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What a phenomenal summer it is turning into. The Spring General Meeting in Atlanta was a tremendous success and provided us with an opportunity to visit a beautiful city that we hadn’t been to in 20 years! The presenters were great and gave us tons of incredibly useful information that should allow us all to better our respective companies.

The QHSE guys still need your help!! Have you taken the time to provide feedback on the Quality Evaluation Self Audits that were discussed in Atlanta? If not, please take a minute to look through it – as I’m pretty sure that some of those points will at least pique your interest!

The AWRF Health Insurance initiative is still moving forward – if you receive a call from Ben Krambeck, who presented this topic at the general meeting, please take the call and provide them with the information that they request – it can only help you (as well as the association) if you allow it to.

AWRF’s “Social Media Do’s and Don’ts” will be available shortly on the AWRF website as a downloadable file for your use. As always, we continue to provide our membership with value - thank you for choosing to be a member!

See you in DC!!

Tom Miller President
Marcal Rope & Rigging / Marcal Lifting Products
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tom.miller@marcalrigging.com
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Nothing has quite the immediate excitement of the winning of a NASCAR race.  However, the Carnegie, PA-based, Amick Associates, Inc. won an analogous race, although in slower-motion, by winning NASCAR as a customer.  This led the company to get into an entire new line of assemblies and components related to racing cars.

The irony is that this came about through the company’s failing to really get into the competitive race for the wire rope market in that area, where it had opened a branch which was about to close.  But then, recalls President Jim Amick Jr., during a race called the Cart Series, in the late 1990s, “A wheel came off of a four-wheel racer and went into the stands, killing three people and injuring eight.  NASCAR decided it had better do something to prevent a similar happening in one of its races.  NASCAR knocked on a competitor’s door, who wasn’t interested.  Our outlet down there wasn’t very successful and we had some issues in hiring.  Anyway, when NASCAR knocked on our door, we were very interested, and gave them their first prototype.”

Amick started with stainless steel for the first prototype, though it later moved to synthetics for the assemblies to keep the wheels in place.  Though NASCAR had another company that was both interested and qualified, “because of our interest and the fact that we provided their first prototype, we became their favorite supplier” Amick says.

About every year since then NASCAR has been interested in restraining more parts including the deck and hood to keep racing safe, and so has turned to Amick for more prototypes.  “This business has blossomed,” Amick says.  “and it’s spread to other racing venues.”  “Moreover,” Amick continues, “the same assemblies and other components used on the race cars have proven adaptable to other markets.”  Now the company has a 2,500 sq. ft. shop devoted exclusively to this lucrative sideline.

“Although we pulled out of our outlet in Charlotte, we pulled with us an entirely new line of products,” says Amick, “if you don’t try something new, you don’t know what might happen.  In this instance it turned out that through failure we achieved an unexpected success.”

Amick Associates was started in 1958 by Jim Sr., his wife, Grace, brother Herb and two other employees in the proverbial garage which seems to be the setting for so many family business beginnings.  From the start the company fabricated both wire rope and soft rope slings.  In fact, its first order was for a crane escape rope ladder.  The company grew steadily until 1962 when it moved from Crafton to Carnegie, into a 4000 sq. ft. building.  They purchased a larger press and began making larger slings.

The year 1968 was a big one for the company, as Amick recalls, “My dad and uncle convinced Columbus-McKinnon to become the first repair station for alloyed chain slings, so that slings would not have to be shipped to New York.  Now they have 14 repair stations throughout the country, but we were the first.  They provide the chains and parts, and we put them into slings.”

Forty-two years later, Amick still has a close relationship with Columbus-McKinnon.  Amick Associates celebrated its 50th year in business in 2008.
Jim Sr. passed away this past July at age 89 and Herb eight years earlier at age 79. Both enjoyed a long retirement. For Jim Jr. 61, his older cousin Herb Jr. 63 and younger brother Doug, 59 started in the business in the early 1970s. Although Jim is currently president, Doug vice president, and Herb was secretary-treasurer, the three periodically exchange these roles. In October of 2010, Herb Jr. retired.

The company has branched out into hoist and crane repair. But its main diversification has been into safety-related areas. These include: certified OSHA inspections for all cranes, hoists and slings; as well as doing fall protection systems installation and training; plus training on every aspect of the safe use and inspection of all rigging gear. “Our small training division is incorporated into our everyday activities and we have training or sling seminars almost every day. In fact, our inspection team is so busy I plan to expand to get a second one” Amick says.

Site expansion has already occurred and will continue. The Carnegie facility has expanded from its original 4,000 to 22,000 sq. ft. Next year an additional 8,000 sq. ft. will be added for a total of 30,000 sq. ft. The number of employees has grown to 40. In addition to its unusual niche in the racing field, Amick’s markets are oil and gas mining, construction, manufacturing and steel.

If Amick’s Charlotte venture was a setback from which the company was able to recover, it shared a more general setback in the late 1970s and ‘80s. Amick recalls “All of the imports, bankruptcies and merging really hurt the industry. Domestic wire rope companies went from 12-15 down to 3-4. A lot of steel companies just stopped making wire rope. Those were tough times for all rigging companies.”

Amick says a key reason his company survived was “because of our front line association with our customers.” But, he adds that this was also a tough period for AWRF, and because AWRF was able to adapt, that made it easier for rigging shops like his own. “One of the key things AWRF did during this period was to open up its membership to suppliers,” Amick says. “Suppliers began opening booths at the AWRF shows, so just by attending you could find a wealth of new information not readily available before. I’ve loved meeting suppliers I never knew existed, and I’ve signed up with some for long term relationships.”

Amick adds that he’s really appreciated being able to strike up friendships with riggers around the country who are not a part of his competition, to network with to get valuable advice. “If I can do a test at only 250,000 pounds, but need to go to 500,000 pounds, I know who to go to for a solution,” Amick says.

What Amick finds especially valuable are the qualified speakers that come to the shows. He adds that AWRF’s safety programs “are fantastic, AWRF helps us to not only sell to our clients but to provide training for product safety, which, to my mind, is as important as selling the product.”

The Amicks are now in their third generation. Jim’s son, Brian, has been there 13 years, and Doug’s son, Doug Jr., for seven years. What’s it like to run a family business, especially when there are so many family members involved? “It can be very difficult at times,” acknowledges Amick. “Sometimes even a sales meeting can become an occasion for a family squabble. But it’s workable as long as you always keep all of the communication lines open.” Having the three family owners

Continued on page 70
Michael J. Gelskey, Sr., Chief Executive Officer, Lift-It® Manufacturing Co., Inc. is proud to announce their upgrade registration to the prestigious AS9100 Quality Standard. This is in addition to their ISO9001: 2008 Registration acquired initially in 2002.

AS9100 defines additional requirements within an aerospace quality management system that need to be addressed when operating to an ISO9001 Quality System.

Assigned the task to conform to the AS9003, Inspection and Test Quality System Standard by a leading aerospace customer last year, Michael J. Gelskey, Jr., Vice President, Lift-It® Manufacturing had the forethought to go one step further and commit to the additional requirements of the AS9100 Standard to place Lift-It® Manufacturing at the forefront of suppliers available to the aerospace industry.

