

## **TERMS AND CONDITIONS**

### **INFORMATION ENCLOSED**

The content and data presented in this catalog is intended for those utilizing products within the precast / prestressed concrete industry and can be edited or changed at any time by right of ALP Supply®. For best results, users should assess project requirements and needs before selecting products within the catalog. Please see [alpsupply.com](http://alpsupply.com) for products updates, addendums, and errata.

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## **SAFETY GUIDELINES**

Products in this catalog should only be used by trained professionals; failure to do so may result in serious injury. Before using any product in this catalog, time should be taken to review all technical and safety information to ensure the safety of workers. If you are ever uncertain about a product or its application, please call or email ALP Supply® to speak with a technical support specialist.

### **PRODUCT MODIFICATION**

ALP Supply® reserves the right to make alterations to product information and/or design without prior notice to users.

### **WORN MATERIALS**

All items are prone to wear and tear which can affect product performance. Materials should be reviewed to determine if they are in proper condition for use/reuse.

### **ANCHOR LOAD**

Capacity and usage varies drastically with lifting anchor types and sizes. All product information should be checked carefully to make sure the correct anchor is being used properly.

### **IMPACT LOAD**

An experienced professional should always evaluate the method of lifting and transporting precast elements. The performance of lifting anchors can be affected by extreme impact and/or acceleration loads being transmitted to the lifting system during handling.

### **DO NOT MODIFY**

Products in this catalog should not be changed (i.e. modified or welded) from their original form. All products should be reviewed by a trained professional to determine effectiveness and disposed of if damaged in any way.

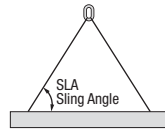
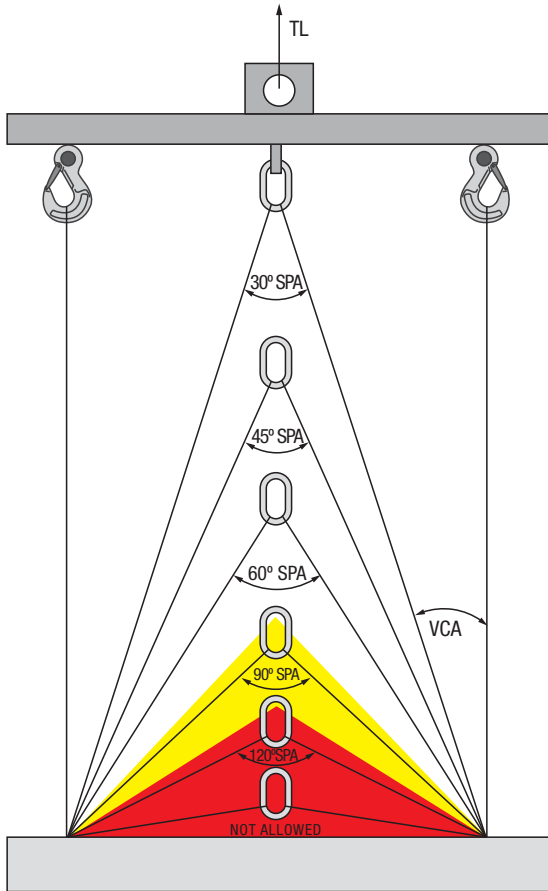
### **RIGGING**

All rigging configurations should be carefully reviewed by an engineer before use. Improper rigging techniques can drastically increase loads applied to anchors.

Please be sure to follow safety guidelines in an effort to prevent any accidents or injuries from occurring. For more information, please contact ALP Supply® technical support at 1-800-332-7090 or by email at [tech@alpsupply.com](mailto:tech@alpsupply.com)

## LIFTING ANGLE LOAD FACTORS

Sharp rigging angles can drastically increase the load transmitted to a lifting anchor. Angles less than 45° are preferred to minimize this factor.



