or clamp type semiautomatics are preferred and may be a determining factor in selecting cube pattern.**

**3. Side knives on 4-way splitter machines may require disconnection or additional stroke to clear extended flanges. Hold down plates help align vertical knives with the block's axis.**

**4. Curing affects mix design and, in rare instances, depending on mould configuration, will fit.**

**5. On Besser machines, 18 inch vibrators are required and are not normally furnished with rental equipment.**

**6. A typical architectural mix design is preferred. Suggested starting points should not exceed 10:1 for normal weight and 8:1 for light weight aggregates.**

**7. Pallet size and stringer direction will determine cubing pattern for best stability. It is important to establish pattern before production run. Twelve inch block with reduced height webs will not cube vertically except on 48 x 48 pallets.**

**8. Block size and type determine splitting capability, cubing pattern, and mould configuration.**

**9. Mould configuration should match structurally tested unit. Capping one cavity of a three cavity mould and removing division plate between remaining cavities is not recommended for splitting.**

## **II. HI-R PLANT RUN**

- 1. Recheck tightness on all bolts and nuts, especially extended shoes and cut-off bar.**
- 2. Head to mould alignment should be made carefully to avoid bending extended shoes or plungers.**
- 3. Double check clearance between cut-off bar and extended shoes to avoid contact during feed drawer cycle.**
- 4. Once height of cutoff bar has been established, adjust wipers or brushes to assure positive cleaning of shoes. Remember, face shells are tapered and extended shoes are stepped.**
- 5. A HI-R agitator is recommended. However, if one is not available, universals grids have been successfully used.**
- 6. Slowly run through one cycle.**
- 7. Check interior face of face shells on insulated side for scoring. If scoring is present, this is normally caused by the extended shoes prior to the release of the moulded block to the conveyor. The following suggestions may eliminate this problem:**
  - a. Shift entire mould in a direction opposite to score.**
  - b. Check level of head. If the head has rotated in the direction of the score, level the head.**
  - c. Check level of pallet receiver to eliminate vertical rotation of pallet.**
  - d. Check alignment of pallet ejectors to eliminate horizontal rotation of pallet.**
- 8. Typical debris removal is not adequate. Tapered face shells and recessed webs require adjustment of the rotating brush and use of forced air. Improper cleaning of lower web will affect insulation fit, cubing, and/or field problems. (See attached sketch titled "Air Brush for KORFIL HI-R)**
- 9. Check splitter vertical clearance and stroke. Tapered face shell requires an extra 1/8 inch height and travel of the horizontal knives.**
- 10. On some splitters the bottom knife may lift the block prior to contact by the top blade. If this occurs it may be necessary to attach a tie down plate preventing block rotation and misalignment of blades with block axis.**
- 11. Horizontal clearance and stroke on 4-way splitters must be adjusted. HI-R is longer than 16 inches and the interlocking feature on the flanged ends requires additional stroke for the side knives to make contact. If this adjustment is not available or knife substitution will not suffice, disconnect the side actuator.**

**12. Splitter table plate should be flat and free of grooves. The extra length of HI-R may cause the block to ride up on the unworn surface and misalign the splitting knives.**

**13. DO NOT split HI-R block unless there is at least 4 inches plus the thickness of the division plate of material to be split.**

**14. An architectural or high strength mix design is encouraged. A suggested starting point is 10:1 for normal weight aggregates and 8:1 for light weight.**

**15. Shrink or stretch wrap is recommended to assist cube stability.**

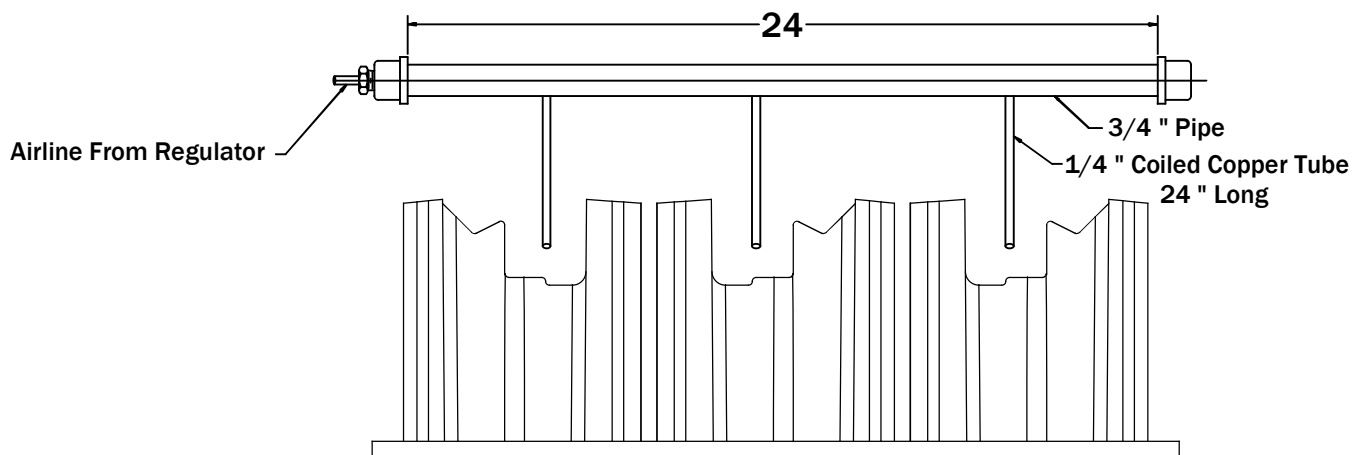
**16. Select pallet size and cubing pattern in advance. It is strongly recommended that a trial multi-level pattern be tested prior to any production run.**