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Antitrust Action

Antitrust Exemptions Where Industry is Regulated

One of the persistent questions throughout all regulated U.S. industries is whether strict adherence to government regulations exempts companies from antitrust liability. Until recently courts have traditionally regarded the antitrust laws as a “fundamental national economic policy”. In recent cases, however, some antitrust immunities have been established and certain existing ones expanded. Specifically, in cases involving highly regulated industries such as sports, natural gas and certain types of securities transactions, the courts have acknowledged exemptions from antitrust claims.

The evolving issue is whether these developments in antitrust exemptions are a swing of the pendulum which in time self-correts or instead a slow retreat from antitrust as an across-the-board national policy. In any case the stakes are high for participants in regulated markets, but for the consumer the stakes are probably even higher. For now, AWRF members should not rely on guaranteed antitrust immunity by simply following government regulations.

Antitrust International

An example of EU cooperation in the antitrust field, is an agreement within the EU that national courts must avoid rendering decisions which would conflict with decisions contemplated by other courts within the EU. In this context, The Commission has opened a formal antitrust proceeding to determine whether a number of international publishers, including companies in the U.S., UK and Germany, have conspired with Apple by engaging in anticompetitive behavior affecting the sale of E-Books in the EU. It is unclear whether the U.S. Judiciary would agree to avoid decisions conflicting with EU courts, but don’t count on it.

In particular, a recent decision by the EU Court of Justice held that a firm’s distribution policy requiring resellers of its health products to sell only to brick and mortar stores who have an on-site pharmacist, constituted a restriction on competition because the EU Guidelines state that a supplier must allow its products to be sold on the internet. In contrast, the U.S. Supreme Court’s decision in 2007 involving Leegin leather goods and shoes struck down a long-standing U.S. per se ban on resale price maintenance.

Tangye Hydraulic Toe Jacks Added to LGH Product Line

Bridgeview, IL – April 18, 2012 – Tangye Hydraulic Toe Jacks are now available for rent at Lifting Gear Hire Corporation. The Hydraulic Toe Jacks are composed of high strength aluminum alloys and have a ram capacity ranging from 5 to 60 tons. They have the ability to lift, lower, maneuver and position heavy loads with maximum safety. The Tangye products available for rent through LGH include: 5 ton Hydraclaw Hydraulic Toe Jacks, 30 ton Hydralite 6” Claw Hydraulic Toe Jacks, 60 ton Hydralite 6” Claw Hydraulic Toe Jacks, 30 ton Hydralite 12” Claw Hydraulic Toe Jacks and 60 ton Hydralite 12” Claw Hydraulic Toe Jacks. Tangye Hydraulic Toe Jacks are safe, portable and ready for immediate use.

Founded in 1990, Lifting Gear Hire Corporation (LGH) is the United States’ largest single organization devoted exclusively to the provision of lifting and moving equipment for rent and sale. LGH provides hoisting, pulling, jacking, rigging, material handling and safety equipment available for immediate and safe use. LGH – Puts Safety First. www.lgh-usa.com

If you would like more information about this topic, or to schedule an interview with Lifting Gear Hire Corporation, please contact Stephanie Barnett at 1-708-598-4727 x143 or stephanie.barnett@lgh-usa.com
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BRIDON believes it is important that our users are knowledgeable about the properties, installation, use, inspection, and maintenance of our products. This belief has led BRIDON to offer both formal product-training seminars supported by relevant product safety and product data literature as well as specialist courses tailored to suit customer requirements.

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The ‘Difference’ at BRIDON is service, which is second to none. Such excellence is achieved not only by having the product available when you want it, but by also providing a knowledgeable team of field sales representatives, a fully trained and capable Customer Services team dealing specifically with inquiries and orders supported by expert rope engineers. BRIDON products are available across the USA, Canada, and around the world via a network of Distributors. For more information about any of these value-added features, please contact your local BRIDON Distributor or BRIDON American Corporation direct.

The Difference is BRIDON American

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The ‘Difference’ is that BRIDON’s products are tested to destruction. This “Powercheck” enables us to satisfy ourselves that the minimum breaking strength has indeed been achieved or exceeded. Not all competitors carry out this test. Failure to meet the required minimum breaking force may mean that the design factor of safety for the equipment or machinery has been compromised.

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“Q”uality Survey – “S”afety Awards

Quality Survey:
The goal of the AWRF Quality Audit is to grow and improve our member companies and the industry for standards compliance and best practices.

The Survey used the Signal audit as a base with input and review from AWRF Technical Committee and BOD review/approval. It was sent to regular and affiliate members both electronically and by paper. The results were sent to the AWRF office and are anonymous and strictly confidential.

Out of 228 companies, there were 67 companies that responded. We achieved a 29.4% response rate.

The results of the AWRF Quality Audit – Self Evaluation were sent to all member companies prior to the Spring meeting in Atlanta. They were also distributed at the meeting in Atlanta. We reviewed the measurement system that was used and also presented the common themes in its results.

The common themes for improvement are documentation and record keeping for training of employees, inspection on product/process (such as swager dies), and traceability of product. Enclosing instruction and safety bulletin information with shipments was also identified as an area for improvement.

A question and answer session was provided the following day allowing those in attendance to review the detail of the survey results. There were several questions and comments about the results that will help to enhance future surveys and how the survey will be used.

We encourage all members to take the results of the survey and review them with your quality department, operations managers and key employees at your companies to implement improvements within your organizations.

During the general session, a decision was made to send the survey out again to give those that have not taken and submitted the survey an opportunity to do so. As of this printing the survey has been sent with a deadline of June 8th for return to allow us to gather data in time for the July Board of Directors meeting.

This survey will be used to give us a baseline of results for future surveys. We will also use the survey results to drive programs, initiatives and presentations at our general meetings to help drive continuous improvement. We will resurvey the membership at a future date to see what impact the programs are having.

If you have any suggestions or comments on the AWRF Quality Survey, please e-mail them to:

Bill Franz bfranz@mazzellacompanies.com
Doug Stitt dstitt@caldwellinc.com
Nick Gladue nick@dakotariggers.com
Jeff Gilbert jeff@awrf.org

Safety Award:
The AWRF Safety Award Form for your 2011 results has been sent. The award offers our members recognition to those achieving a high level of success in their company’s safety performance. Each AWRF member can use the award as a point of recognition within their company and externally as a marketing tool. As important though, each member will have a better understanding of how their company stands in our industry.

By collecting this data, the AWRF can develop specific QHSE goals and better understand what our members need and require for their companies to improve overall safety. Since this award was created, we have been able to grow the amount of data collected each year with your help. Please keep in mind that the more member participation we have, the more meaningful and comprehensive the statistics and feedback will be.

As has been our standard practice, your individual company information will be kept completely confidential. All responses will be sent directly to the AWRF office where they will be processed by the AWRF staff. Only results for the AWRF as a whole will be presented outside of the AWRF office.

We need all Award forms returned by August 15th. The Award form is self explanatory, but if there are questions, please contact:

Doug Stitt dstitt@caldwellinc.com
Bill Franz bfranz@mazzellacompanies.com
Nick Gladue nick@dakotariggers.com

We want to thank each of our member companies in advance for helping to further the Association’s QHSE efforts.