(SLA) Sling Angle	(VCA) Vertical Cable Angle	(SPA) Spread Angle	Load Increase %	Load Increase Factor
90°	0°	-	0%	1.00
82.5°	7.5°	15°	1%	1.01
75°	15°	30°	4%	1.04
67.5°	22.5°	45°	8%	1.08
60°	30°	60°	16%	1.16
52.5°	37.5°	75°	26%	1.26
45°	45°	90°	41%	1.41
37.5°	52.5°	105°	64%	1.64
30°	60°	120°	100%	2.00



\* Multiply your load by the above factors.

- TYPICAL
- MAXIMUM ALLOWED, CAUTION ADVISED
- DO NOT USE

## DYNAMIC / SHOCK LOAD FACTORS

All load values shown in the ALP Supply® lifting charts are based upon a smooth engagement of the lifting anchor, utilizing cable rigging on a smooth surface. The load transmitted to the anchor should be increased by the following factors.

Cable Rigging                      Chain Rigging

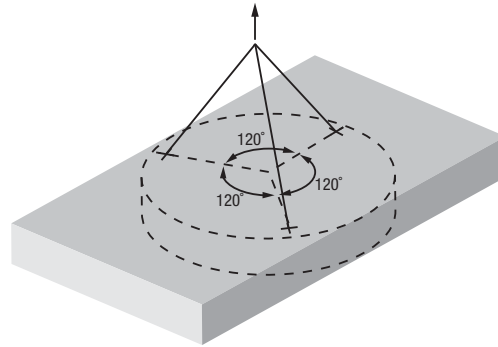
		
Stationary Crane	= 1.0	≥ 1.3
Lifting and transporting on a smooth surface	≥ 1.65	≥ 2.5
Lifting and transporting on an uneven surface	≥ 2.0	≥ 4.0

\* Lifting with chains is not recommended.  
 \* Multiply your load by the above factors.

**PROPER LOADING OF ANCHORS - SLABS**


**3-POINT PICK**

When lifting small slabs, 3-point picks can ensure an even disbursement of the load to the anchors, when spaced about the center of gravity, at 120° spacing.



**3 ANCHORS TAKE THE LOAD**

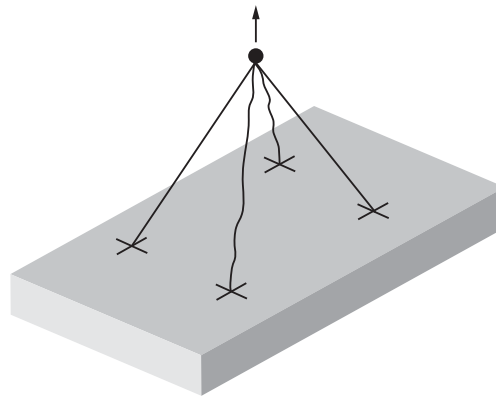
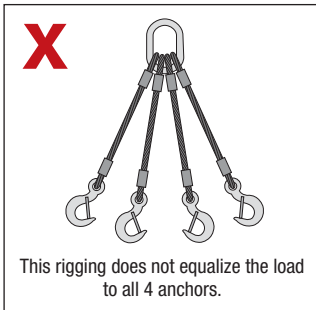
See rigging load charts for increased load factors.



All three anchors receive equal loads if using three equally spaced lifters and rigging as shown.


**4-POINT PICK**

4-point picks require some planning to ensure the load is evenly distributed to the lifting anchors.



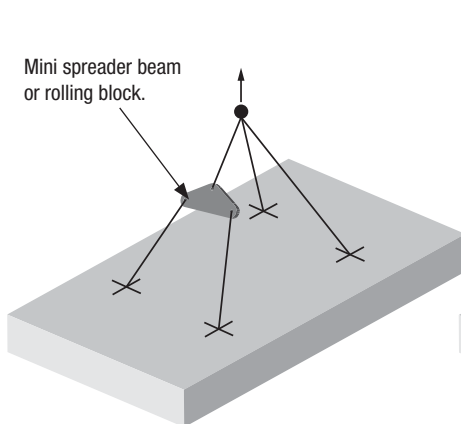
**ASSUME 2 ANCHORS TAKE THE LOAD**

See rigging load charts for increased load factors.

