

Bracing

The third element in your design is determining the bracing pattern.

If open type units are used, follow the guidelines illustrated in table 4 on the following pages.

In the case of closed units, upright side sheets will be welded to posts on a maximum of 12" centers or field-bolted uprights may be used.

For maximum bolt centers on backs and uprights, see Table 5.

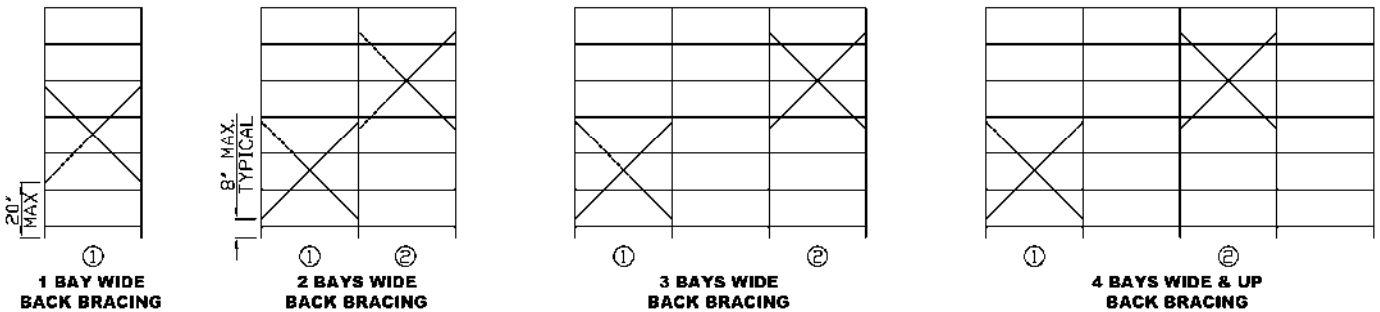
A shelving design is not complete until all three elements of a shelving structure – posts, shelves, bracing, and bracing pattern – have been properly selected.

NOTE: Seismic (earthquake) or wind loading – These types of loading conditions may make it necessary to provide special anchoring, heavier posts, and/or additional bracing. Bracing members of greater cross sectional area may also be needed.

Contact the Product Engineering Department at Republic for assistance when you know or suspect that this type of loading must be considered.

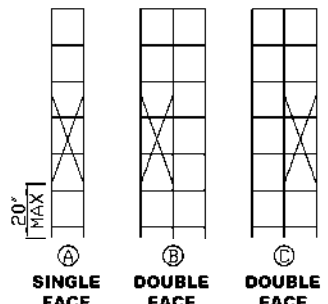
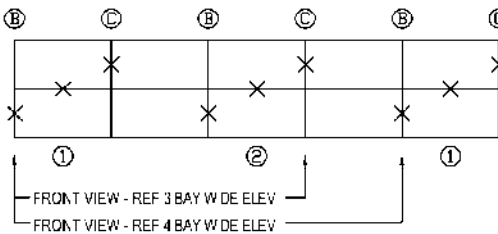
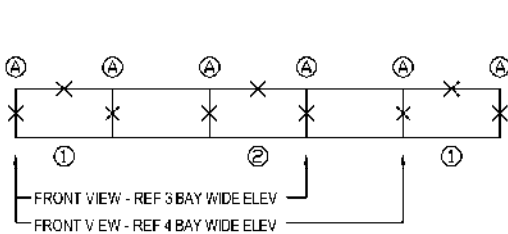
TABLE 4 - CLIP SHELVING BRACING PATTERNS – SEISMIC ZONE 0

Heights to 8'-1"



STANDARD BACK BRACING PATTERNS
TYPICAL FOR UNITS 8'-1" AND UNDER

NOTE: REPEAT PATTERN FOR MORE THAN FOUR BAYS AS FOLLOWS-
BAY '5' SAME AS BAY '1', BAY '6' NO BRACING, BAY '7' SAME AS BAY '2', ETC.