Bill Franz
Mazzella Lifting Technologies
Cleveland, Ohio
440-239-7000 x 280
bfranz@mazzellalifting.com

Doug Stitt
Caldwell Group
Rockford, IL
815-229-5667
dstitt@caldwellinc.com

Nick Gladue
Dakota Riggers & Tool Supply Inc.
Sioux Falls, SD
605.335.0041
nick@dakotariggers.com

Eric J. Parkerson
Certified Slings & Supply
Casselberry, Florida
407-331-6677
eparkerson@certifiedslings.com
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<td>12 min dvd &amp; leadership guide</td>
<td>DVD</td>
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<td>Safety Audits</td>
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<td>Safety Showers &amp; Eye Washes</td>
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<td>Supervisor's Guide to Accident Investigation</td>
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<td>Unsafe Acts; Human Behavior</td>
<td>11 min dvd &amp; leadership guide</td>
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<tr>
<td>Welding Safety</td>
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<tr>
<td>Winter Driving</td>
<td>12 min dvd &amp; leadership guide</td>
<td>DVD</td>
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<tr>
<td>Workplace Stress</td>
<td></td>
<td>DVD</td>
</tr>
</tbody>
</table>

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Help Stamp Out Budgeting

For at least thirty years this author has been extolling the virtues of budgeting in improving company performance. I have been wrong all of this time.

It is not that budgeting itself is wrong. It is simply that budgeting alone does not seem to improve profitability. Budgeting must be augmented with what will be referred to as a Managerial Profit Plan. Fully implemented, this plan has the potential to help firms dramatically alter their financial results.

This report will examine the nature of traditional budgeting versus using a Managerial Profit Plan. It will do so by looking at two different issues.

- **The Problems With Traditional Budgeting**—An explanation of how the budgeting process too often leaves the firm in virtually the same financial position as before.

- **Developing a Managerial Profit Plan**—An examination of how the firm can develop an improved process to actually improve profitability.

### The Problems With Traditional Budgeting

The problem with traditional budgeting is twofold. First, it is top down in nature. Second, it involves a lot of trees and not much forest.

**Top Down Approach**—Typically a budget is prepared by starting with sales and working down through the line items in the income statement. Nothing could be more logical. The firms plans sales, then cost of goods sold. Subtraction produces gross margin. Next, expenses are planned. Finally, profit is whatever is left over when expenses are subtracted from gross margin.

The problem is that profit becomes a residual factor. It is, in fact, whatever number is produced after all of the subtractions are completed. There is no real focus on improving profitability.

**Trees, Not Forest**—Budgets tend to be extremely detail oriented. Almost every budget has at least twenty expense categories. Budgets with fifty items are not all that unusual.

At some point such detail is essential. However, in the real planning part of the financial improvement process such detail gets in the way. It is essential to understand the nature of the forest before reviewing the individual trees.

### Developing A Managerial Profit Plan

The function of a Managerial Profit Plan (MPP) is to determine where the company is going regarding profitability and how it is going to get there. Within that structure there are two elements. The first is to plan profit. The second is to focus on the Critical Profit Variables to the near exclusion of everything else.

**Exhibit 1** reviews the process by looking at the performance of a typical AWRF member based upon the DPR report. The exhibit presents the income statement for this firm along with total assets and return on assets.

The firm has sales of $10,000,000 on which it generates a profit of $370,000, or 3.7% of sales. To generate this level of sales and profit, the firm invested $5,000,000 in total assets. This result is a pre-tax return on assets (profit before taxes divided by total assets) of 7.4%.

The remainder of the exhibit demonstrates the structure of the financial portion of a Managerial Profit Plan. As will be discussed momentarily, each financial action needs to be supported by an action plan as well.

**Plan Profit First**—The left side of the exhibit presents a suggested sequencing of actions in the plan. The very first step that needs to be taken is to determine a profit requirement. This is a decision for top management. It cannot be off-loaded to the accounting staff.

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focus on how much profit must be generated. It is absolutely essential to success.

For the typical AWRF member in Exhibit 1, the firm is planning to increase its ROA from the current 7.4% to 9.0%. This reflects a philosophy of slow, but steady improvements. Assuming that the asset base does not change, dollar profit increases from $370,000 to $450,000 ($11,000,000 times 9.0%).

The Critical Profit Variables—At this point a very logical and real question emerges, namely, “how are we going to get to that profit level?” The answer is not by developing a 50-line budget; that will come later. The real answer is to focus intently on three critical items, what are commonly referred to as the Critical Profit Variables. There are the three that matter most.

The first of the CPVs is sales growth. The one requirement to planning this item is to develop a conservative sales forecast. That means a sales increase that the firm is close to certain it can achieve.

In Exhibit 1 the firm is planning on 5.0% sales growth. This figure includes inflation, growth in the overall market and any gain in market share the firm may enjoy. It is important to note that while the firm may well think a higher growth rate is possible, it is essential to temper such expectations in the financial plan.

As with every one of the CPVs the financial plan must be supported by a corresponding managerial plan. There must be an explicit statement of how the sales goal is going to be achieved. Again, this is a top management issue.

The second of the CPVs is the change in the gross margin percentage. In virtually every industry the gross margin percentage is the key driver of financial performance. AWRF is no exception.

In planning gross margin, the same philosophy as was used for sales growth applies. The firm should plan on only a modest increase. Luckily, a small increase produces large results. The exhibit shows an increase from 37.5% of sales to 37.7%. Once again a supporting plan for getting there is required.

The final CPV is the control of payroll. Here an almost universal improvement factor. Sales needs to increase about two percentage points faster than payroll expenses. This forces the firm to leverage payroll expense effectively. Since sales increase by 5.0% in the example, payroll can only increase by 3.0%.

The rest of the plan, pardon the phraseology, is simply plug and chug. Total expenses must equal gross margin minus profit. Non-payroll expenses must equal total expenses minus payroll.

At this point the plan can be turned into a thirty-line budget, a fifty-line budget or even a two-hundred line one. What is essential is that before the final budget is set, management must put together a comprehensive plan that emphasizes profit improvement and control of the Critical Profit Variables.

Moving Forward

For the overwhelming majority of firms, budgeting as practiced has not resulted in significant improvements in profitability. A Managerial Profit Plan must be constructed well before the detailed budget is developed. If the Profit Plan is properly thought out and supported with an appropriate set of action steps, almost every firm can generated greater profits.

About the Author:

Dr. Albert D. Bates is founder and president of Profit Planning Group. His latest book, Triple Your Profit!, is available at: www.tripleyourprofitbook.com, as well as Amazon and Barnes & Noble. ©2012 Profit Planning Group. AWRF has unlimited duplication rights for this manuscript. Further, members may duplicate this report for their internal use in any way desired. Duplication by any other organization in any manner is strictly prohibited.
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Email: zbarron@holland1916.com

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RFID NEWS

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• Logistics
• Rope technology
  • 15 employees
  • 10 student research assistants

Third-party funds 2010:
1.8 Mio. €

1927–1996
Karl-Heinz Wehking

1927
Foundation of IFT by Woernle; start of bending tests

1931
Separation of tests for magnetic inductive rope testing

1937
Separation of tests for magnetic inductive rope testing (patent Woernle, Müller)

1968
DIN 15020*, VDI 2358: standard and code for design of rope drives

1980
Method for lifetime calculation of running wire ropes

1997
Lifetime calculation for wire ropes under fluctuating tension

1999
High resolution magnetic rope testing

2000
Multi-layer spooling of crane ropes; swaged terminals; fleet angle

2002
Research on compacted ropes

2004
Giraffe profiles; stainless steel ropes

2006
Research on compacted ropes

2008
Research of running fibre ropes

2010
Lifetime calculation for tension-tension-torsion wire ropes

1927
Foundation of IFT by Woernle; start of bending tests

1931
Start of tests for magnetic inductive rope testing

1937
Separable solenoid for magnetic inductive rope testing (patent Woernle, Müller)

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DIN 15020*, VDI 2358: standard and code for design of rope drives

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Research of running fibre ropes

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Lifetime calculation for tension-tension-torsion wire ropes

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- each testing is completely monitored by state of the art hard- and software

Examples & References

Running ropes under high tension can break (Picture 1), if the rope is insufficiently maintained or if the rope reached its end of lifetime. Therefore lifetime calculations have to be done to secure an safe use. Suspension ropes (Picture 2) are highly stressed due to cyclic loads at loading and unloading of goods. If not inspected properly ropes can break eventually.