**17. Cubing on the face shells is not recommended.**

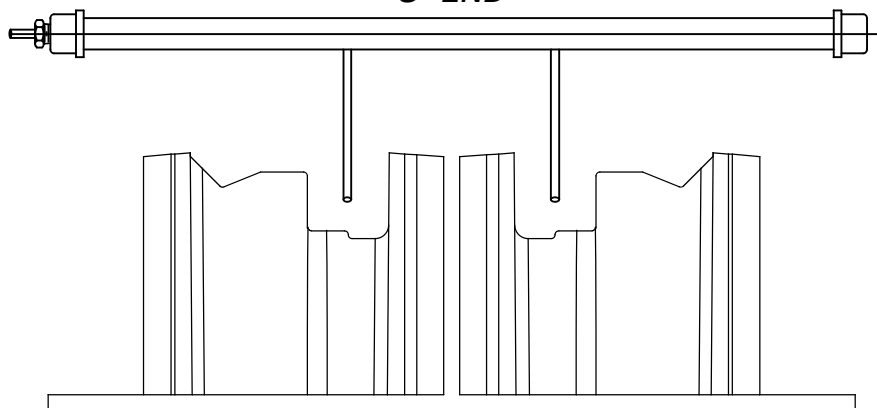
**18. HI-R is longer than 16 inches and may extend beyond the wooden pallet edge. Block flanges may tend to interlock during shipping. Avoid contact between individual cubes.**

