

*Protection is a concrete idea.*

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# **Hi-R Masonry Wall System Tips for Block Manufacturers**

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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 MANUFACTURERS

### 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 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, kill 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 48X48 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 cut-off 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 universal 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 complete release of the molded block to the conveyor. The following suggestions may eliminate this problem:

- a. Shift entire mould in a direction opposite to the 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 the attached sketch entitled "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 side knife actuator.

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

13. Do not split Hi-R Blocks 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 in cube stability.

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

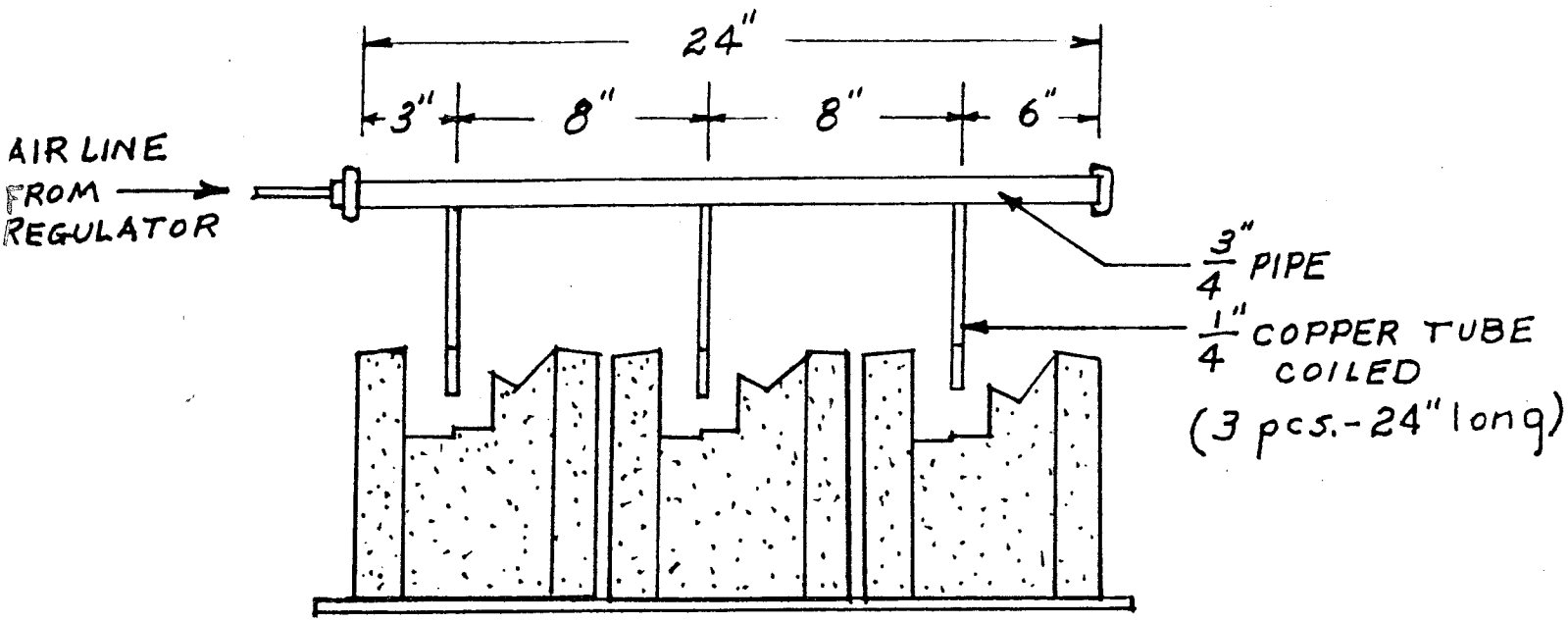
17. Cubing on the face shells is not recommended.

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.