Offshore
elevators
ropeways

Examples & References

Table 1: Factors to calculate the viable number of bending cycles at break. (If by using the formula the viable number of bending cycles is determined, the result is multiplied by 1.25)

<table>
<thead>
<tr>
<th>Component</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drum</td>
<td>0.90</td>
</tr>
<tr>
<td>Drive</td>
<td>0.80</td>
</tr>
<tr>
<td>Hook</td>
<td>0.66</td>
</tr>
<tr>
<td>Slack</td>
<td>0.50</td>
</tr>
<tr>
<td>Jockey</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Number of bending cycles at break

- The lifetime of wire ropes can be described with the number of bending cycles at break N.
- In bending tests the number of bending cycles at break is determined in reference of significant parameters. The main parameters are:
  1) The diameter ratio of sheave to rope D/d
  2) The construction of the rope (kind of core, making of the rope, wire tensile strength, etc.)
  3) Greasing of the rope
  4) The specific rope force S/d²
- The experimental determined number of bending cycles at break are described in a double logarithmic chart through a straight line.
- The mathematical description of the straight line is done with a multiple regression.

\[ \log N = \log a_0 + \frac{\log S}{\log d} + \frac{\log d}{\log S} \]


Examples & References
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One hundred years, and counting! In America today, that’s a business accomplishment that is very rare. However, in Franklin Park, Illinois, just outside of Chicago, 2012 will be the 100th continuous year of business for Chicago Hardware & Fixture Company.

In a small building located only a few blocks from the center of downtown Chicago, a young man named John Herbstritt, founded a company named Chicago Warehouse and Silo Fixture Company in 1912. John started the business to fulfill a need for basic hardware components marketed to the farming and railroad industries. Beginning with wire rope clips used to support grain silos being supported by cable, he began developing other wire rope accessories to expand the product offering.

Today, the company now known as Chicago Hardware & Fixture Company, has evolved into a world class, USA manufacturer of steel forgings and wire forms. Continuing on with this heritage are the 3rd and 4th generation owners, Tom Herbstritt, and his son Brian Herbstritt. They have made a commitment to manufacture items to supply various other distribution channels that serve a wide variety of industries beyond agriculture and the railroads. Today, the over 6,000 products offered by Chicago Hardware are used in a variety of industries including rigging, construction, energy, automotive, mining, steel mills, aerospace, communications, marine, entertainment, and many more.

With three Chicago area manufacturing facilities, and distribution facilities located in the areas of Houston, Atlanta and Los Angeles, Chicago Hardware has the capability to offer its distributor partners high quality, American made products in an efficient, cost effective manner. The commitment to quality, service and new products has allowed the Herbstritt family to grow the company and become a leader in the industry.

The company’s growth has resulted in various plant expansions over the years. From the humble beginnings on the West Side of Chicago in 1912, the company moved in the 1946 to a newly constructed plant in Franklin Park, Illinois. Over the next several years there were several plant additions.

In 1952 the family purchased a forging plant in downtown Batavia, Illinois, located on the Fox River. Due to the wish of Batavia to develop the riverside lot for residential buildings, a new building was constructed and the plant was moved to an industrial section of town in 1966, where it is located today. Currently, the plant is being expanded by 10,000 square feet to house new forging equipment that will be dedicated to new Chicago Hardware items. All the steel used to forge Chicago Hardware products is made in the USA, and Chicago Hardware only manufactures in the USA.

In order to keep up with wire products demand, a wire drawing facility was built in 1980 within 3 miles of the main Franklin Park plant. This plant draws wire for threaded rod, u-bolts, eyebolts and various other wire forms, including special products requested by customers. All the wire drawing/forming is done here using exclusively USA made steel.

Chicago Hardware & Fixture Company is proud of its strong heritage and commitment to be an industry leader in the forging and wire forming industries. We look forward to our celebration, and invite our industry partners, and their end-user customers, to join us for the next 100 years and say, “proud to be made in the USA!”
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Industrial Training International Opens Subsidiary in Edmonton, Alberta

Edmonton, Alberta will be Industrial Training International’s (ITI) operational headquarters of its new subsidiary, ITI Canada. The company will continue to handle sales, marketing, design, and logistics functions out of its corporate headquarters in Woodland, Washington, USA. Local management, trainers, and supporting administration will work in the Edmonton office and conduct business throughout Canada.

Mike Parnell, ITI President/CEO, commented, “We are excited to be taking this step in our company’s growth. It’s funny – the first Master Rigger Course was actually conducted in Canada over 20 years ago. We have been training in Canada for a long time, as well as countries in South America, Africa, Asia and Europe. However, this is our company’s first step in operating outside of the US.”

ITI, a privately-held company, has seen revenue growth of 18% over the last year and has leveraged its exceptional field and office staff to produce new programs in advanced rigging as well as multiple e-learning courses. The US company has added multiple positions to its team over the last year and is looking to do the same in Canada.

“We plan on hiring several trainers based in Edmonton as well as other cities in Canada. Also, we will be on the lookout for a highly-qualified person to become ITI Canada’s Managing Director that can spearhead the operation in Edmonton,” Mr. Parnell remarked.

ITI is a world leader in crane and rigging training and consulting and has over 25 years of experience pioneering the industry with courses that are demanded by customers hungry for increased skills and knowledge, as opposed to solely regulation-driven training.

For more information, please contact Zack Parnell, Director of Business Development, at dbd@iti.com. For recruiting information, please contact Carol Winten, Human Resources Manager, at careers@iti.com.

In Memory of
Joan B. Broge

BROGE, JOAN B.; age 68; of Grosse Ile, MI; April 2, 2012.

Beloved wife of Robert W. Broge; loving mother of Michael (Carol) Shensky, Michelle (Cristian) Silva, John Broge, Rob (Geraldine) Broge and Jennifer Voss; dearest grandmother of Danielle, Tyler, Callie, Grace, Nick, Dallas, JR, Leland, Shayne and Shelby; and great grandmother of Aria and Jeffrey. She was preceded in death by her mother, Inis Opal Fahnestock.

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APRIL, 2012
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Man What A Day!

Martin Luther King Memorial
Southern Wire Modernizes The Olive Branch Distribution Center and Welcomes Rishe To Sales Department

Southern Wire Welcomes Rishe To Sales Department

OLIVE BRANCH, MS (March 20, 2012): Southern Wire, a division of the Houston Wire and Cable Co, is excited to announce new inside sales department growth with the addition of Trey Rishe. Rishe is a 2008 graduate of the University of Mississippi in Oxford with a Bachelor’s of Science degree in Criminal Justice and a minor in Recreational Management. Previously a member of the Houston Wire and Cable Co. National Call Center team in Houston Texas, Rishe brings with him two years of in depth customer service and sales experience. Rishe is excited about moving back to friends, joining the Southern Wire Family, and developing his career.