STANDARD SINGLE ROW BRACING PATTERN
REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS

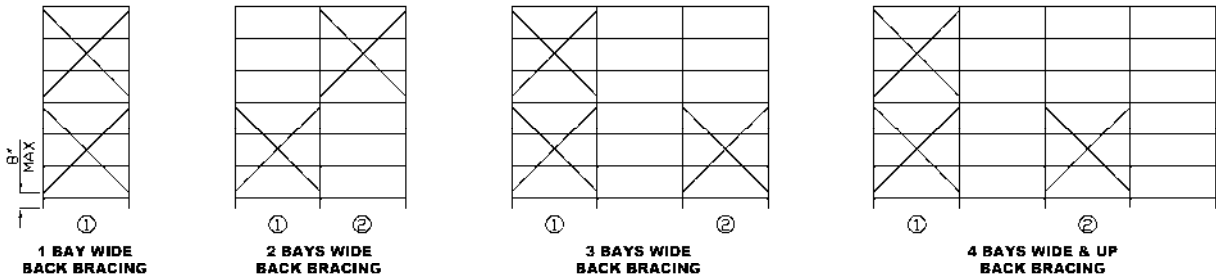
STANDARD DOUBLE ROW BRACING PATTERN
REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS

STANDARD SIDE BRACING PATTERNS
TYPICAL AT EVERY UPRIGHT
FOR UNITS 8'-1" AND UNDER

Bracing - *continued*

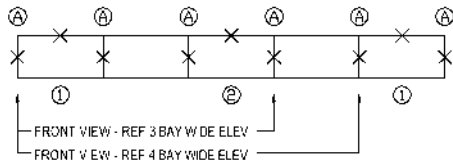
TABLE 4 - CLIP SHELVING BRACING PATTERNS – SEISMIC ZONE 0 - *CONTINUED*

Heights 8'-2-1/2" TO 10'-1"

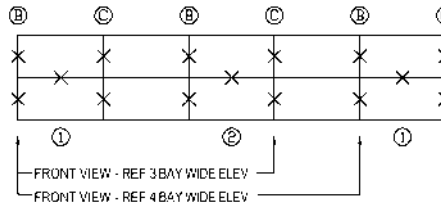


STANDARD BACK BRACING PATTERNS

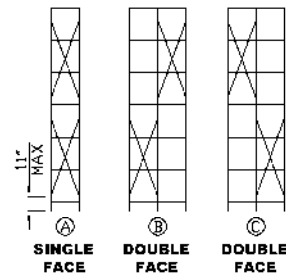
TYPICAL FOR UNITS 8'-2 1/2" TO 10'-1"
 NOTE: REPEAT PATTERN FOR MORE THAN FOUR BAYS AS FOLLOWS-
 BAY '5' SAME AS BAY '1', BAY '6' NO BRACING, BAY '7' SAME AS BAY '2', ETC.



STANDARD SINGLE ROW BRACING PATTERN
 REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
 REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS

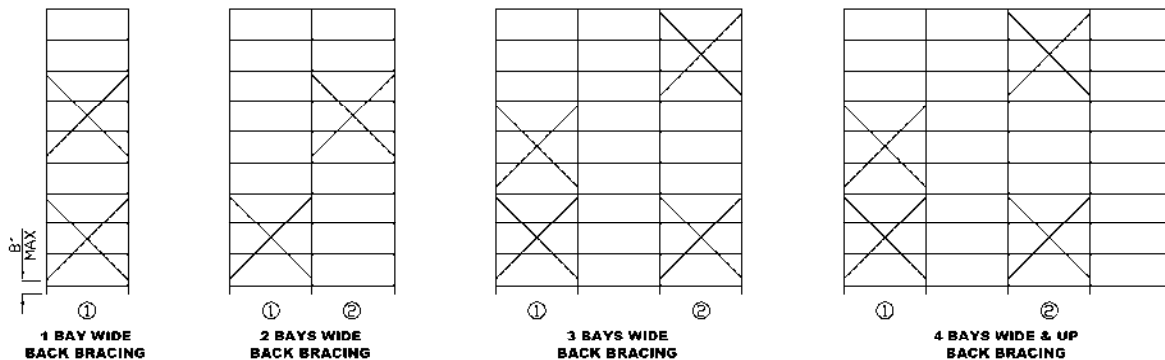


STANDARD DOUBLE ROW BRACING PATTERN
 REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
 REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS



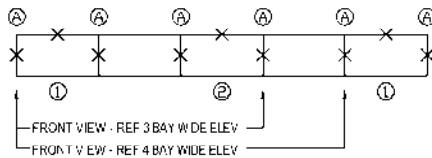
STANDARD SIDE BRACING PATTERNS
 TYPICAL AT EVERY UPRIGHT
 FOR UNITS 8'-2 1/2" TO 10'-1"

Heights 10'-2-1/2" TO 13'-1"