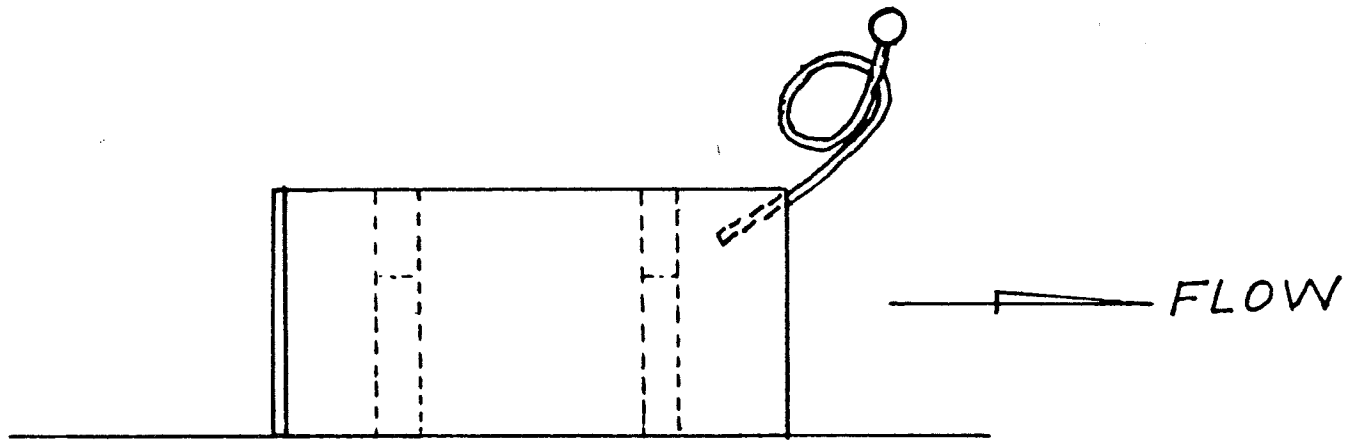
19. Use edge boards at tie downs to prevent excess pressure on extended face shells.

Gary D. Schoenfeld

AIR BRUSH FOR KORFIL HI-R

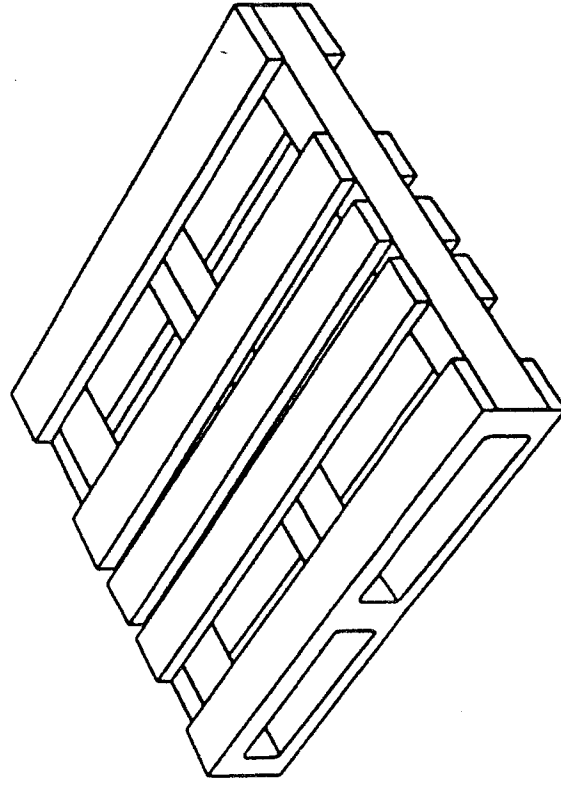


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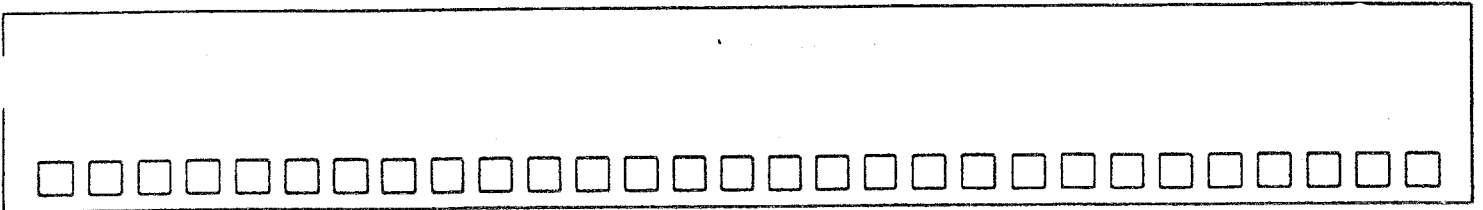