Southern Wire Modernizes The Olive Branch Distribution Center

OLIVE BRANCH, MS (March 20, 2012): Southern Wire, a division of Houston Wire and Cable Co, is proud to announce the recent reengineering of their Olive Branch warehouse facility has been completed. The goal was to create a well-lit, safe, high efficiency space while maintaining excellent flow of shipping and receiving processes. Re-racking, high efficiency lighting, bar coding improvements, space utilization improvements, and additional reeling capacity are all now on line. Each of these projects was completed with zero service interruptions to Southern Wire’s customers.


Division of Houston Wire & Cable Company
P: 662.253.6015
F: 662.893.4732
www.southernwire.com
www.houwire.com

About the Company

For 40 years, Southern Wire, a division of Houston Wire and Cable Company, has earned a reputation for understanding the unique buying requirements of their customers and delivering exceptional customer service and support.

With quality and safety as our guide, it is the mission of Southern Wire to deliver superior foreign and domestic wire rope, chain, and other related rigging products and fabricated assemblies with exceptional service. By purchasing in large volumes from qualified vendors, stocking at strategically located nationwide distribution centers, and utilizing proprietary state of the art technologies, we are able to provide same day shipping of stock items at outstanding value. The Southern Wire family strives to build strong relationships with our customers, employees, vendors, and community by exceeding expectations and providing long term competitive advantages.

Houston Wire & Cable Company is one of the largest providers of wire and cable in the U.S. end user market. Headquartered in Houston, Texas, HWC has sales and distribution facilities strategically located throughout the nation.

As Of April 2012

Regular Members
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Jed LeBlanc; Owner
Website: www.gulfamericaWirerope.com
Email: jedleblanc@gulfamericaWirerope.com

Kanta Plus
Viacheslav Galko; Owner
Website: www.kanta.ru
Email: vga@kanta.ru

MacMor Industries
Tim Peterson; Alberta MFG Manager
Website: www.macmor.com
Email: tpeterson@macmor.com

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Local 597 Chicago Pipefitters Union Partners with LGH

Bridgeview, IL - May 16, 2012 - The Local 597 Pipefitters Union training facility in Chicago and Lifting Gear Hire Corp. (LGH) have a formed new partnership. The partnership outlines an annual rental contract pilot program which secures rigging for the Local 597 Pipefitter Union’s advanced industrial rigging classes until the end of 2012. In addition, LGH has the privilege of having their logo permanently affixed to the wall at the Local 597 Pipefitters Union training facility. The logo defines the partnership between LGH, the UA and the Local 597 Pipefitters Union while increasing daily exposure to approximately 7,000 pipefitters that train at the center.

LGH is excited to work with the Local 597 Pipefitters Union in Chicago. Two of the instructors at the Local 597 Pipefitters Union training facility had nothing but good things to say about LGH regarding their equipment, support staff and overall business model. When asked why they chose LGH as their preferred vendor, they responded, “You guys are the professionals and we rely on your expertise. We want to lead by example, so it’s our goal to teach our apprentices safe rigging practices. After all, they are the future of our trade.”

Founded in 1990, Lifting Gear Hire Corporation (LGH) is the United States’ largest single organization devoted exclusively to the provision of lifting and moving equipment for rent and sale. LGH provides hoisting, pulling, jacking, rigging, material handling and safety equipment available for immediate and safe use. LGH – Puts Safety First. www.lgh-usa.com

If you would like more information about this topic, or to schedule an interview with Lifting Gear Hire Corporation, please contact Stephanie Barnett at 1-708-508-4727 x143 or stephanie.barnett@lgh-usa.com
In 1987, wire rope fabricators and distributors found it difficult to obtain adequate products liability insurance at consistent, affordable rates. That crisis prompted a group of wire rope fabricators and distributors to form their own Captive – Select Insurance Group of North America, Ltd. (S.I.G.N.A.L.).

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Muncy Industries Opens New Satellite Manufacturing Facility

Muncy Industries is proud to announce the recent opening of our new satellite manufacturing facility in Lafayette, Louisiana. To celebrate the occasion, a crawfish boil was held as part of an open house and grand opening on March 23, 2012. Many customers were in attendance to enjoy tours of the facility as well as demonstrations of the new test beds.

From this location we will be stocking and/or manufacturing the following items:

- Flemish Eye Sleeves
- Spelter Sockets
- Swage Sockets
- Casing Thimbles
- Slip-Through Thimbles
- Zinc
- 1pc Turnback Sleeves
- Aluminum Turnback Sleeves
- Roll Off Hooks
- Button Stops/Ferrules (Steel)

Our satellite manufacturing facility, at 109 Balboa Drive, Broussard, Louisiana, is conveniently located to allow ease of pick up and/or delivery of products to our local valued customers. In addition to the stock items, we will be able to manufacture special orders with quick turn-around time on threaded studs, modified sockets and buttons.

Freight is next day to areas such as: Corpus Christi, TX, Houston, TX, Birmingham, AL, Mobile, AL, Memphis, TN, Pensacola, FL and areas in between. We will be going "live" this spring to better serve our customers. We look forward to our continued relationships and new ones to come. We encourage you to call 570-649-5188 for any orders or questions and please feel free to stop by the facility.

Lifting Gear Hire Corporation has partnered with industry leaders to offer rental equipment that exceeds expectations.

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New state of the art rigging shop open in Houma, La. at 206 South Lacarpe Circle
Because of the fast growing sales of our Green Pin and Excel items in the United States, Canada and Central America, Van Beest USA needs more storage space to meet the increasing demands from these markets. Therefore we recently moved to a new premises at 1357 Sheffield Boulevard, near Houston International Seaport. This new location offers many advantages:

- 15,000 square feet, or 1,400 m², which is double the size of our previous warehouse
- Biggest stock of quality lifting equipment in the area
- Logistic tools like barcode readers and board computers on the forklift trucks for quick and efficient packing and a minimum risk on mistakes
- Modern office space with fully equipped and comfortable meeting rooms
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Synthetic web slings have been a major partner in assisting riggers and crane operators in lifting applications for decades. This lightweight, flexible sling has met with success over the many years of use in the construction, manufacturing, marine and utility industries. While synthetic web slings are widely used, there are dangers in not correctly applying them to the job at hand; not following the manufacturers’ warnings and instructions for usage; ignoring industry and governmental regulations; and particularly in not protecting the web slings from being cut and damaged around edges and rough, abrasive surfaces.

Lifting and moving loads can safely be accomplished when properly using synthetic web slings. But when web slings are carelessly used without proper attention to the rigging details, and adherence to manufacturers’ warnings, OSHA Regulations, ASME Safety Standards and Web Sling & Tie Down specifications, accidents do happen.

This study focuses on the cutting of web slings against edges without sling protection and the resultant losses of strength. Forensic analysis of field failures of these synthetic web slings, along with laboratory testing data, expose the dangers that result from the lack of protecting these slings from edges and rough, abrasive surfaces, and in not following proper rigging techniques.