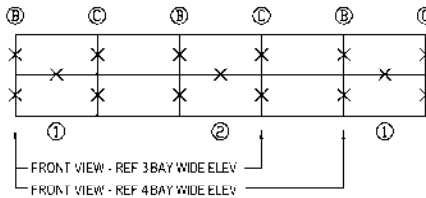


STANDARD BACK BRACING PATTERNS

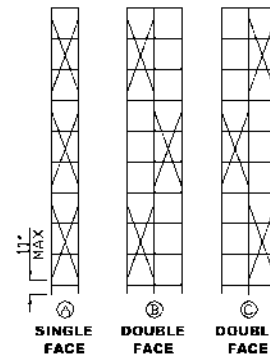
TYPICAL FOR UNITS 10'-2 1/2" TO 13'-1"
 NOTE: REPEAT PATTERN FOR MORE THAN FOUR BAYS AS FOLLOWS-
 BAY '5' SAME AS BAY '1', BAY '6' NO BRACING, BAY '7' SAME AS BAY '2', ETC.



STANDARD SINGLE ROW BRACING PATTERN
 REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
 REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS



STANDARD DOUBLE ROW BRACING PATTERN
 REF 'STANDARD BACK BRACE' FOR '1' & '2' BRACING LOCATIONS
 REF 'STANDARD SIDE BRACE' FOR 'A' & 'B' BRACING LOCATIONS



STANDARD SIDE BRACING PATTERNS
 TYPICAL AT EVERY UPRIGHT
 FOR UNITS 10'-2 1/2" TO 13'-1"

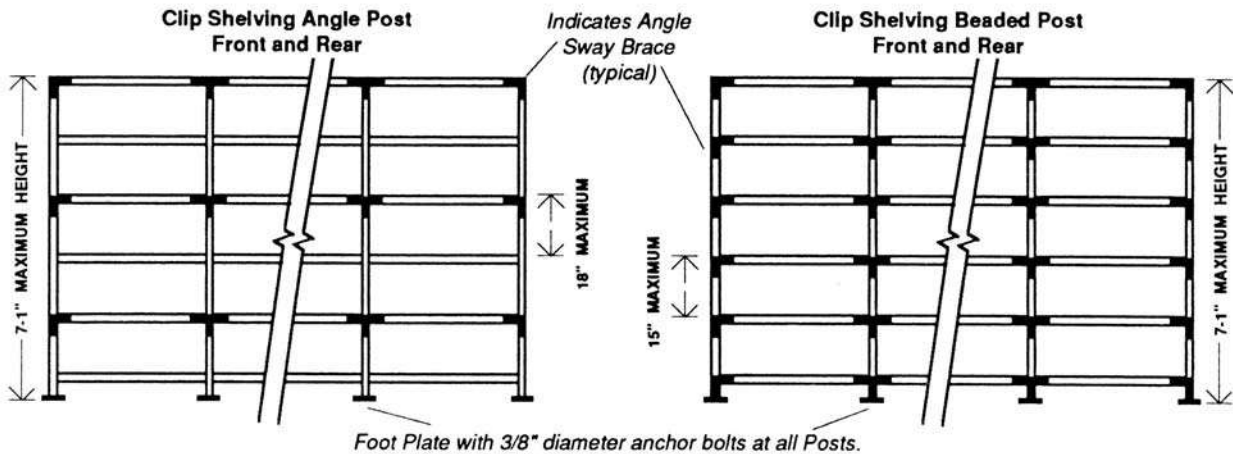
Bracing - *continued*

TABLE 5 – BOLT SPACING FOR BACKS AND UPRIGHTS

Height of Closed Back	Total Number of Bolts and Nuts	Maximum Bolt Spacing
To 3'-11 1/2"	4	46-1/2"
4'-1" to 5'-11 1/2"	6	36"
6'-1" to 7'-11 1/2"	8	31-1/2"
8'-1" to 9'-11 1/2"	10	30"
10'-1" to 12'-11 1/2"	12	31-1/2"
Closed Uprights (Upright Side Sheet plus Posts)		
Two Nuts and Bolts per foot of height.		

TABLE 6 – ANGLE SWAY BRACES

Angle Sway Braces are used where two-way entry to shelving is desired and Sway Braces or Backs cannot be used.



- **ANGLE SWAY BRACES CANNOT BE USED WITH SERIES 2000 SHELVES.**
- Use four (4) Angle Sway Braces per shelf as indicated above (both ends, both faces).
- **DO NOT** use Angle Sway Braces if shelf load exceeds 350 pounds on any shelf.
- When using Angle Posts, **DO NOT** exceed 18" shelf spacing.
- When using Beaded Posts, **DO NOT** exceed 15" shelf spacing.
- **DO NOT** use Angle Sway Braced Double Entry Units exceeding 7'1" in height.