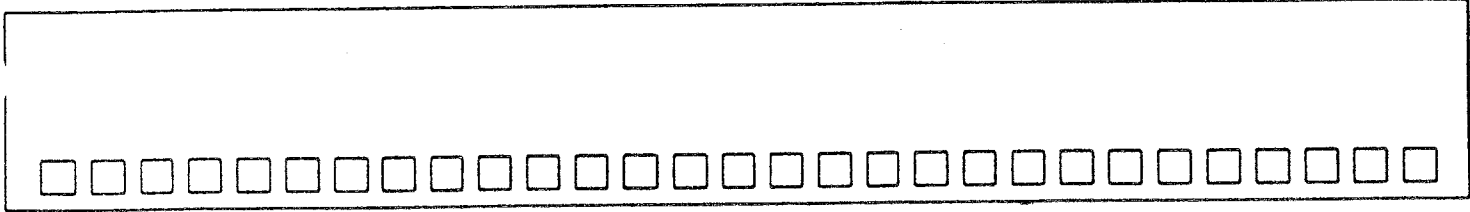
SIDE

# Palletizing Hi-R Units



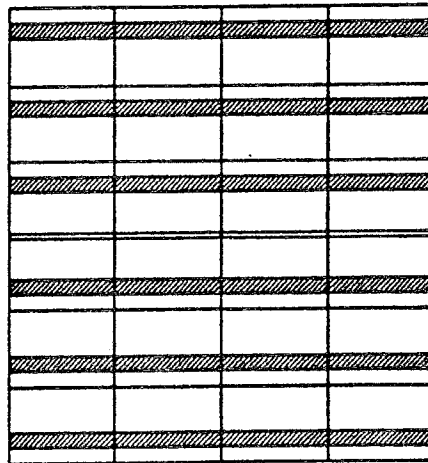
## Recommendations with Illustrations



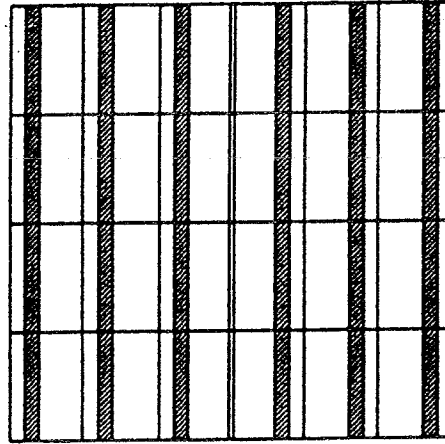


# Stacking 48 x 48 Inch Pallets 8 Inch Standard Hi-R

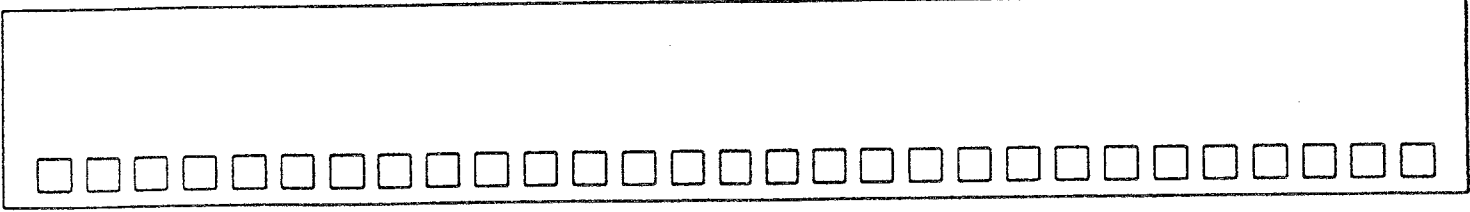
- 1st Course
- 3rd Course
- 5th Course



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