A new, unused synthetic web sling which has been manufactured according to accepted industry standards will provide a lifting capacity that can safely lift a load within its stated Working Load Limit (Figure 1). For example, a new, unused 2” wide, two-ply polyester or nylon web sling may have a rated capacity listing on the attached tag of a WLL of 6400 pounds in a vertical hitch; 5120 pounds in a choker hitch; and 12,800 pounds in a basket hitch arrangement. According to the ASME B 30.9 Safety Standard on Slings, a Design Factor of 5/1 is required when lifting or loading a sling, so the actual minimum breaking strength of this sling is required to be 32,000 pounds in a vertical hitch (5 x 6400 lbs.); 25,600 pounds in a choker hitch (5 x 5120 lbs.); and 64,000 pounds in a basket hitch (5 x 12,800 lbs.).

The minimum required breaking strengths of a sling will prevail only if correct rigging practices are employed. That is, the web sling must be protected from cutting against edges and rough, abrasive surfaces. A limited series of tests were conducted to determine both the modes of failure and the loads at which failures will occur if a web sling is subjected to edge loading conditions, and even if the slings are “bunched” during loading conditions.

The first test consisted of pulling a 4’ long, 2” wide, two-ply, polyester web sling in a vertical hitch to destruction. The sling eyes were placed on 1 ¾” diameter pins in a vertical tensile testing machine. As stated above, the WLL for the vertical hitch as listed on this information tag is 6400 pounds, so the minimum ultimate breaking strength is required to be 32,000 pounds. This sling was continually stressed in the testing machine until most all longitudinal, load bearing fibers had ruptured in tensile or had elongated to the point of failure (Figure 2). This is a typical overload mode of failure that an eye and eye web sling will encounter when overloaded beyond its breaking strength capacity. In this test, the maximum load obtained was 32,800 pounds, exceeding the required minimum breaking strength of 32,000 pounds.

Based upon this test, and in conjunction with historical testing of web slings, the expected actual breaking strength of an identically manufactured polyester web sling in a choker hitch configuration would be approximately 26,240 pounds (32,800 lbs. x .80). The 80% efficiency is an average of choker hitch breaking strength tests on synthetic web slings conducted over many years by organizations such as the Web Sling & Tie Down Association. The angle of choke was normal, being less than 120 degrees, because angles of choke greater than 120 degrees will decrease the sling’s strength and efficiency factor.

A second series of ultimate breaking strength tests consisted of using identically made 2” wide, two-ply polyester web slings and placing them in a choker hitch configuration against the edges of an I-beam...
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within the tensile testing machine. The I-beam was positioned at about a 10 degree incline (Figure 3), and then a restraining block was positioned against the upward edge of the sling to restrict it from sliding along the I-beam during testing (Figure 4). Figure 4 also depicts the final breakage of the sling. Three important facts are noted. First, the breaking strengths of the three slings tested in this configuration are 15,300 pounds, 16,300 pounds and 16,600 pounds, with an average of approximately 16,100 pounds. These test results show the consistency of strength loss in slings from being cut against the edges of the I-beam and the significant loss of strength from being cut during loading. The average breaking strength of these slings against an edge of an I-beam (16,100 lbs.) is only 61.4% of the expected breaking strength (26,240 lbs.) if choked around a smooth surface of sufficient curvature or radii when used with suitable sling protection.

Second, the eccentric positioning of the sling at a 10 degree angle resulted in the lower, right edge being tensioned before the left edge, as would be expected. However, the elasticity of the polyester fibers allowed the load bearing fibers on the outside ply of the two-ply sling, and not in direct contact with the edge of the I-beam, to stretch or elongate while the inner fibers in contact with the I-beam were being subjected to a cutting action. A magnified view of the final break showing both plies of the sling at the break location (Figure 5) further demonstrates the cutting of the entire width of the sling with the exception of a few edge fibers on the outer ply which pulled apart in a tensile mode.

Third, there is evidence of melting of the polyester fibers against the I-beam due to frictional heat produced during this test. That is, the fibers that were in direct contact with the I-beam at the location of the break were subjected to frictional heat exceeding the melting point of these polyester filaments. This phenomenon is commonly observed during field inspection of web slings that had been cut against hard, unyielding edges. As the polyester web sling was nearing ultimate breaking strength, and even partially throughout the period of testing, the adjusting movement of the sling under high loading conditions and extreme compression against the edge of the I-beam, high temperatures were produced from friction between the sling and the edge of the steel I-beam. This heat exceeded the melting point of the polyester fibers. A close-up view of the edge of the I-beam at the location where this sling broke reveals melted polyester fibers on the I-beam from the frictional heat at the time of the sling breaking (Figure 6).

An additional polyester web sling, taken from forensic inspection files, and which had failed from being cut against the edge of an I-Beam, displays the same cut pattern and melted fiber ends as the slings tested in the laboratory (Figure 7). A second synthetic web sling taken from forensic files has experienced
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Continued from page 51

the same cutting and melting phenomena (Figure 8). However, this sling was one of two bridle choker slings that were attached around an I-beam at approximately a 45 degree horizontal angle. Note that about 50% of the width of the sling was cut, while the remaining width has broken in tensile. Forensic investigation revealed that after the web sling was cut half way through its width by the edge of the I-beam, the excessive weight of the tilting I-beam over extended the remaining strength of the sling’s load bearing fibers, causing these fibers to break in a tensile mode before they could be cut. This type of failure mode is often seen in actual field incidents due to the dynamics of a shifting and falling load and rapid breaking of the sling, as opposed to a laboratory environment whereby the loading on the sling is slower and at a steady pace.

Lastly, the strength of a synthetic web sling can be further reduced by positioning it in the intersection of cross members or diagonal cross bracing of a lattice structure, such as often experienced in lifting situations at construction or industrial sites. Placement of a web sling in such a position will introduce “bunching” of the sling (Figure 9), which introduces a dramatic imbalance of loading among the longitudinal load bearing fibers, which then leads to a different cutting mode. This weakened configuration, along with the absence of any type of sling protection from cutting, results in a significant loss of sling strength. Actual field incidents of web sling failures have been documented when web slings are “bunched” in the intersecting edges of structural steel components, and without edge protection. This type of loading without edge protection has resulted in slings being initially cut along its centerline and progressing outward across the width of the sling at the contact edges of the I-beam (Figure 10). Laboratory tests of such loading configuration, again using a 2” wide, two-ply, polyester web sling in a “bunched” condition and without edge protection, results in breaking strengths ranging from about 7000 pounds to 7600 pounds. This is only 26.7% to 29.0% of the expected breaking strength of a sling in a proper choker hitch configuration.

Synthetic web slings, if rigged properly and according to industry standards and safe practices, can be used successfully without incident. However, if rigged improperly and without adequate protection to prevent cutting of the sling, synthetic web slings are subject to damage, cutting and unequal loading conditions, which greatly reduces breaking strengths and leads to possible sling failure.

It is imperative to always use synthetic web slings in properly rigged configurations and with protection that will prevent cutting of the slings. And always follow the instructions and warnings of sling manufacturers, OSHA Regulations and ASME Standards to ensure safe and successful lifting conditions.
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Grandpa Gelskey is working with Aubrey to help her learn that we can’t have every order!

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Bishop Lifting Products, Inc. (BLP), a fabricator and distributor of slings and rigging supplies, has announced the opening of a new regional office in Oklahoma City, Oklahoma.