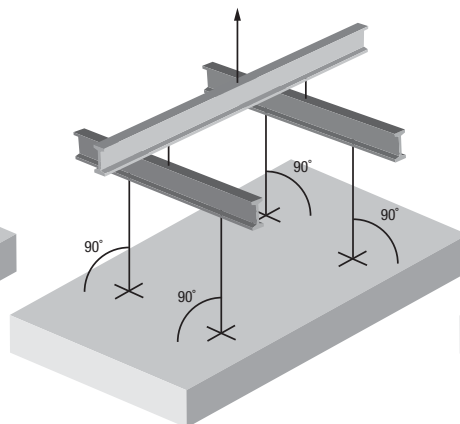


Fixed 4-point rigging should be avoided when possible. When using a fixed 4-point rigging, assume only 2 anchors will take the load.

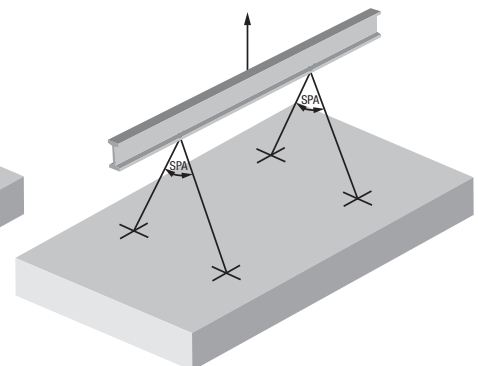
The below images show some rigging layouts that will ensure that the loads are transmitted evenly to the lifting anchors.