**19. Use edge boards at tie downs to prevent excess pressure on extended face shells.**

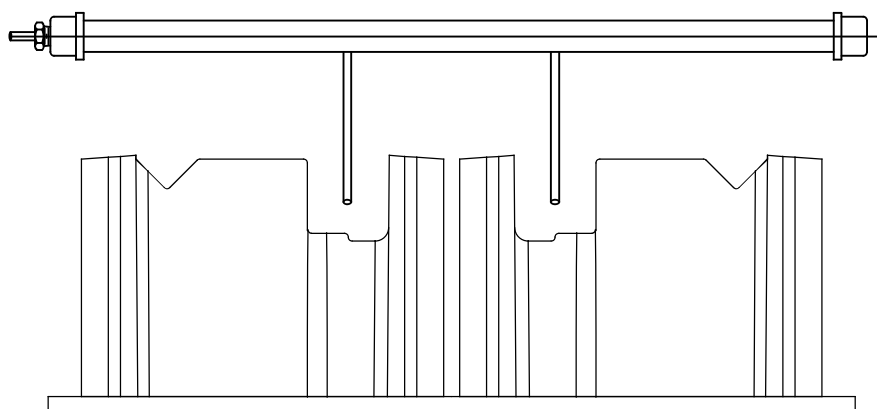
# AIR BRUSH FOR KORFIL HI-R



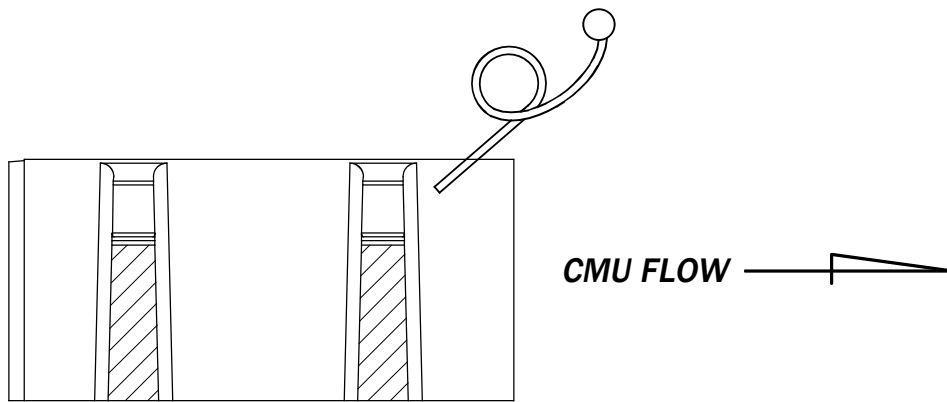
**8" END**



**10" END**

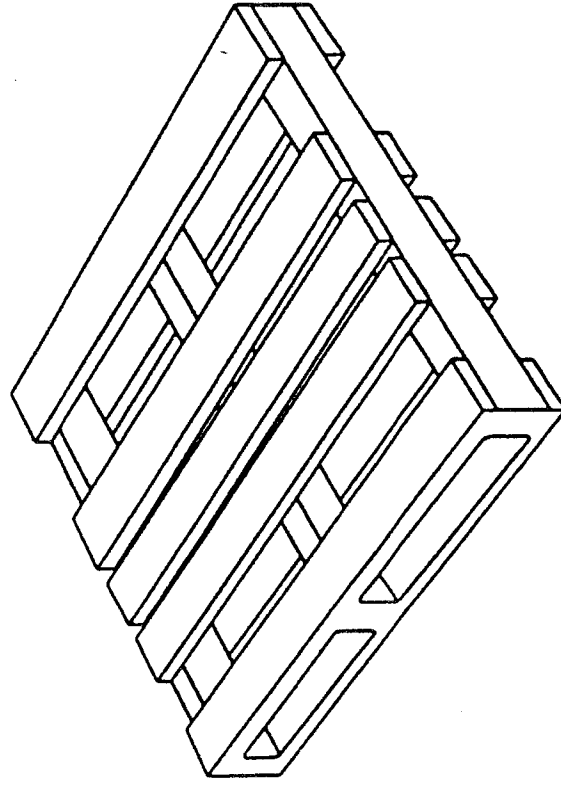


**12" END**



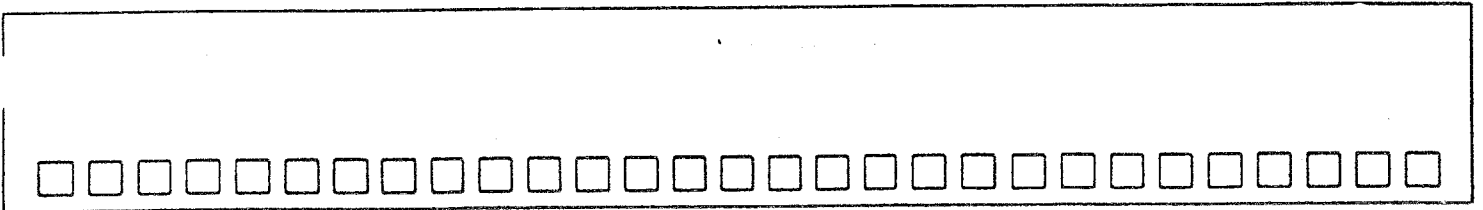
**SIDE**

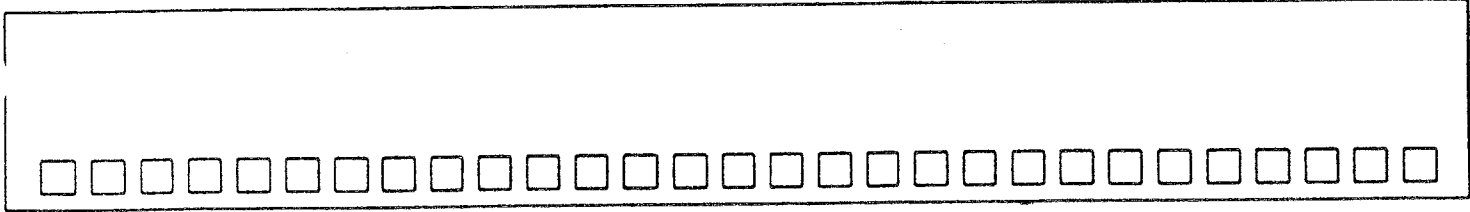
# Palletizing Hi-R Units



## Recommendations with Illustrations

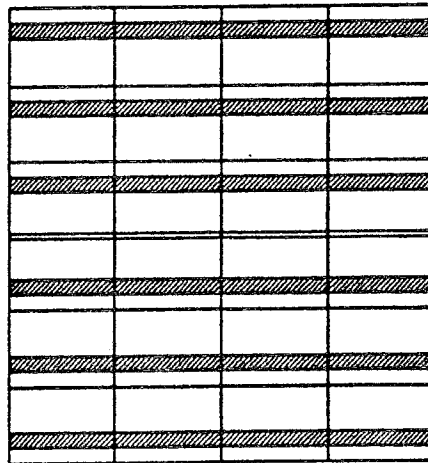
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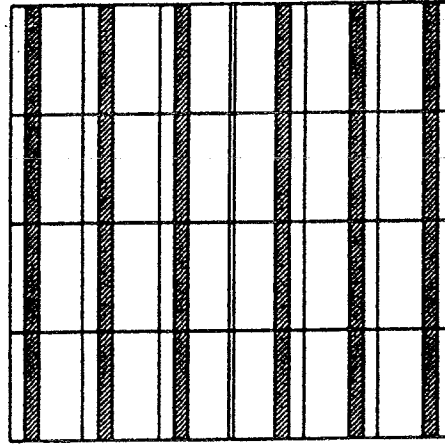


# Stacking 48 x 48 Inch Pallets 8 Inch Standard Hi-R

- 1st Course
- 3rd Course
- 5th Course

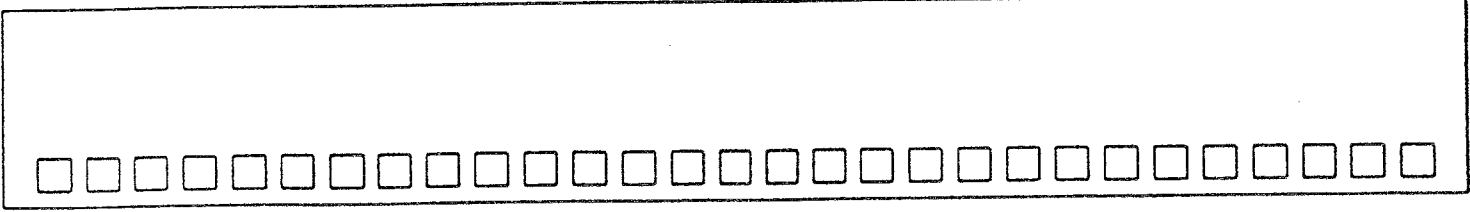


- 2nd Course
- 4th Course
- 6th Course (optional)



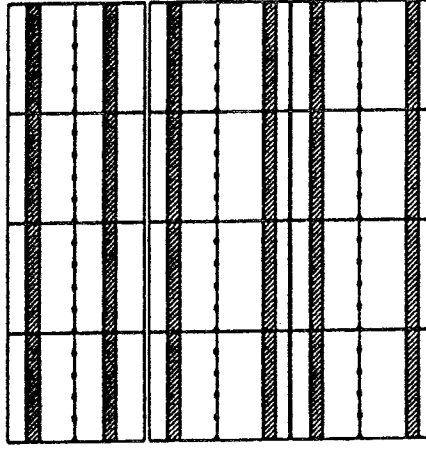
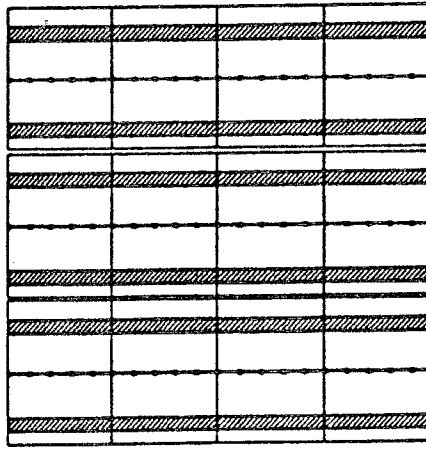
■ Hi-R Insert