The Oklahoma City office will be the one-stop source for servicing the oilfield rigging needs in the Mid-Continent region. “Our Oklahoma City office will provide rigging solutions and local MaxiRider™ support to businesses in the region,” says Jeff Bishop, President of Bishop Lifting Products. The new office enables BLP to host key customers and prospects, as well as the ability to offer essential product and solution services, such as onsite product testing and training.

Bishop Lifting Products in Oklahoma City will be fully stocked with Crosby products as well as a fabricator of slings, such as wire rope slings, web slings, roundslings, chain slings, and Slingmax® high performance slings. The location is also equipped with a 350,000 lb. proof testing machine, laser tag etching machine for making sling tags, a pouring tower for fabricating mast raising lines, and a 20,000 lb. wire rope spooling machine.

Bill Ray, Regional Vice President based in the Oklahoma City branch, says “we feel like our Oklahoma City facility is state of the art! It enables us to provide unparalleled service, fabrication and testing of rigging equipment for the Mid-Continent region. We are very excited about being in Oklahoma City.”

This is the third new branch for Bishop Lifting Products in the past year.

About Bishop Lifting Products, Inc.
Founded in 1984, Bishop Lifting Products, Inc. (BLP) is a leading fabricator and distributor of products, services, and lifting solutions for crane, rigging, marine, and oilfield applications. Our 200+ dedicated employees throughout Texas, Louisiana, Florida, Wyoming, and Oklahoma supply wire rope, slings, rigging hardware, lifting devices, hoists and winches to customers with lifting, oilfield, towing, and hauling applications.
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NEW CUSTOM DESIGNED PATENTED RFID TAGS
Lift-It® Manufacturing Announces Relocation To New Facility

Michael J. Gelskey, Jr., Vice President and General Manager, Lift-It® Manufacturing is proud to announce the purchase of a new facility in Pomona, California. The 40,000 square foot, multi-million dollar building was purchased in the Mission-71 Business Park to provide the foundation for future expansion and continuing excellent customer service for those who demand and expect quality rigging and stellar service.

Mr. Gelskey comments, “Our new facility will be one of the largest facilities devoted to the production of synthetic rigging products in the country and possibly the world. We made the purchase when I finally convinced my father that he could not see the floor in our existing facility. Every available square inch was allocated to finished stock, inventory and works in process. The new work flow process, machinery acquisitions and production personnel expansion will be necessary for the numerous marketing, sales and training programs we are preparing to unveil.”

Chief Executive Officer, Mike Gelskey, Sr. stated, “I am extremely pleased with the planning and layout that Junior did to streamline our production, strengthening our business and marketing plans.

California based manufacturers should be on the endangered species list and our investment speaks volumes of our commitment to our customers and loyal employees. It is sometimes attractive to consider buildings in other locations that can be purchased for the equivalent cost of re-roofing our facility, but it’s never been about the money, it’s always been about our people and our customers”.

In addition to housing the manufacturing and corporate offices, the facility will also feature a 1500 sq. ft. Learning Center. Monthly training classes for: Competent Rigger, Certification Preparatory Training, Signal Person, Qualified Inspector and Train-the-Trainer Programs will begin in June 2012. The Lift-It Sling Safety Program will include programs developed by Rigging Institute, LLC. and will feature classroom and hands on learning experiences. Details are available at www.lift-it.com

Lift-It® Manufacturing Company, Inc. has provided quality sling and rigging equipment internationally for over thirty-three years and training for sling users and inspectors for over thirty years.

ADDITIONALLY - Lift-It® Manufacturing announces release of the New Rigging Resource Guide

Lift-It® Manufacturing Company, Inc. is pleased to announce the release of the newly published 2012 Rigging Resource Guide. The 500 page, full color publication is one of the most complete and descriptive of its kind and includes hundreds of pages devoted to general and safety information. Product information for slings, rigging hardware, material handling equipment, hoists, plate clamps, blocks, load securement, cordage, RFID systems, fall prevention and training resources is included in the most complete and descriptive publication of its kind.

Michael J. Gelskey, Sr., Chief Executive Officer comments, “We have always had top notch product literature, but the new publication will become the benchmark for our industry. Pertinent information is not simply cut and pasted from other catalogs, but is specifically developed and laid out to meet the exclusive presentation standards we established long ago.”

Another notable feature of the Lift-It® Rigging Resource Guide is the product usage and warning information that is placed in front of each product section, rather than being “buried” in the rear of most catalogs. Mr. Gelskey states, “In some instances we feature three pages of usage and warning information as a foundation for a single, product page. An informed product user is best served through publications like ours that are not strictly devoted to the almighty sales dollar.”

The all color, concise layout provides tremendous amounts of information in an aesthetically pleasing format that will certainly be a valuable resource for those involved in the sling, rigging and material handling industries.

Contact info@lift-it.com for additional information on the Lift-It® Rigging Resource Guide.
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Innovative Engineering - Superior Quality & Value
As swaged terminal in the tension-tension test swaged external threads were used (Picture 1). A systematic test program with different rope constructions and materials was done (Table 1). Round strand ropes and open spiral ropes made of carbon and stainless steel were tested in conjunction with bolts made of S355J2G3 and stainless steel. Up to 5 diameters of the ropes were tested in conjunction with bolts made of S355J2G3 and stainless steel. Up to 5 diameters of the ropes were tested in conjunction with bolts made of S355J2G3 and stainless steel. Up to 5 diameters of the ropes were tested in conjunction with bolts made of S355J2G3 and stainless steel. Up to 5 diameters of the ropes were tested in conjunction with bolts made of S355J2G3 and stainless steel.

Remark: the total number of stress cycles is influenced by the guaranteed ultimate tensile strength, rope diameter, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material.

In summary, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter,绳材, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material.

The systematic tests led to the following equation, which describes the average number of stress cycles:

\[
\text{number of stress cycles} = \frac{Dw_{\text{min}}}{1.18 * \text{DropeLrolling}}
\]

In summary, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material. Based on the research results, it can be stated that the endurance limit of the open spiral strands, arranged according to ascending diameter, rope construction, and wire material.

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After you’ve had the pleasure of defending your home made warnings, you’ll wish that you had purchased and used the scientifically developed warnings of the WSTDA.

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Hoisting Ropes in Multi-layer Spooling

- Problems with Multi-layer Spooling -

- Multi-layer spooling of non-rotating wire ropes with Lebus-System
  - Lifetime formula of Dr. Weiskopf

- Understanding of the damaging mechanisms within multi-layer spooling

- Multi-layer spooling of wire ropes in connection with a capstan winch
  - Enhancement of rope lifetime

End Terminations with Fittings

- Investigations on the active principle of load transmission in swaged terminals -

Based on the research work the active principle of form closure and friction take effect in a swaged terminal when a force is applied.

Not only friction is active, like believed before these examinations, but also form closure.

A lifetime formula for ropes in multi-layer spooling was stated:
With a plastic sheave the damage will be higher for a sheave made of steel. These damaging mechanisms can lead to failures and cutting in of a rope line into the subjacent layer, which can occur additionally.

Plastic sheaves are made mostly of Polyamide 6 which is not as hard as steel or cast iron. A rope will bury itself into the groove of a plastic sheave under an deflection angle. The groove of the plastic sheave will first sheave in a rope drive are not in line, the rope will run on the flank when it hits the sheave under an deflection angle as seen in Picture 1. The rope is untwisted and closed at running on the sheaves and running off the sheaves as seen on Picture 2.