**4 ANCHORS TAKE THE LOAD**



**4 ANCHORS TAKE THE LOAD**


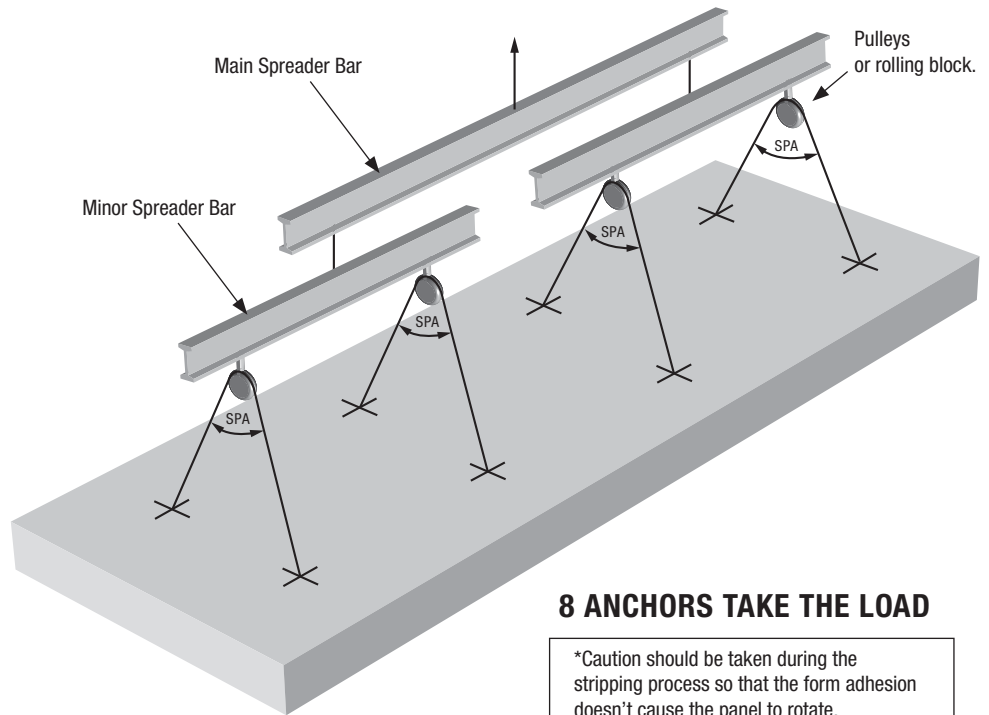


**4 ANCHORS TAKE THE LOAD**


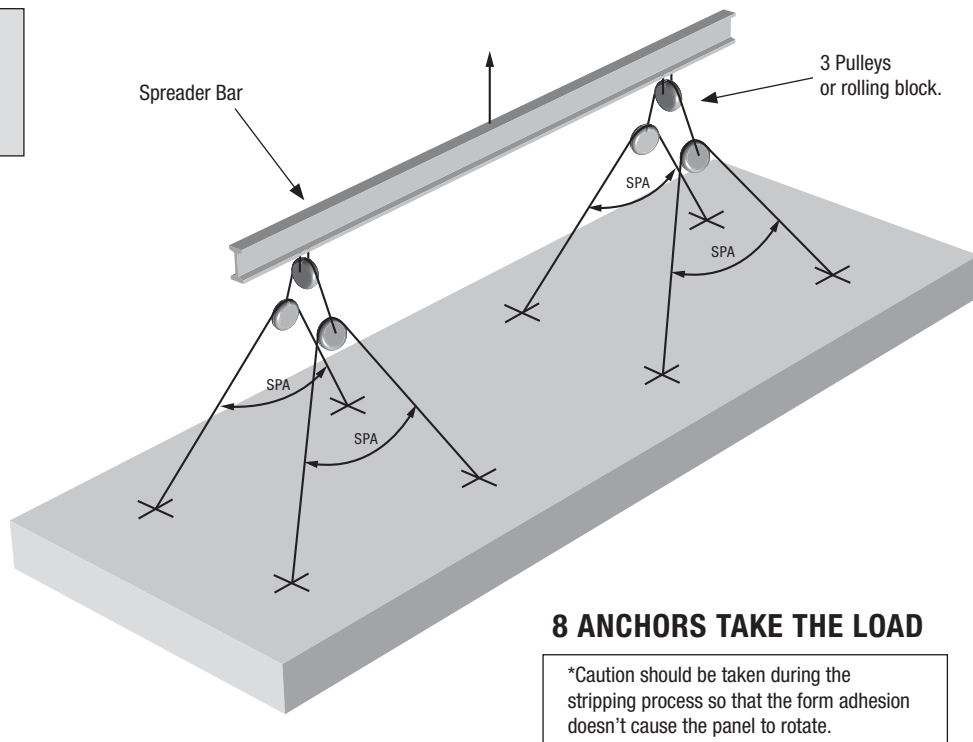
**PROPER LOADING OF ANCHORS - SLABS (CONTINUED)**

**8-POINT PICK**

See rigging load charts for increased load factors.

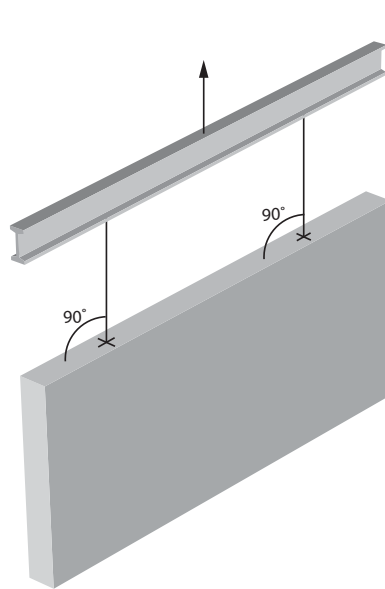
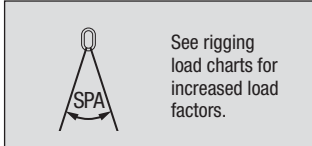
See rigging load charts for increased load factors.

