1.1 INTRODUCTION

This training course is based on the National High Risk Licence Unit of Competency **CPCCLDG3001: Licence to perform dogging**.

Workplace and Occupational health and safety regulations and acts, aim to facilitate the operation of a nationally uniform, competency-based licensing system for persons performing certain types of high risk work.

1.1.1 COURSE OVERVIEW

Throughout this unit you will learn about:

- Planning the job.
- Selecting and inspecting equipment.
- Preparing the site and equipment.
- Performing the task.
- Shutting down the job and cleaning up.

Upon successful completion of this course participants will be eligible to be assessed for a National High Risk Work Licence.

1.1.2 WHAT IS DOGGING?

Dogging work includes:

- The application of **slinging techniques**.
- The **selection** and/or **inspection of lifting gear**.
- The **directing of a crane**/hoist operator in the movement of a load when the load is out of the operator's view.
- **Assessing the weight of a load** (check and determine the weight of the load) and informing the crane operator.
- **Communicating with the crane operator** in regards to the capabilities of the crane.

A licensed dogger is responsible for inspecting lifting gear, determining the weight of the load, directing the crane, and identifying lifting points and lifting methods.

1.1.5 HIGH RISK WORK LICENSES

The holder of a HRW licence is responsible for taking reasonable care and not adversely affecting the health and safety of other people while performing the HRW.

Failing to work safely when performing high risk work can lead to the licence holder being penalised under WHS regulations:

- Their **licence may be suspended or cancelled** or,
- The regulator may **refuse to renew the licence** (if the matter is raised at the time of renewal). High risk work licences will need to be renewed every 5 years.
- The regulator may **directly reassess** the licence holder to determine your competency.
- The regulator may **take legal action** to prosecute the licence holder.

Under no circumstances may an employer/PCBU allow a person to conduct high risk work if they are not competent to do so, unless the person is enrolled in a course of HRW training and is supervised at the workplace by a person with a current HRW licence for the work. If a holder of a high risk work licence is no longer competent to carry out the work they hold a licence for they must stop doing the work and retrain to become fully competent, or return the HRW licence to the WHS regulator.

Expiry of High Risk Work Licences

High Risk Work Licences are valid for 5 years, it is the full responsibility of the holder of the high risk licence to ensure that the licence is renewed prior to the expiry of that licence. Although you cannot operate any equipment with an expired High Risk Work Licence the regulator does allow the holder to renew within 12 months of the licence expiring (check with your state regulator). If you do not renew your licence in the required time:
1. The existing licence cannot be renewed.
2. You will need to complete the high risk work course again and apply for a new licence.

If you hold a HRW licence, your employer is expected to provide you with **information on how to operate or use any equipment** you may be unfamiliar with. This may be but is not limited to: **provision of verbal or written instruction, practical training or potentially supervision while becoming comfortable with the equipment**.

1.3.2 RISK/HAZARD IDENTIFICATION

HAZARDS CREATE RISK. CHECK FOR HAZARDS.

A **RISK** is the chance of a hazard hurting you or somebody else or causing some damage.

A **HAZARD** is the thing or situation that causes injury, harm or damage.

Part of your job is to look around to see if you can find any hazards before you start moving the crane and load.

A good tip is to check:

Above head height – remember the crane will be working well above your head!

At eye level – look around to see if there is anything in the way of where you want to move the load/crane.

On the ground (and below) – humps and bumps, slippery surfaces and rubbish can all be dangerous. Also make sure that the path of travel is clear and can bear the weight of the crane.

Common workplace hazards include:

- Electric/Power lines.
- Overhead service lines.
- Site-specific issues.
- Underground services.
- Pedestrians and personnel/workers.
- Plant and equipment.
- Buildings.
- Obstructions.
- Potential non-weight bearing surfaces.
- Wind, bad weather conditions, may cause:
    - Load spin.
    - Load swing.
    - Uncontrolled slewing.
    - Possible crane damage or instability.
- Lighting/illumination (Insufficient lighting or sun glare)
- Trees.
- Surrounding structures.
- Facilities.
- Dangerous materials.
- Vehicle traffic.
- Load configurations and condition.
- Type of crane.
- Instability of landing surfaces
- Working at height
- Ultraviolet radiation.