Plastic sheaves are made mostly of Polyamide 6 which is not as hard as steel or cast iron. A rope will bury itself into the groove of a plastic sheave cut a tooth profile in it as seen in Picture 1. If the drum and the first sheave in a rope drive are not in line, the rope will run on the sheave under an deflection angle. The groove of the plastic sheave will run in and cause severe damages on the flanks as seen in Picture 2.

Additional tests were done in which the pretension with which the rope was spooled on the drum during installation was varied. The result was, that the pretension has a great influence on the lifetime of the rope. Improvements of about 30% can be achieved with a sufficient pretension. Also like stated before the spooling pyramid is more stable with a higher pretension.

The lifetime of ropes in rope drives with plastic sheaves is higher than the lifetime in a rope drive with steel or coated sheaves. The rope surface is preserved and on the cores of the strands and wires are no high stressed zones. The improvement of lifetime is about 2. The material improvement on the lifetime can be calculated with following equation:

\[ f = \frac{N_{\text{SS,KS,R}}}{N_{\text{GG/St}}} = 8.37 \times 10^{-9} \times \frac{d}{d^*} = 0.75 \times 0.023 \times \frac{d}{d^*} \]

Also plastic sheaves weigh less than sheaves made of steel. That is why plastic sheaves are preferred in mobile cranes.

Plastic sheaves are made mostly of Polyamide 6 which is not as hard as steel or cast iron. A rope will bury itself into the groove of a plastic sheave under an deflection angle. The groove of the plastic sheave will first sheave in a rope drive are not in line, the rope will run on the flank when it hits the sheave under an deflection angle as seen in Picture 1. The rope is untwisted and closed at running on the sheaves and running off the sheaves as seen on Picture 2.

Due to the high friction coefficient between the plastic rope and the wire rope, the tendency to twisting the rope at deflection is very high. Caused by this twisting the lifetime of the rope is reduced as the doctor treated at IFT 17 for steel sheaves showed. The rope is rolling down the deflection angle when it hits the sheave under an deflection angle as seen in Picture 1. The rope is untwisted and closed at running on the sheaves and running off the sheaves as seen on Picture 2.
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Jacksonville, Fla.; March 26, 2012 – With industrial and construction growth increasing in the Asian markets, J.C. Renfroe & Sons, Inc., an international manufacturer and marketer of industrial lifting clamp products, based in Jacksonville, Florida, has selected the Allan Marketing Group of Victoria, Australia as its Master Distributor-Agent.

The Allan Marketing Group will be responsible for promoting the sale and solicitation of orders for Renfroe’s product line in an assigned territory that includes, Australia, New Zealand, Papua New Guinea, South Pacific Islands, Thailand, Malaysia, Singapore, Indonesia, Philippines, Hong Kong, Taiwan and South Korea.

Renfroe offers a full line of lifting clamps and ancillary products such as crane blocks, sheaves and swivels. The company, which has affiliated manufacturing facilities in Germany, Japan and Spain, supplies their products to customers around the world.

Allan Marketing Group has over 35 years experience in the lifting industry and is an Asian supplier of hoists, chains, winches, wire rope fittings, plate clamps, hydraulic equipment, pallet trucks and lashing.

“We are looking to grow our Asian markets,” explained Ron Raymond, vice president and general manager of J.C. Renfroe & Sons. “Our company wanted a distributor who has the reputation and experience to promote Renfroe’s product line throughout the southern Pacific Rim and Korea. We believe Allan Marketing Group is the right company to help us achieve our goals in these markets.”

For more information about J.C. Renfroe & Sons, visit www.jcrenfroe.com. And to contact the Allan Marketing Group, go to info@titanlifting.com.

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Rope Drives with Plastic Sheaves

- Heating up of Plastic Sheaves -

The heat conduction of plastic is less than the heat conduction of steel, thus ropes on plastic sheaves will heat up much more, see Picture 1, than ropes on steel sheaves, see Picture 2. This especially is a problem in applications with high number of bending cycles with short distances and with high rope forces. Steel sheaves will transport the heat much better away from the rope in the surrounding parts of machinery than sheaves made of plastic. This can have an great influence on the rope lifetime if the rope is heating up to much and the lubricant is getting to fluid and is leaving the inner of the rope.

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Thank you for your attention!

Questions?
Please Contact
Prof. Dr.-Ing. Karl-Heinz Wehking
phone: 49 0711/ 68 58 37 70 • fax: 49 0711/ 68 58 37 69
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The Complete RIGGER’S REFERENCE Handbook is a pocket size practical, well illustrated guide designed as a quick reference for the beginning and professional rigger, crane operator, supervisor and others responsible for the safe and proper use and inspection of rigging gear. This handbook is specifically designed to be used in the instruction of crane and rigging activities. It is the product of over 30 years of the author’s personal experience in construction and maintenance rigging, development and presentation of crane and rigging training, as well as several years of sling fabrication.

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The Amicks also strengthen their relationship as family outside of business. They all enjoy playing golf. And this same family feeling is conveyed by the Amicks to their employees, maintaining an open door policy to them as well. Amick credits the employees as being vitally important to the company’s success. He especially singles out for praise the controller and office manager, John Kazak.

In many family businesses, there is the problem of the patriarch not wanting to let go of the reins, keeping his sons in a subservient position for too long, while growing more and more set and less able to adapt to change. But the second generation didn’t have this problem with the first.

“When my dad was 68 and planning to retire, I said we would be happy for him to stay until his was 75 if he wanted. He said, ‘I want to retire so you don’t have to carry me out of here.’ As it is, he had 21 years of retirement, a full life, like we all want.”

“In fact, the one problem the second generation had,” Amick continues, “is not that the first tried to hold on too long, but rather they were well prepared in sales, as were the founders. But the latter were not as well prepared in operations, which made for difficult adjustments. “Jim, 62 and Doug, 60 have their sons working in operations and sales and are gradually passing on all of their responsibilities so that when the third generation does take over fully, there won’t be any difficult adjustments to make.

When asked what the main continuity will be in passing the business from the second to the third generation, Amick says, “You must communicate with your customer so you’re selling not only the product, but safety as well. That’s the most important dynamic a business has to take with it as it moves into the future.”

ITI Showcase Webinar will be Featuring Jim Yates and Hosted by Mike Parnell

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The June 7th, ITI Showcase Webinar will be featuring Barnhart Crane & Rigging’s Senior Vice President of Engineering & Technical Services, Jim Yates, P.E., for a live presentation titled, “Heavy Intermodal Lift & Transport - Engineering Considerations”. The webinar will be hosted by Mike Parnell, ITI President/CEO.

Mr. Yates has over 28 years experience in heavy industry. He is a 1983 graduate of the US Naval Academy at Annapolis, where he earned a BS in Aerospace Engineering. Mr. Yates joined the Tennessee Valley Authority at the Watts Bar Nuclear Plant in 1990.

Mr. Yates joined Barnhart Crane & Rigging in 1997. He is a registered Professional Engineer in Connecticut, Tennessee and Alabama. His current responsibilities include oversight of all engineering functions to support heavy lift, rigging and heavy haul services to all markets including, fossil power generation, wind turbine erection & maintenance, nuclear and DOE, refineries, heavy civil, and general construction.

Jim and Mike both serve on the ASME P30 Main Committee (Lift Planning) and are both active on the ASME B30 Committee (Cranes & Rigging).

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