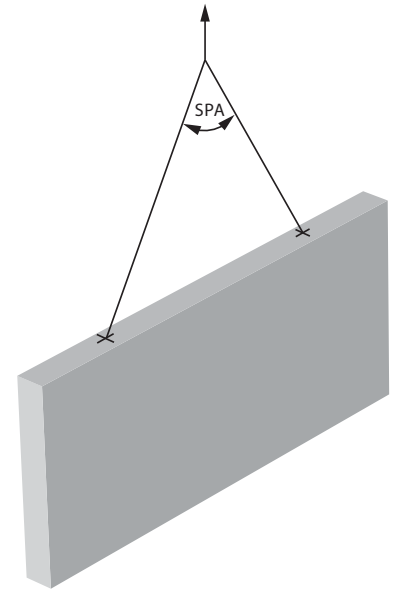
**PROPER LOADING OF ANCHORS - WALL PANELS**

**2-POINT PICK**

A 2-point pick is the easiest to equalize load to the lifting anchors when rigged as shown.



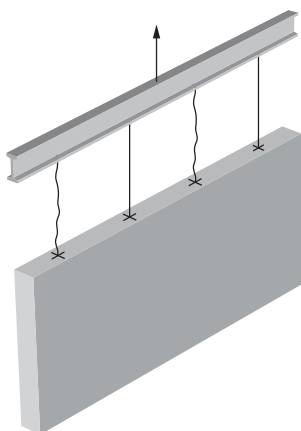
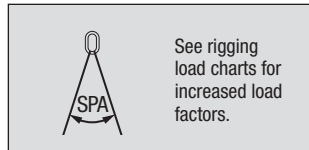
**2 ANCHORS TAKE THE LOAD**



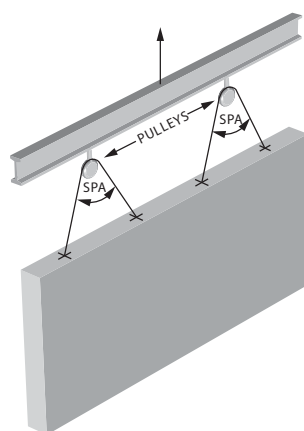
**2 ANCHORS TAKE THE LOAD**

**4-POINT PICK**

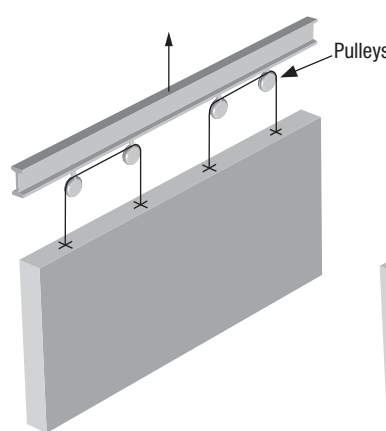
4-point picks require planning to ensure the load is evenly distributed to the lifting anchors.



