

## MONTHLY H&S FOCUS JULY 2012

### LIFTING OPERATIONS

Last year, in the construction industry, 14 fatal injuries occurred as a result of poor management of lifting operation (including moving / falling and flying objects).

Experience has shown that lifting operations can be hazardous work activities if not properly planned. Safe lifting operations will depend upon:

- The availability of suitable lifting equipment, that is properly maintained, checked and certified.
- The provision of adequate information, instruction, training or supervision for everyone involved
- Thorough pre-planning of each lifting operation. A **lifting plan** must be in place before any lifting operation.
- Compliance with safe systems of work as detailed in risk assessment and method statement (lifting plan)

### How about lifting?

#### ✚ Lifting Equipment



#### ✚ Lifting Accessories



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### What to do?

#### Before Lifting

- Ensure that a lifting plan is produced by a competent crane (LA) appointed person.
- The lifting plan must be implemented by a Crane Supervisor.
- Any lifting operation Identified in your method statement must be risk assessed
- A crane supervisor is appointed and supervise the operation
- Ensure that the crane operator(s) is (are) fully briefed on the lifting plan
- Check the lifting equipment and the lifting accessories
- Consider the environment and the weather condition.

#### Examination

Prior to commencement of work the Site Manager shall:


- Ensure that a current **Declaration of Conformity** or a **test & thorough examination certificates** exist for each item of lifting accessory.

Marking and capacity on the chain correspond to the information given on the inspection certificate or certificate of conformity;

- Check that a **thorough examination** has been carried out in accordance to the table below.
- Ensure that all lifting accessories are **marked with the Safe Working Load**.
- Ensure that **the weights of loads to be lifted are known** in advance.
- **Make a visual inspection** and detect any broken or damaged parts.

	FREQUENCY
<b>Lifting Equipment</b>	<b>6 months</b> (used for <u>people</u> ) <b>12 months</b> otherwise
<b>Lifting Accessories</b>	<b>6 months</b>

**MVB System:**



October  
November  
December

January  
February  
March

April  
May  
June

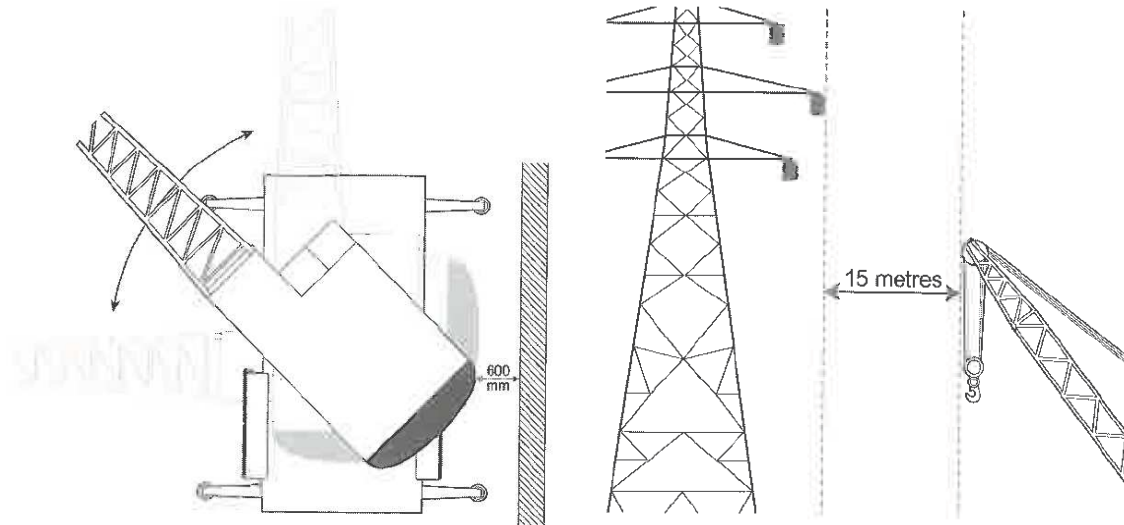
July  
August  
September

➤ **Keep the record of the thorough examination**

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#### Look the environment...



#### And the weather

Crane manufacturer's operating instructions will specify a **maximum wind speed** for safe operation.

### Lifting

- Follow the Lifting Plan
- Follow the rules
- All load must be slung by a competent slinger / signaller that remains in contact with the operator to direct the load at all time (visually or using radio)
- All crane operators must have an in-date suitable competence card and follow the instruction of the slinger / signaller.

Note: Ensure that the slinger / signaller is known by the operator undertaking the lifting operation.