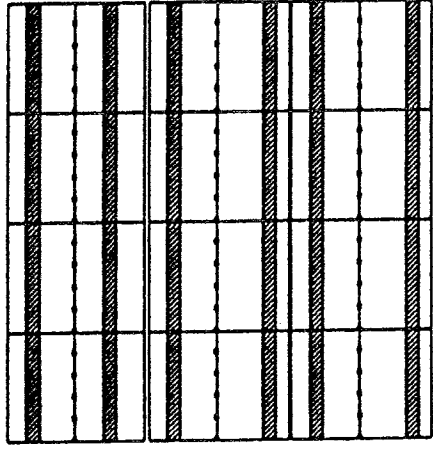
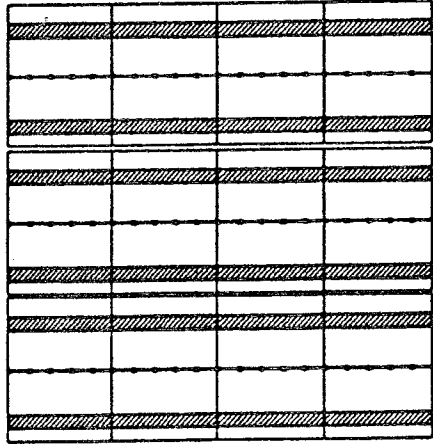


■ Hi-R Insert

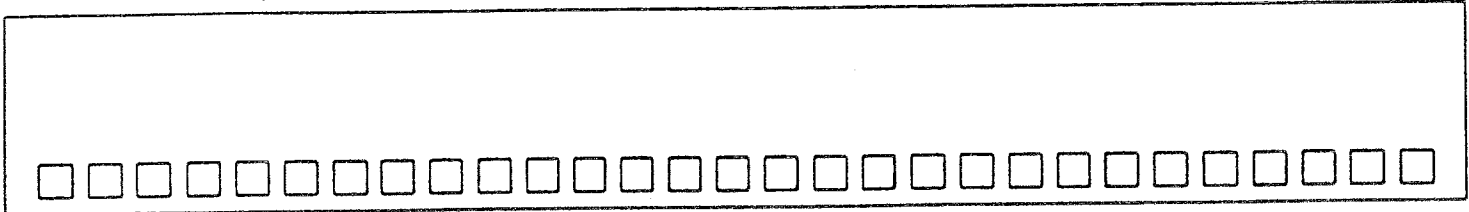


# Stacking 48 x 48 Inch Pallets 8 Inch Split Face & Rib Hi-R (High Side)

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



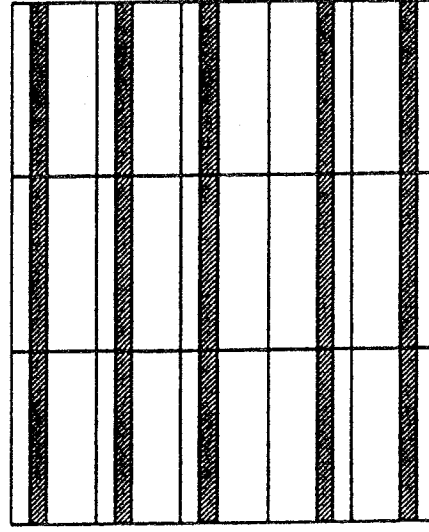
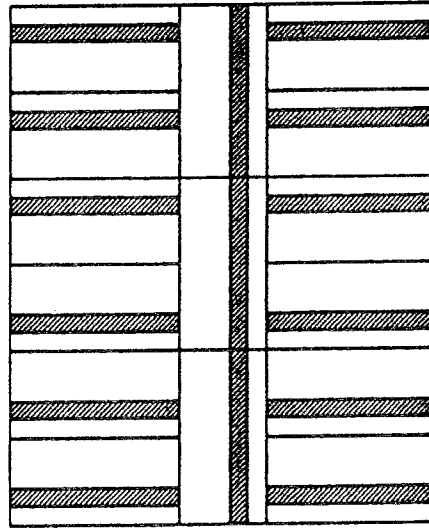
■ Hi-R Insert  
--- Split or Rib Side