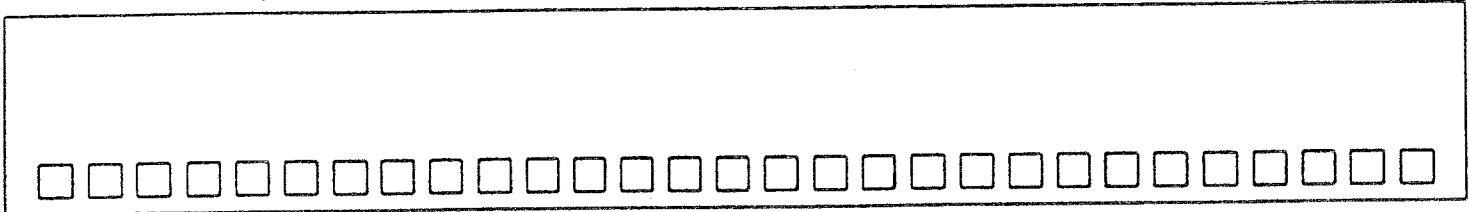


# Stacking 48 x 48 Inch Pallets 8 Inch Split Face & Rib Hi-R (High Side)

- 1st Course      ■ 2nd Course
- 3rd Course    ■ 4th Course
- 5th Course    ■ 6th Course (optional)



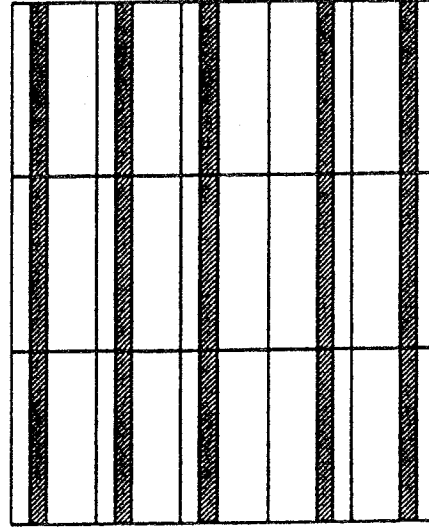
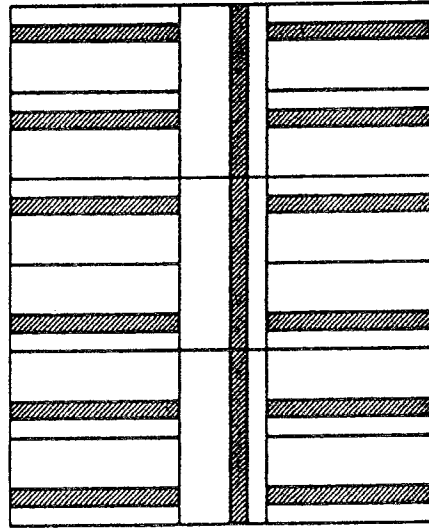
■ Hi-R Insert  
 --- Split or Rib Side



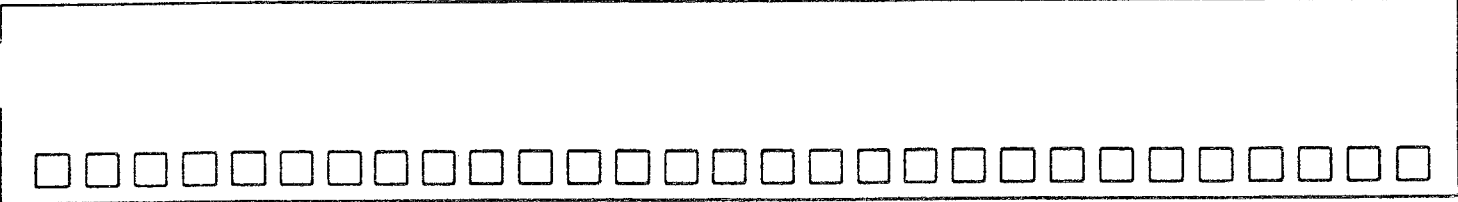
# Stacking 40 x 48 Inch Pallets 8 Inch Standard Hi-R

- 1st Course
- 3rd Course
- 5th Course

- 2nd Course
- 4th Course
- 6th Course (optional)



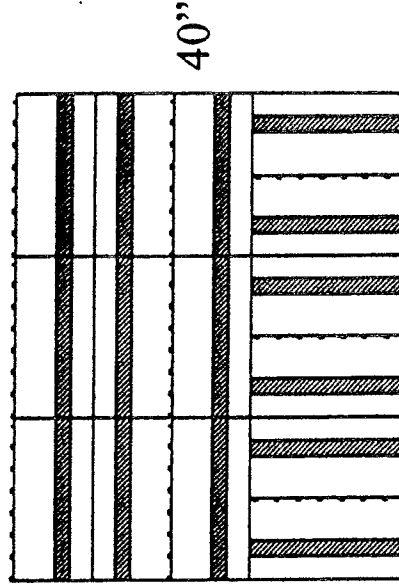
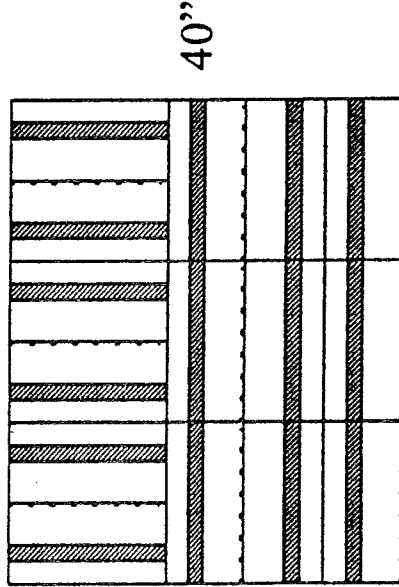
■ Hi-R Insert



