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.

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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 service representative.

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 services at 1-800-332-7090 or by email at technicalservices@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.

![Diagram showing lifting angle load factors]

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

* 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 a cable rigging on a smooth surface. The load transmitted to the anchor should be increased by the following factors.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cable Rigging</th>
<th>Chain Rigging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationary Crane</td>
<td>= 1.0</td>
<td>≥ 1.3</td>
</tr>
<tr>
<td>Lifting and transporting on a smooth surface</td>
<td>≥ 1.65</td>
<td>≥ 2.5</td>
</tr>
<tr>
<td>Lifting and transporting on an uneven surface</td>
<td>≥ 2.0</td>
<td>≥ 4.0</td>
</tr>
</tbody>
</table>

* 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 dispersion of the load to the anchors, when spaced about the center of gravity, at 120° spacing.

3 ANCHORS TAKE THE LOAD

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

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

Mini spreader beam or rolling block.

4 ANCHORS TAKE THE LOAD

4 ANCHORS TAKE THE LOAD

4 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.

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.

This rigging does not equalize the load to all 4 anchors.
PROPER LOADING OF ANCHORS - SLABS (CONTINUED)

8-POINT PICK

See rigging load charts for increased load factors.

8 ANCHORS TAKE THE LOAD

*Caution should be taken during the stripping process so that the form adhesion doesn’t cause the panel to rotate.

See rigging load charts for increased load factors.

8 ANCHORS TAKE THE LOAD

*Caution should be taken during the stripping process so that the form adhesion doesn’t cause the panel to rotate.
2-POINT PICK

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

4-POINT PICK

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

DO NOT USE ONE CONTINUOUS CHAIN OR CABLE

DO NOT USE LESS THAN A 45° SLING ANGLE

DO NOT USE ANCHORS TO DRAG STRUCTURES