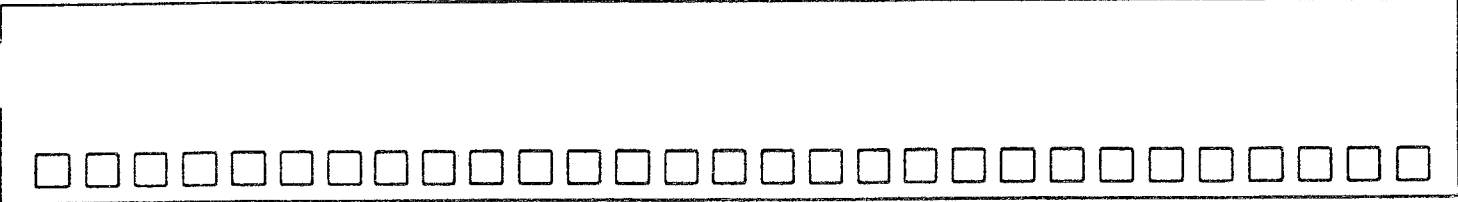
# Stacking 40 x 48 Inch Pallets 8 Inch Standard Hi-R

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

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



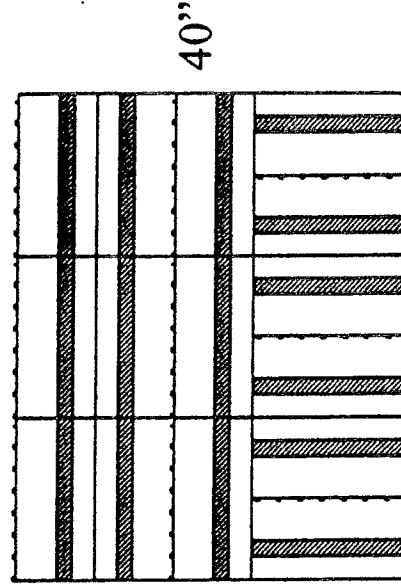
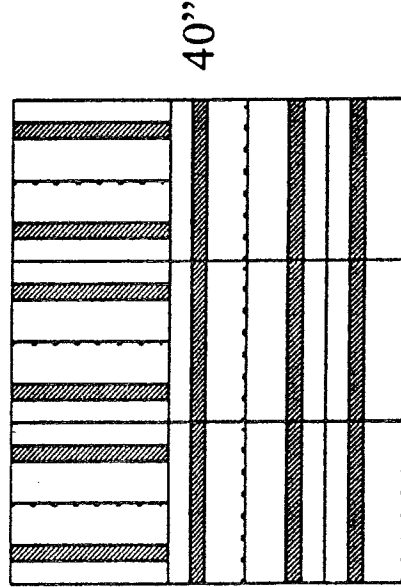
■ Hi-R Insert