# Stacking 40 x 48 Inch Pallets 8 Inch Split Face & Rib Hi-R (High Side)

- 1st Course
- 3rd Course
- 5th Course

- 2nd Course
- 4th Course



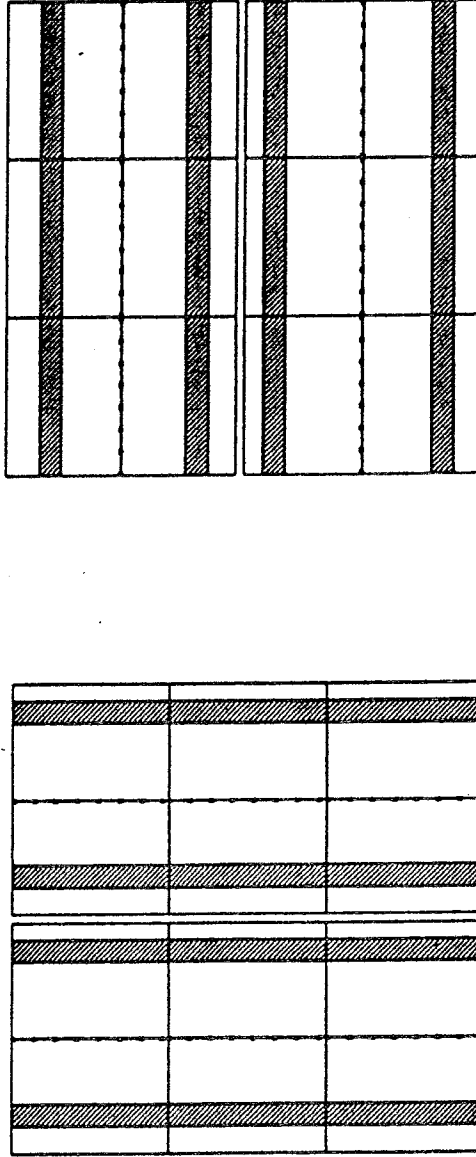
Hi-R Insert  
 Split or Rib Side

*This pattern can also be used on standard 8 Inch Hi-R units*

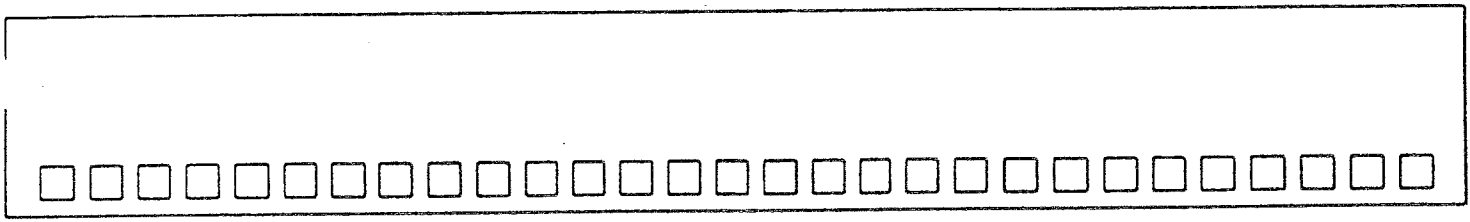
# Stacking 48 x 48 Inch Pallets

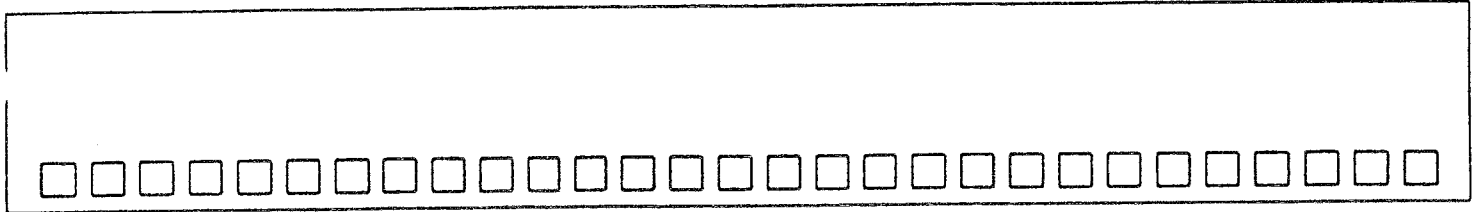
## 12 Inch Standard or Split Face & Rib Hi-R (High Side)

- 1st Course
- 2nd Course
- 3rd Course
- 4th Course
- 5th Course



■ Hi-R Insert  
 - - - Split or Rib Side

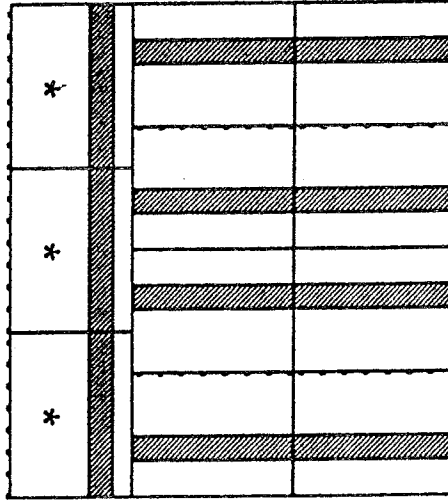
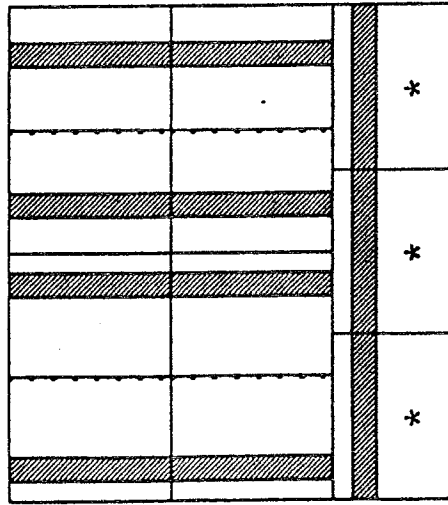