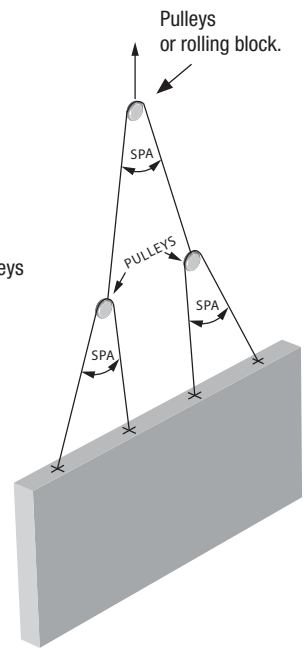
**ASSUME 2 ANCHORS TAKE THE LOAD**



**4 ANCHORS TAKE THE LOAD**



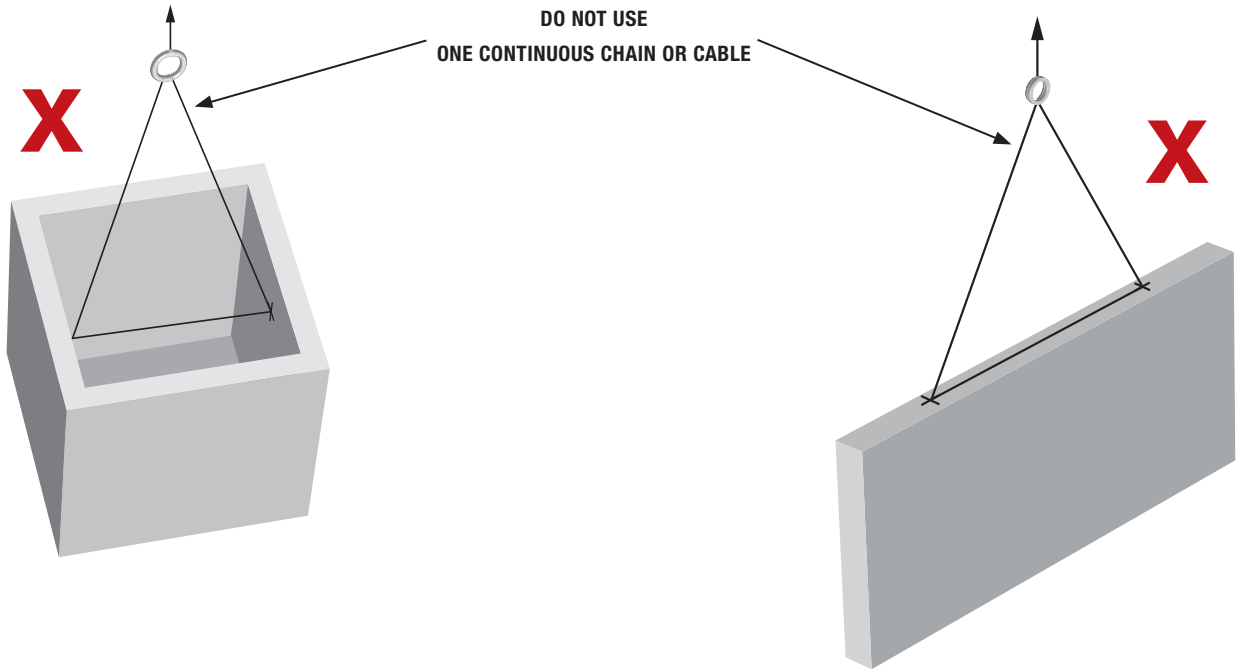
**4 ANCHORS TAKE THE LOAD**



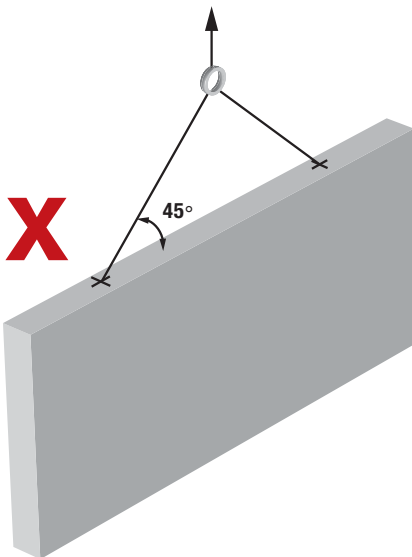
**4 ANCHORS TAKE THE LOAD**

**IMPROPER LOADING OF ANCHORS**

**DO NOT USE ONE CONTINUOUS CHAIN OR CABLE**



**DO NOT USE LESS THAN A 45° SLING ANGLE**  
**(see lifting angle load factors chart)**



**DO NOT USE ANCHORS TO DRAG STRUCTURES**