# 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



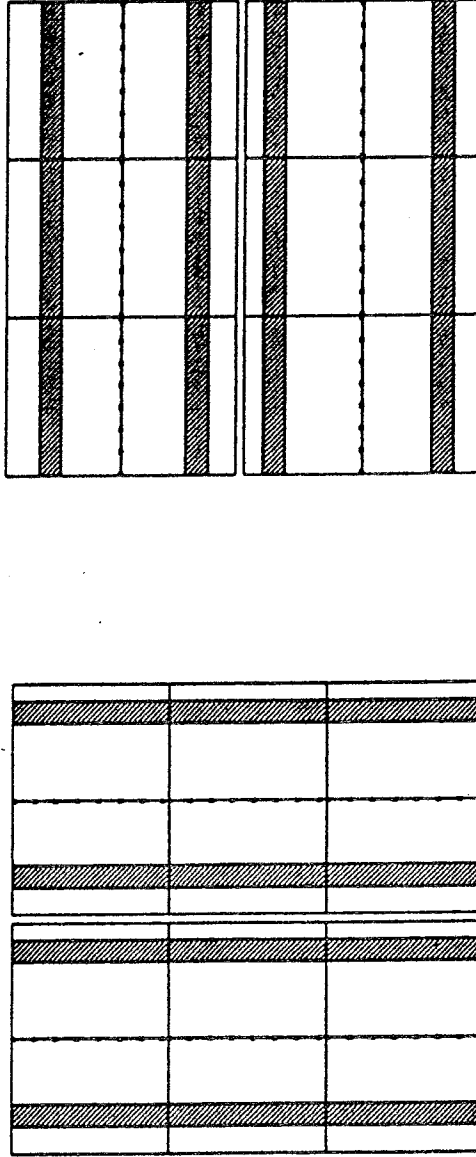
Hi-R Insert  
 Split or Rib Side

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

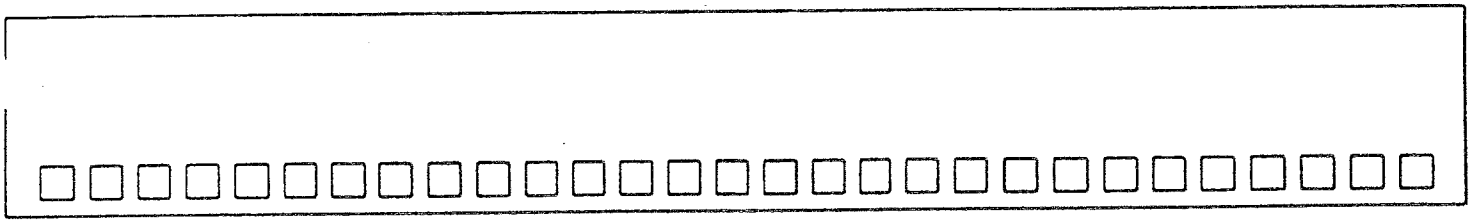
# Stacking 48 x 48 Inch Pallets

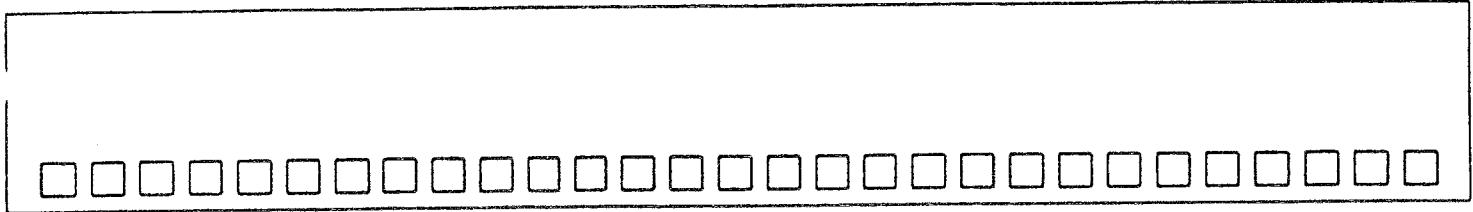
## 12 Inch Standard or Split Face & Rib Hi-R (High Side)

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



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

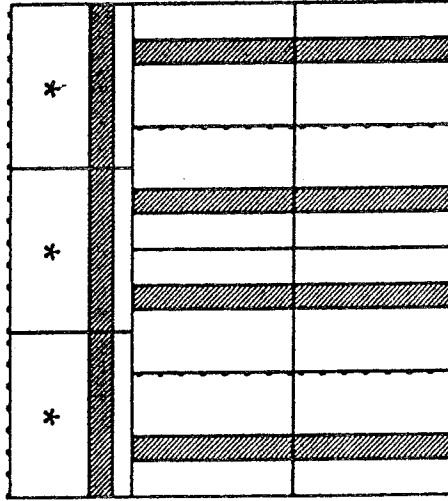
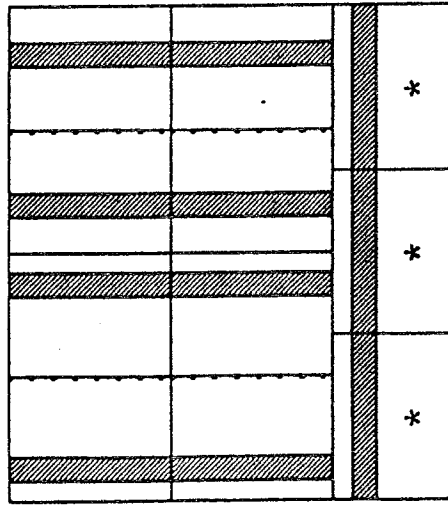