# Stacking 44 x 48 Inch Pallets 12 Inch Standard or Split Face & Rib Hi-R

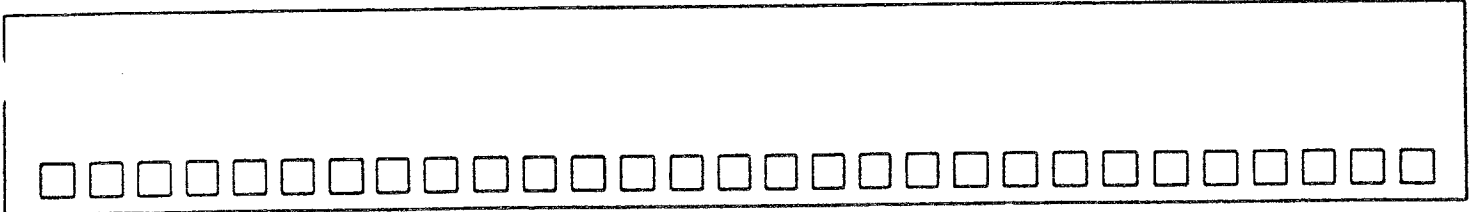
- 1st Course
- 3rd Course
- 5th Course

- 2nd Course
- 4th Course
- 6th Course Optional



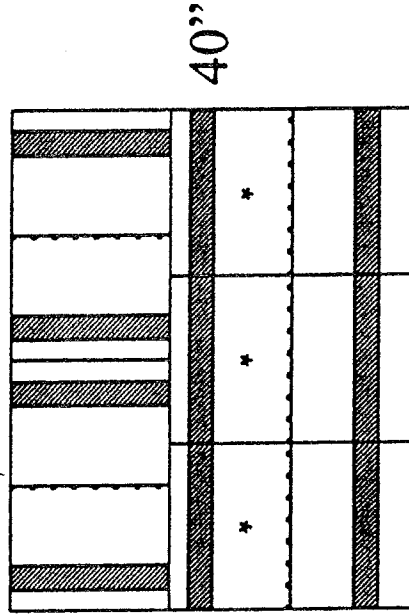
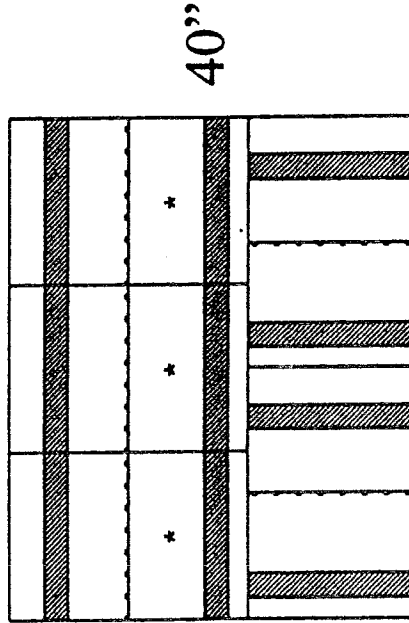
\*Switch Insert to outside for standard Hi-R units

■ Hi-R Insert  
 --- Split or Rib Side



# Stacking 40 x 48 Inch Pallets 12 Inch Standard or Split Face & Rib Hi-R

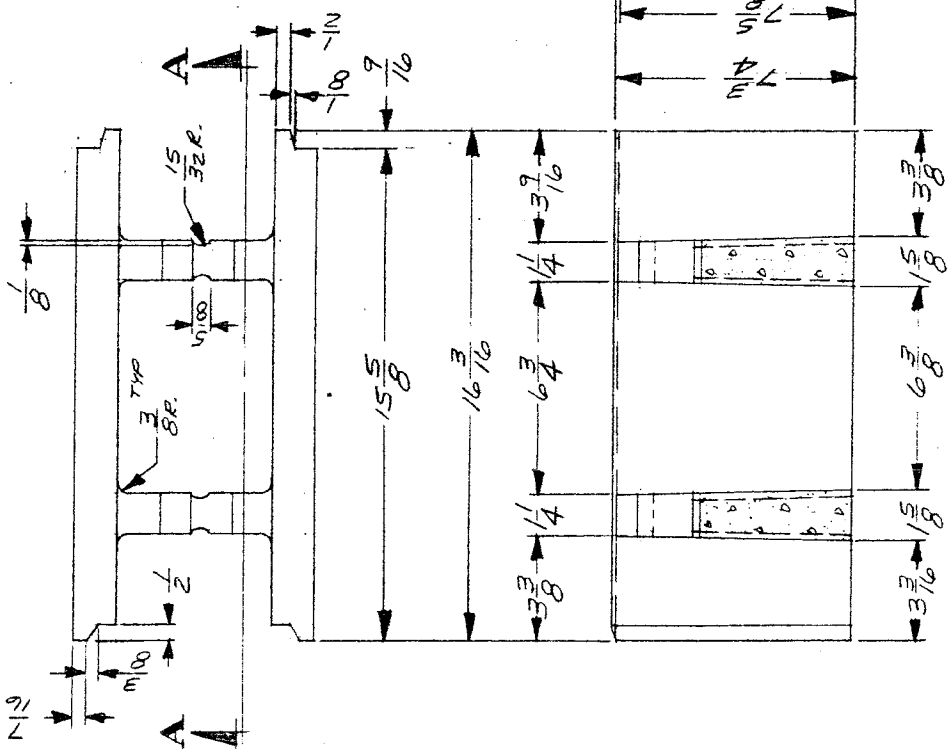
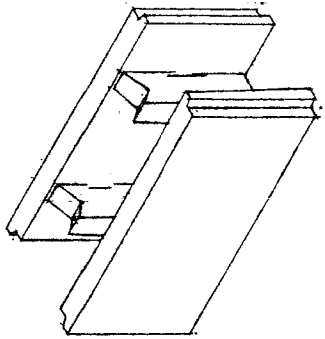
- 1st Course
- 2nd Course
- 3rd Course
- 4th Course
- 5th Course
- 6th Course Optional



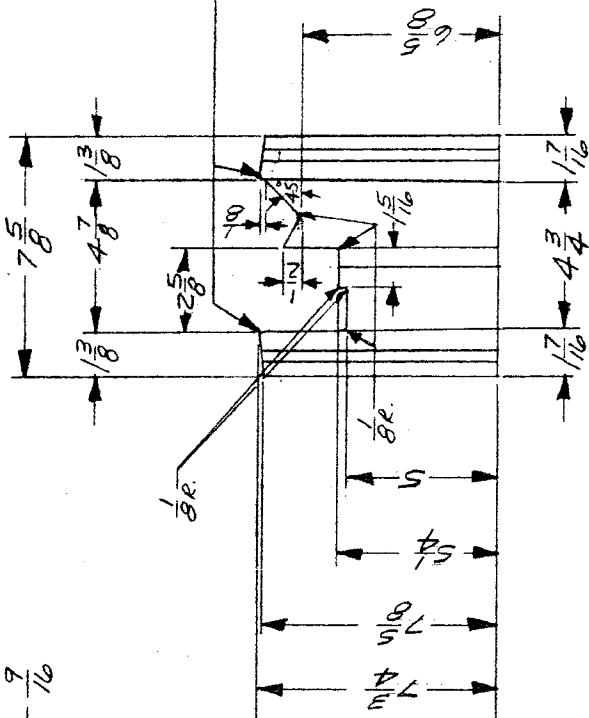
*\*Switch Insert around for standard Hi-R units*