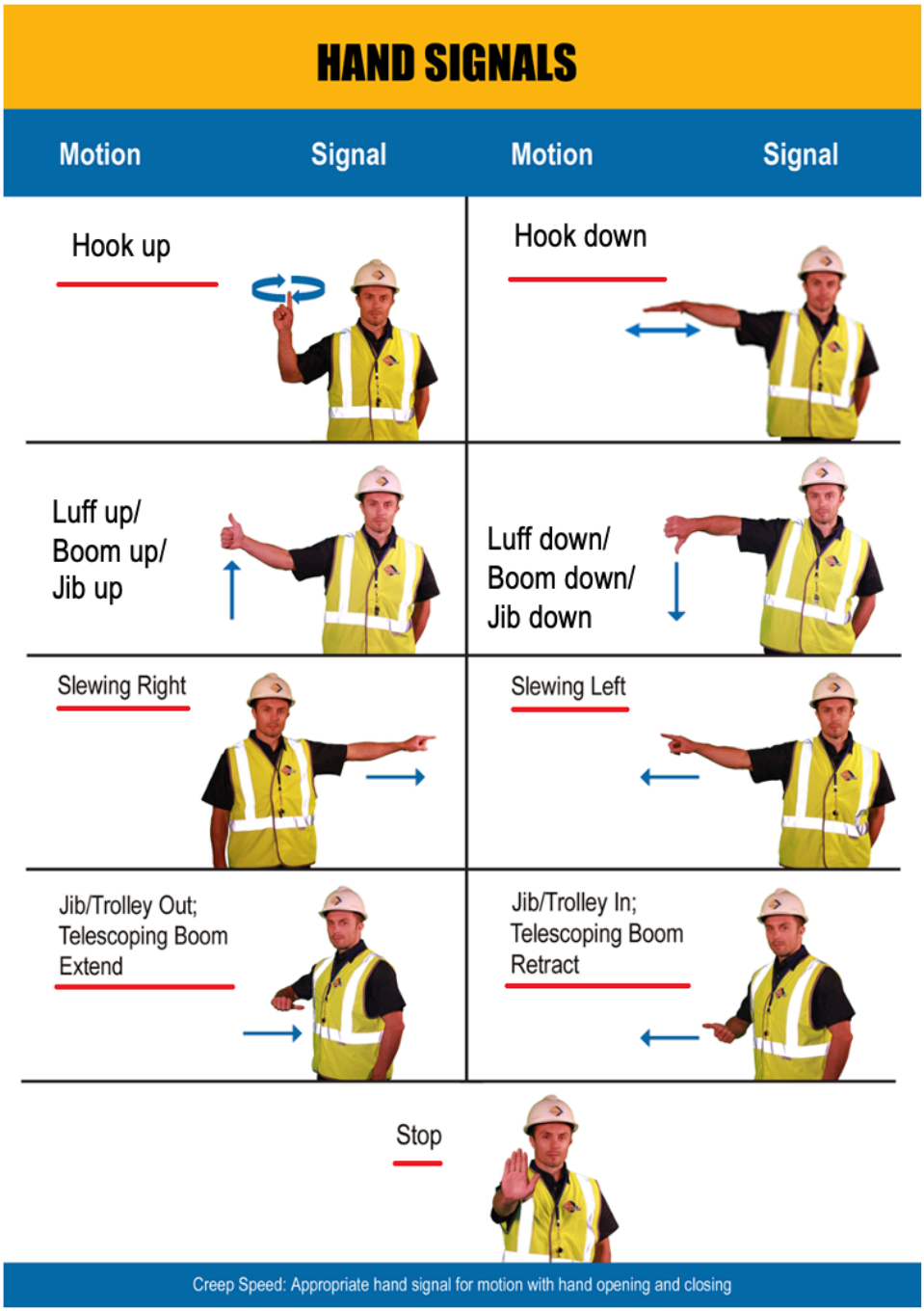
2.1 DETERMINE COMMUNICATION REQUIREMENTS

Workplace communications may take the form of:

- Verbal and non-verbal language.
- Written instructions.
- Signage.
- Hand signals.
- Whistle or buzzer signals.
- Listening.
- Questioning to confirm understanding, and appropriate worksite protocol.

You must **determine** what communications methods you would use on a site at the planning stage.

Shown here are the hand signals use in Australia:



3.3 CALCULATING LOAD WEIGHT

If you are required to calculate the load of the weight you should have an understanding of the **weights of common loads**. The following table is a guideline of the density of common load materials:

Remember that 1 tonne = 1,000kg

Load Material	Approximate Weight per m^3	Load Material	Approximate Weight per m^3
Aluminium	2.7t / m^3	Granite	2.6t / m^3
Bricks	4.0t / 1000	Gypsum	2.3t / m^3
Bronze	8.5t / m^3	Iron, ore	5.4t / m^3
Cast Iron	7.2t / m^3	Lead	11.2t / m^3
Cement (25 bags)	1.0t	Steel	7.85t / m^3
Clay	1.9t / m^3	Poly Pipe	1.1t / m^3
Coal	864kg / m^3	Timber (hardwood)	1.1t / m^3
Concrete	2.4t / m^3	Timber (soft)	0.6t / m^3
Copper	9.0t / m^3	Water	1.0t / m^3 1L = 1kg
Earth	1.9t / m^3		