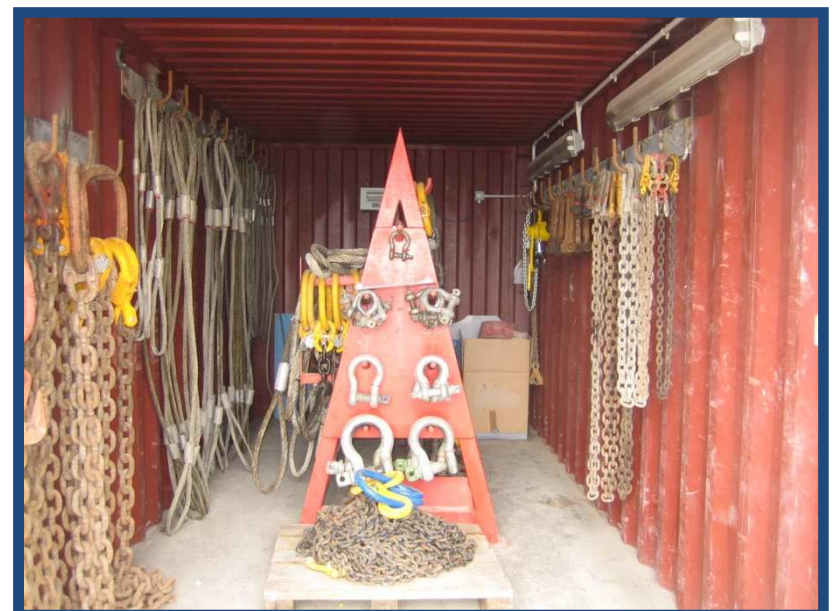
Use a tag line / guide rope to guide the load

Double choker

Angle (degrees)	Maximum Weight (kg)
30°	260 kg
45°	360 kg
60°	450 kg
90°	450 kg
120°	450 kg

### After Lifting

Where possible chain slings should be stored in a cleaned and dried condition and protected from corrosion.



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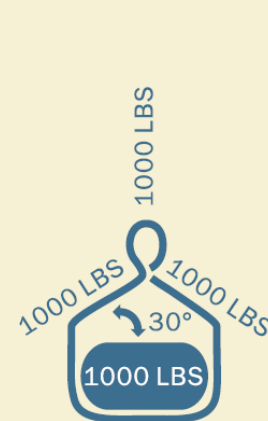
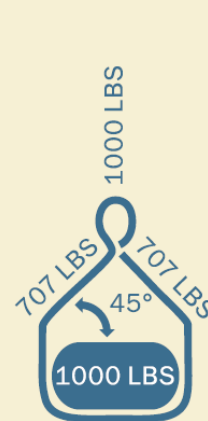
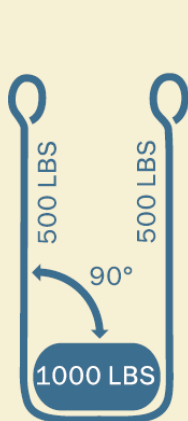
### Appendix - Type of Sling

Colour coded according to DIN-EN 1492-1	Working Load Limits with 1 webbing sling					Working Load Limits with 1 webbing sling			
	Straight lift	Choked lift	0-7			Straight lift up to 45	Choked lift up to 45	Straight lift 45-60	Choked lift 45-60
			0-7	7-45	45-60				
	1.0	0.8	2.0	1.4	1.0	1.4	1.12	1.0	0.8
WILL 1t	1000	800	2000	1400	1000	1400	1120	1000	800
WILL 2t	2000	1600	4000	2800	2000	1800	2240	2000	1600
WILL 3t	3000	2400	6000	4200	3000	4200	3360	3000	2400
WILL 4t	4000	3200	8000	5600	4000	5600	4480	4000	3200

Colour coded according to DIN-EN 1492-1	Working Load Limits with 1 webbing sling							Working Load Limits with 1 webbing sling			
	Straight lift	Choked lift	0-7	0-7				Straight lift 45°	Choked lift up to 45°	Straight lift 45°-60°	Choked lift 45°-60°
				Bis 7°	7°-45°	45°-60°	45°-60°				
	1.0	0.8	2.0	1.4	1.0	0.7	0.5	1.4	1.12	1.0	0.8
WILL 1t	1000	800	2000	1400	1000	700	500	1400	1120	1000	800
WILL 2t	2000	1600	4000	2800	2000	1400	1000	2800	2240	2000	1600
WILL 3t	3000	2400	6000	4200	3000	2100	1500	4200	3360	3000	2400
WILL 4t	4000	3200	8000	5600	4000	2800	2000	5600	4480	4000	3200
WILL 5t	5000	4000	10000	7000	5000	3500	2500	7000	5600	5000	4000
WILL 6t	6000	4800	12000	8400	6000	4200	3000	8400	6720	6000	4800
WILL 8t	8000	6400	16000	11200	8000	5600	4000	11200	8960	8000	6400
WILL 10t	10000	8000	20000	14000	10000	7000	5000	14000	11200	10000	8000
WILL 12t	12000	9600	24000	16800	12000	8400	6000	16800	13440	12000	9600

### Appendix – Examples of how to calculate sling leg loads

- Total load is 1,000 lbs. divided by two legs – 500 lbs. load per leg if vertical lift.
- Horizontal sling angle is 60 degrees.
- Multiply 500 lbs. by 1.154 load factor (from table) = 577 lbs. actual load per leg.



- Total load is 1,000 lbs. divided by two legs – 500 lbs. load per leg if vertical lift.
- Horizontal sling angle is 45 degrees.
- Multiply 500 lbs. by 1.414 load factor (from table) = 707 lbs. actual load per leg.

- Total load is 1,000 lbs. divided by two legs – 500 lbs. load per leg if vertical lift.

- Horizontal sling angle is 30 degrees.

- Multiply 500 lbs. by 2 load factor (from table) = 1000 lbs. actual load per leg.