■ Hi-R Insert  
 - - - Split or Rib Side

417444



SEC A-A



SEC B-B

FEB 24 1986

BESSER COMPANY, ALPENA, MICHIGAN

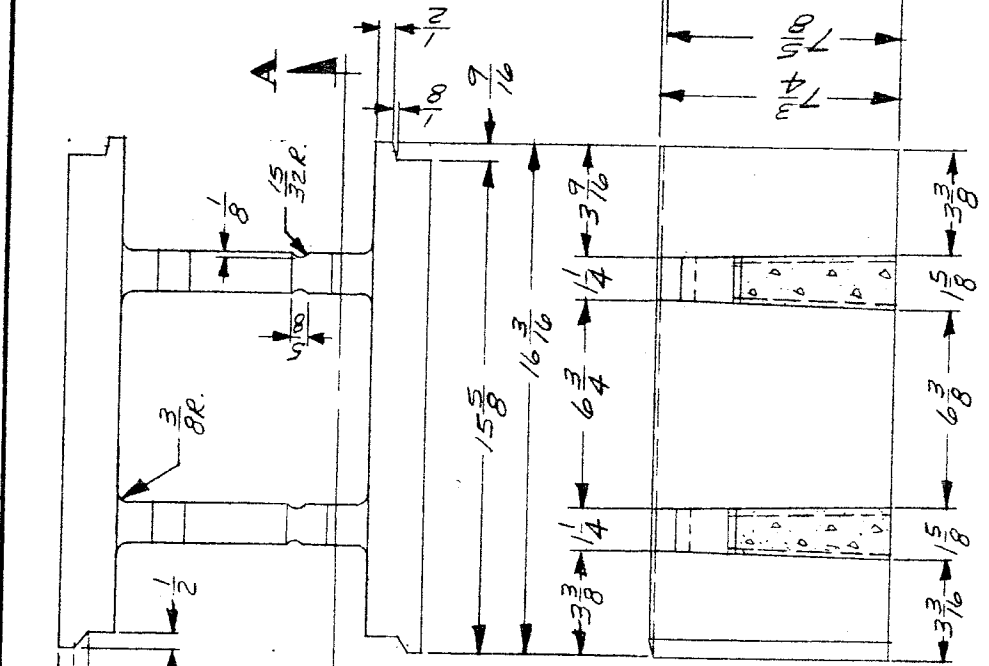
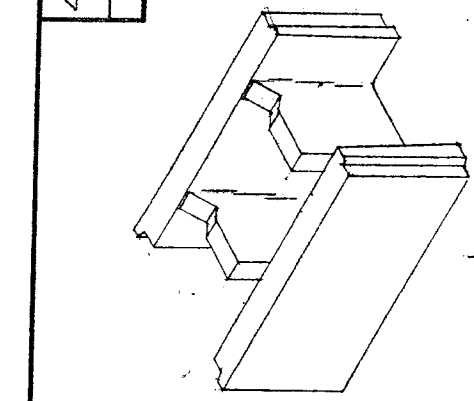
NAME CONCRETE UNIT -  $75/8" W \times 75/8" H \times 155/8" L$ .  
 KOBFIL STRETCHER UNIT -  $13/8" SHELL - 1/4" TIE$