# Stacking 44 x 48 Inch Pallets 12 Inch Standard or Split Face & Rib Hi-R

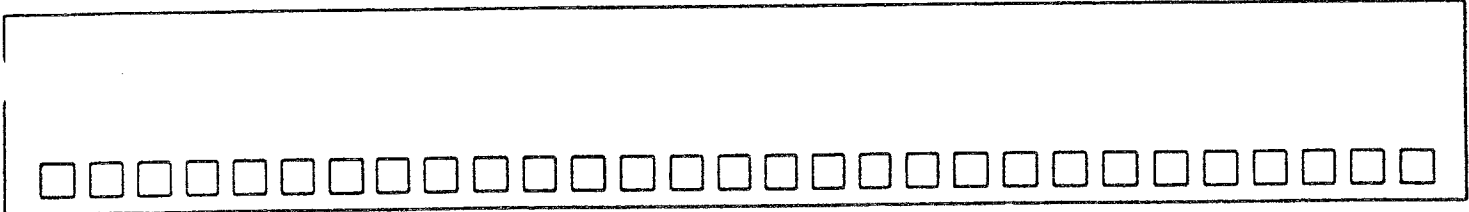
- 1st Course
- 3rd Course
- 5th Course

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



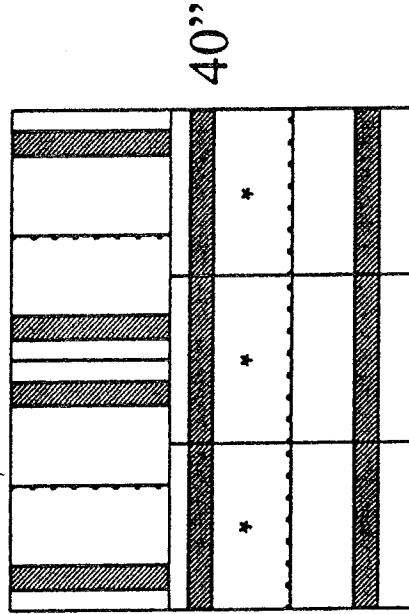
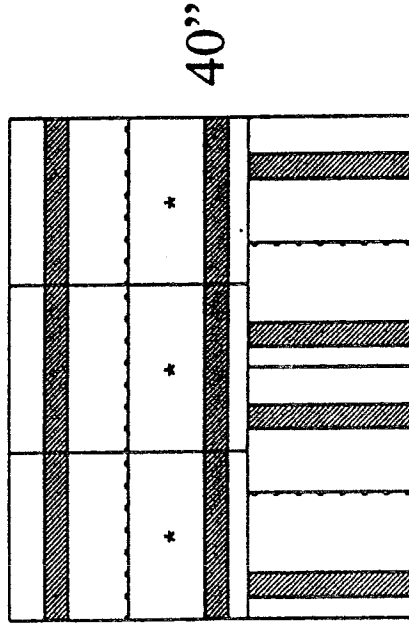
\*Switch Insert to outside for standard Hi-R units