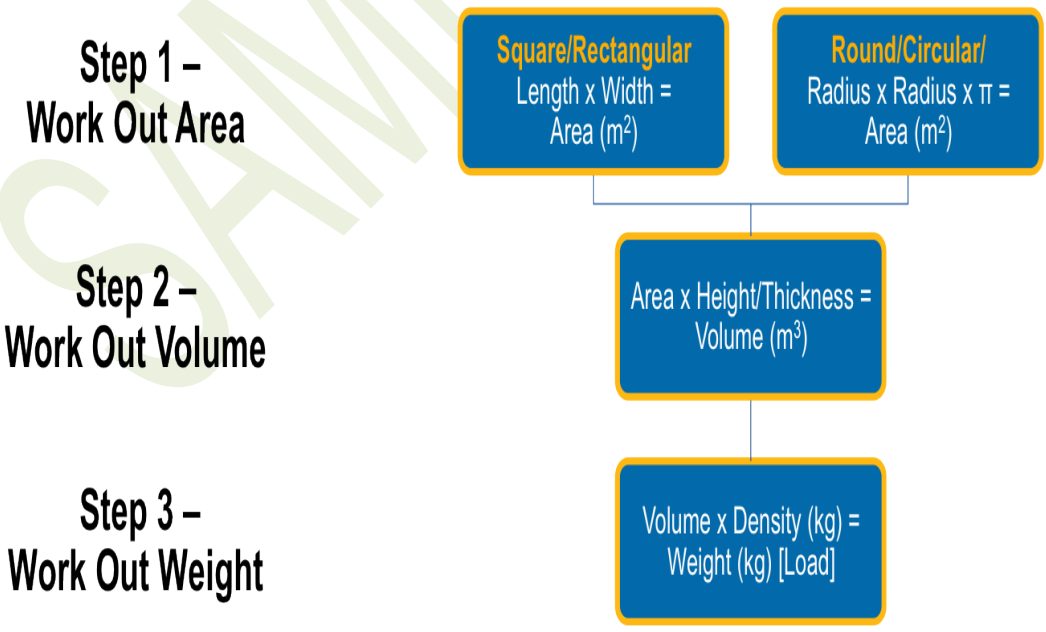
For example, if you had a load containing a cubic metre of steel you could work it out using this table.

A cubic metre of steel weighs approximately 7.85 tonne. Therefore 3 cubic metres of steel weighs 3 x 7.85 = 23.55 tonnes or 23,550kg.

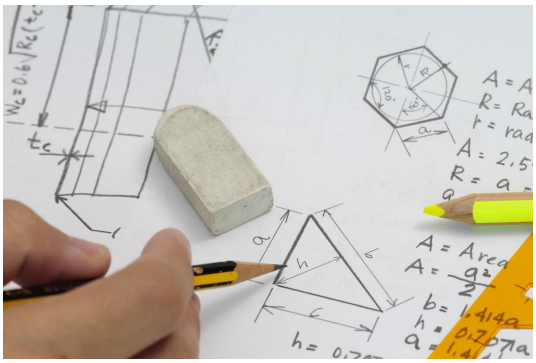
If you are working with a load of water than the ratio to work out the weight of the load is one kg to every litre.

For example, if you have 400L of water in a load then the load would weigh approximately 400kg. It is important to note that this ratio does not apply to all liquids.

In most cases loads aren't always a perfect cubic metre and if this is the case you will need to find the area of the load before obtaining the weight:



We can use this formula to work out more complex weights. For example, we know that a cubic metre of concrete weighs 2.4 tonne (2,400kg) but using these steps we can work out more complex configurations.



Example 1

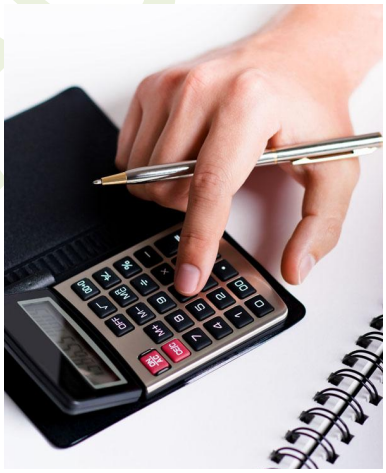
What is the weight of a solid concrete block measuring 3.5m long, 0.8m wide and 0.6m high?