DRAWN BY W. HAND    CHKD BY D.E.P.    MODEL  
 DATE 19-FE-86    APPD BY

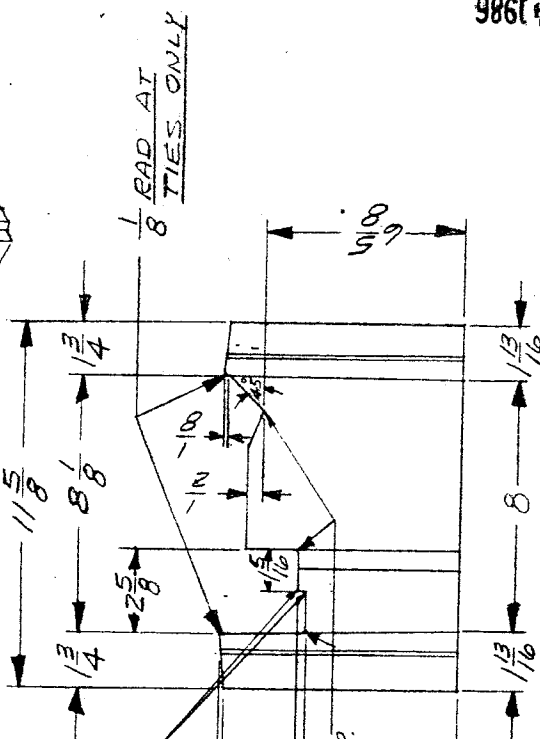
417444

DO NOT SCALE  
 DRAWING.  
 TOLERANCES  
 ±.015  
 ANGULARITY  
 UNLESS  
 SPECIFIED

LTR	REVISION	BY	DATE



SEC A-A



SEC B-B

DO NOT SCALE  
DRAWING.  
TOLERANCES  
ANGLES, 30' TV  
UNLESS  
SPECIFIED

NO.	REVISION	BY	DATE

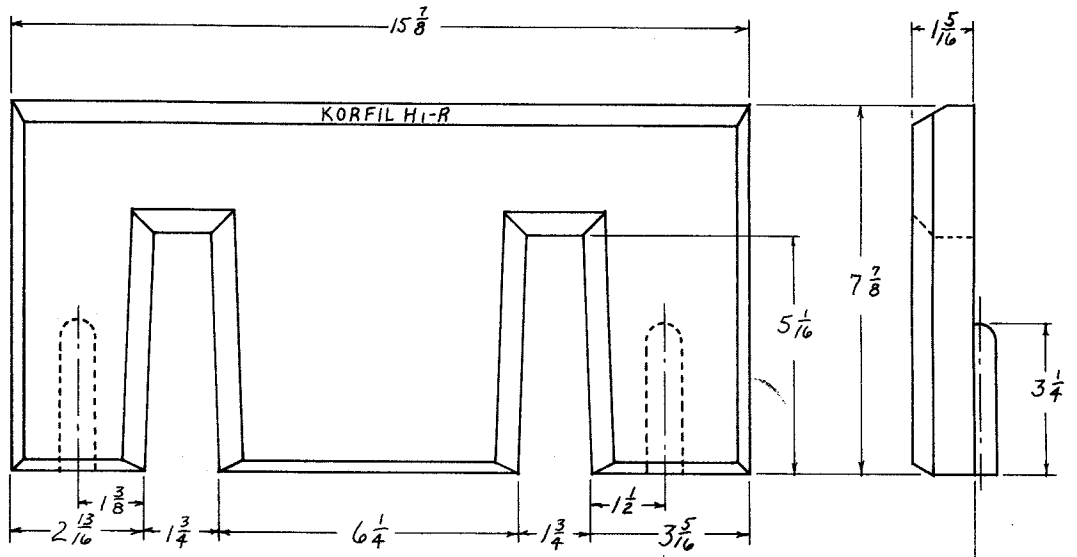
LTR	REVISION	BY	DATE

DATE	APPD BY	MODEL
24-FE-86	W. HAND	

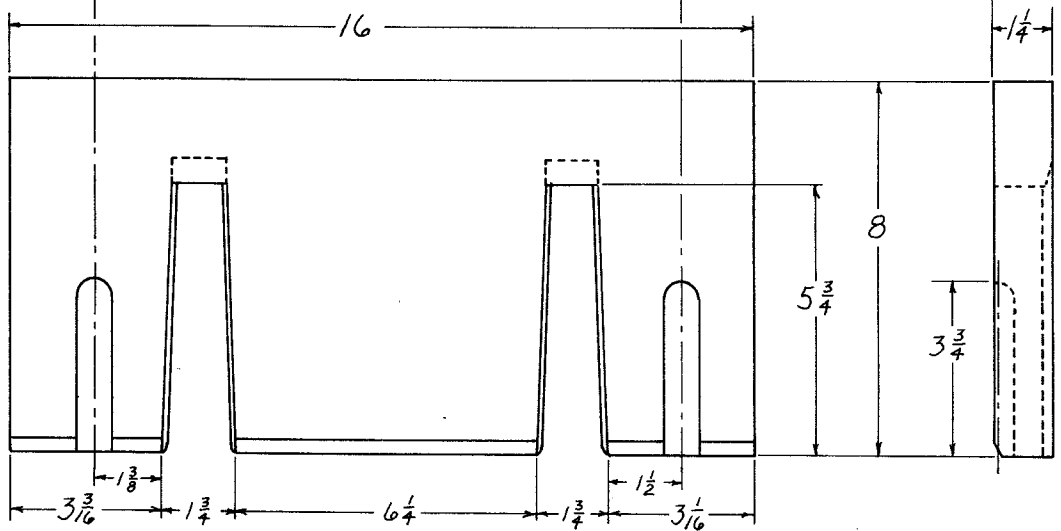
NAME: **BESSER COMPANY, ALPENA, MICHIGAN**  
 NAME: **CONCRETE UNIT - 115/8 W. x 75/8 H. x 155/8 L. KORFIL STRETCHER UNIT - 1314**  
 SHELL - 114 TIE  
 DRAWN BY: **W. HAND**  
 DATE: **24-FE-86**  
 APPD BY:   
 MODEL:

FEB 24 1986

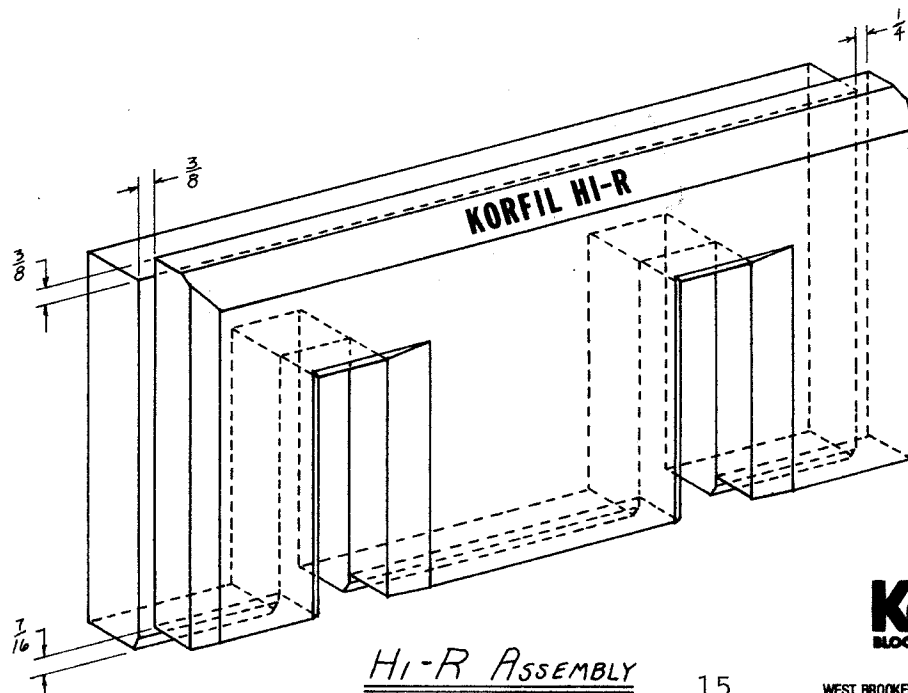




A INSERT



B INSERT



HI-R ASSEMBLY