■ 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

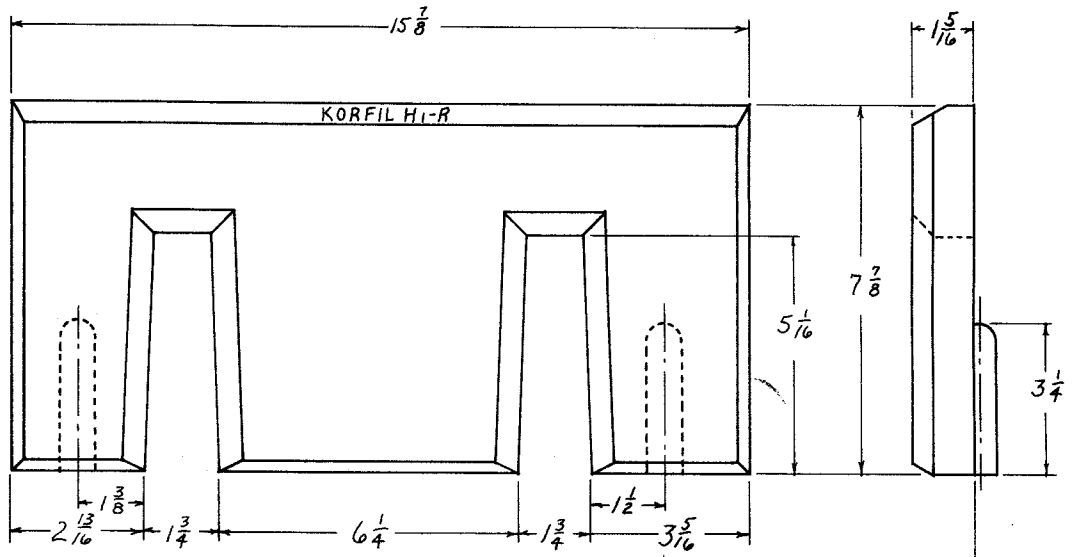


*\*Switch Insert around for standard Hi-R units*

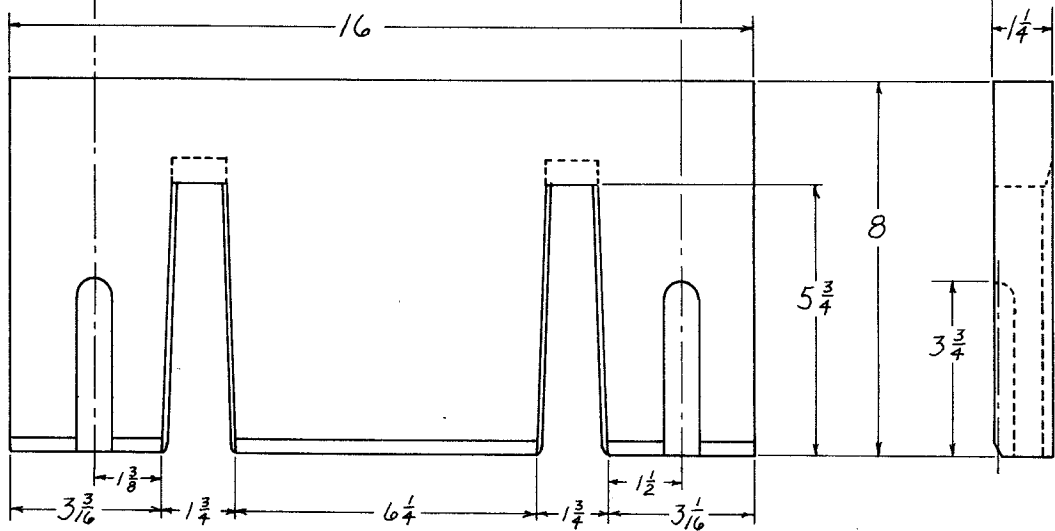
■ Hi-R Insert  
 - - - Split or Rib Side



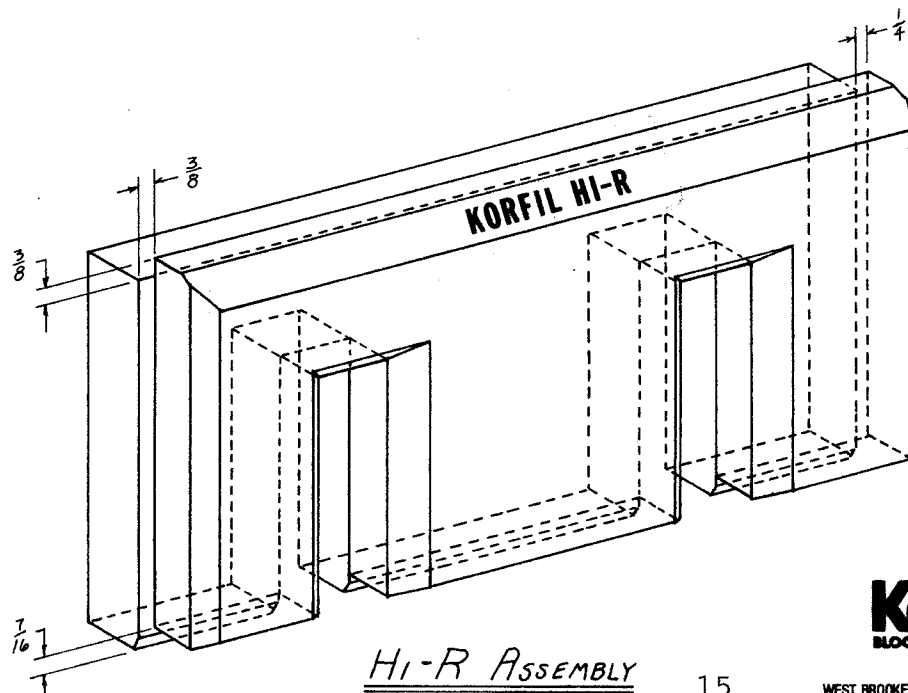




A INSERT



B INSERT



HI-R ASSEMBLY