Working out:

3.5m x 0.8m = 2.8m^2 (Area)
2.8m x 0.6m = 1.68m^3 (Volume)
1.68m x 2400kg/m = 4032kg (Weight)

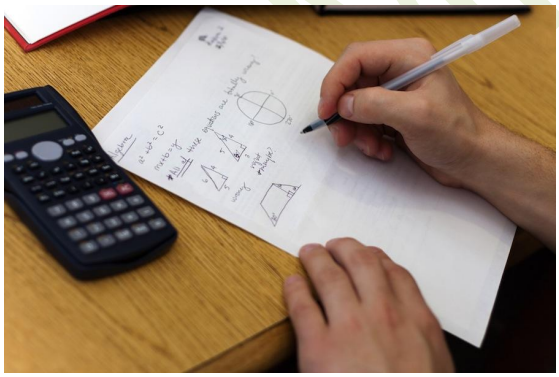
Example 2

What is the weight of a concrete pipe measuring 1.2m outside diameter, 1.125 inside diameter and 3.5m long?



Working out:
Outside Volume:
0.6m x 0.6m x π = 1.13m^2 (Area)
1.13 x 3.5m = 3.96m^3 (Volume)

Inside Volume:
0.56m x 0.56m x π = 0.99m^2 (Area)
0.99m x 3.5 = 3.48m^3 (Volume)



Volume of Pipe = Outside Volume – Inside Volume
Volume of Pipe = 3.96-3.48
Volume of Pipe = 0.48m^3

Weight of Pipe = Volume of Pipe x Density of Material
Weight of Pipe = 0.48 x 2400kg
Weight of Pipe = 1,152kg (Weight)

3.4 DETERMINE SPECIAL REQUIREMENTS AND LIFTING POINTS OF LOAD

You need to check and see if the load has any specific lifting points. This will give you a better idea of the types of lifting gear you should use and how you should sling the load.

The manufacturer may have specifications or information relating to the load and how it should be handled, especially in the case of hazardous, fragile or unstable loads.

For special shaped loads you may need to check the manufacturer's specifications to determine the best method of slinging it.

You should access manufacturers' specifications/information for details on **special or unique loads** including:

- Load weight.
- Load centre of gravity.
- Stress points.
- Lifting points.
- Spread of load.
- Travel path of load.
- Special slinging requirements.
- Lifting and/or landing requirements.
- Any factors that may affect the capacity or movement of the crane.

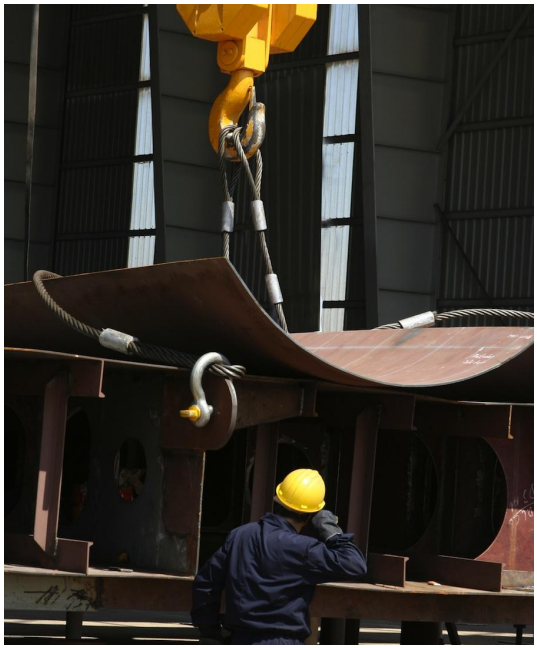
4.7 EYEBOLTS

Eyebolts are used extensively as lifting lugs on set pieces of equipment. The safest **eyebolt** is a collared eyebolt. Uncollared eyebolts should only be used where the pull on the eyebolt is **vertical**.

Uncollared Eyebolt

Collared Eyebolt

6.7 LANDING THE LOAD



Direct the crane operator to land the load at the prepared load destination.

The load destination should have been prepared to ensure that the load is stable and secure from movement once landed.

Loads should be landed on blocks or packing (where necessary) to allow the **safe removal of the lifting gear**.

Before being released, round loads should be chocked to secure the load and prevent the load from rolling or shifting once the lifting gear is removed.

Heavy loads create a hazard from **boom deflection** (The bending of boom under load). **Boom deflection is dangerous when lowering loads as boom can hit the back-stops causing structural damage**. Before releasing the load, the crane operator must slowly lower the boom/jib slightly to compensate for boom deflection.

Ensure loads are placed safely onto vehicles, including avoiding overhang where possible (overhand should be clearly marked if this cannot be avoided). Ensure load placement allows for safe transport and safe unloading.

8.0 REMOVE HAZARD CONTROL MEASURES

Once the job is completed, or a hazard no longer exists, you may need to remove all trip hazards and some of the hazard control measures you put in place (if they are no longer required).