THALES
Building a future we can all trust

Working at Heights and Dropped Objects

Guide and Critical Risk Standard

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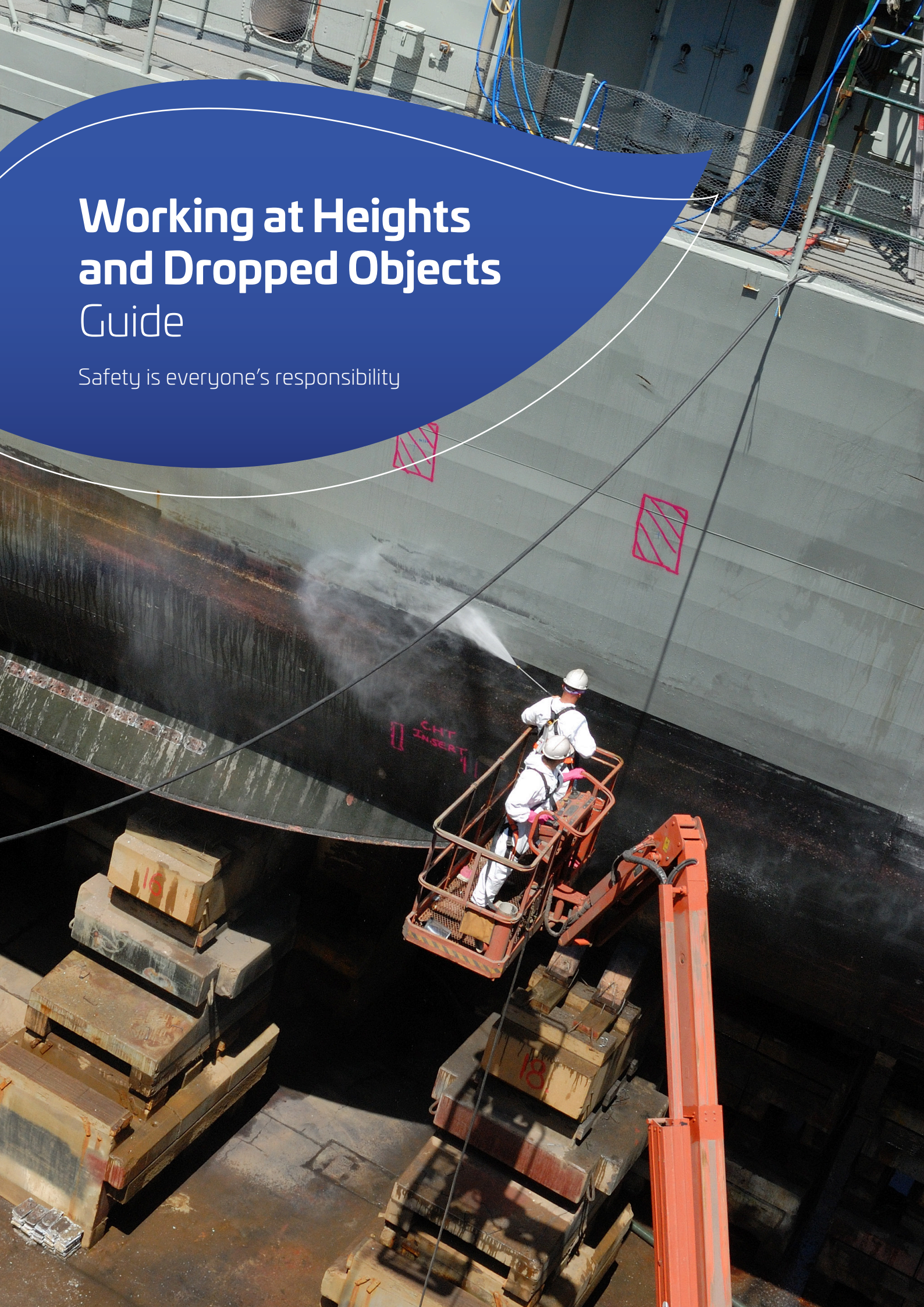
HEALTH SAFETY ENVIRONMENT

SCAN BEFORE YOU BEGIN

WORK AT HEIGHTS

Working at Heights and Dropped Objects Guide

Safety is everyone's responsibility



Check before you begin working at heights

- **Are you qualified and competent to work at heights?** Do you hold a high risk work licence or a valid EWP 'Yellow Card'? Do you understand the safe work methods for this equipment?
- **Can you see any fall hazards?** Are there fragile, unstable or slippery surfaces?
- **Has the site been assessed for working at height hazards?** Do you understand the safe operating procedures for this site? Are scaffolds and work platforms stable? Are overhead structures, cranes of electrical services in the way? Could site traffic be a hazard? If so, are barricades in place to keep you and those below safe?
- **Is your elevating work platform safe and fit for purpose?** Is it the right size? Does it need secondary crush protection? Has a pre-start inspection been completed? Is the communication system working? Is it suitable for the weight of people and equipment you're using?
- **Is your scaffolding safe and fit for purpose?** Has it been inspected within the last 30 days? Was it put up by a **Competent person**? Do you know its safe working load?
- **Is your work platform or scaffold fully encapsulated?** If not, is there an effective drop zone, catch platform or safety net in place to prevent falling objects?
- **Is the exclusion zone fit for purpose?** Does it have physical barriers? Does it consider the potential for ricochet? Can people easily identify the person accountable for the zone?
- **Is a Fall From Height Rescue Plan or emergency procedure in place?**
- **Do you have documented safe work methods?** Are safe work method statements, standard operating procedures and/or other documented instructions in place prior to undertaking any work where there is a risk of falling 2m or more from one level to another level? Have you applied the working at heights permit system for work under fall restraint or fall arrest and/or for non-routine work at heights greater than 2m.

> If you are not sure whether it is safe – **DO NOT begin working at heights.**

When working at heights

- **Wear your PPE.** Non-slip footwear. High grip gloves. Safety helmets in drop zones
- **Wear your harness. ALWAYS** in boom-type EWPs. Where indicated by risk assessment in scissor lifts. If recommended when working over water
- **Keep your tools safe.** As few as possible. Stored in an enclosed bag or box. Fitted with lanyards
- **Stop work in dangerous weather conditions.** High winds or lightning storms
- **Use platform ladders** in preference to step or extension ladders.

When using step or extension ladders

If a platform ladder isn't practical

- Only use them for light work (where you can operated tools safely with one hand) in limited amounts of time on non-slip surfaces
- Only use industrial ladders with a load rating of at least 120kg
- **DO NOT** use metal ladders when working on live electrical systems or carrying out 'hot' work
- Always maintain 3 points of contact (2 feet, 1 hand; 2 hands, 1 foot)
- **DO NOT** straddle the ladder
- Keep the base of the ladder clear while others are climbing (1 person at a time)
- Use a backpack to move items up or down a ladder
- Make sure no one works under the ladder.

When in a workbox

- Wear a safety harness secured to an anchor point in the bucket
- Keep the safety gate shut and remain inside while being lifted or suspended.

When using a fall arrest system

- Only use a fall arrest system if the potential fall is less than 5m
- Attach fall arrest and restraint systems to purpose-deigned anchor points certified by a **competent person**. You must be able to attach a lanyard to each anchor point before moving into a position where you could fall
- Only use a full-body harness fitted with foot straps
- Have a **competent person** who is not working at heights ready with a Rescue Plan.

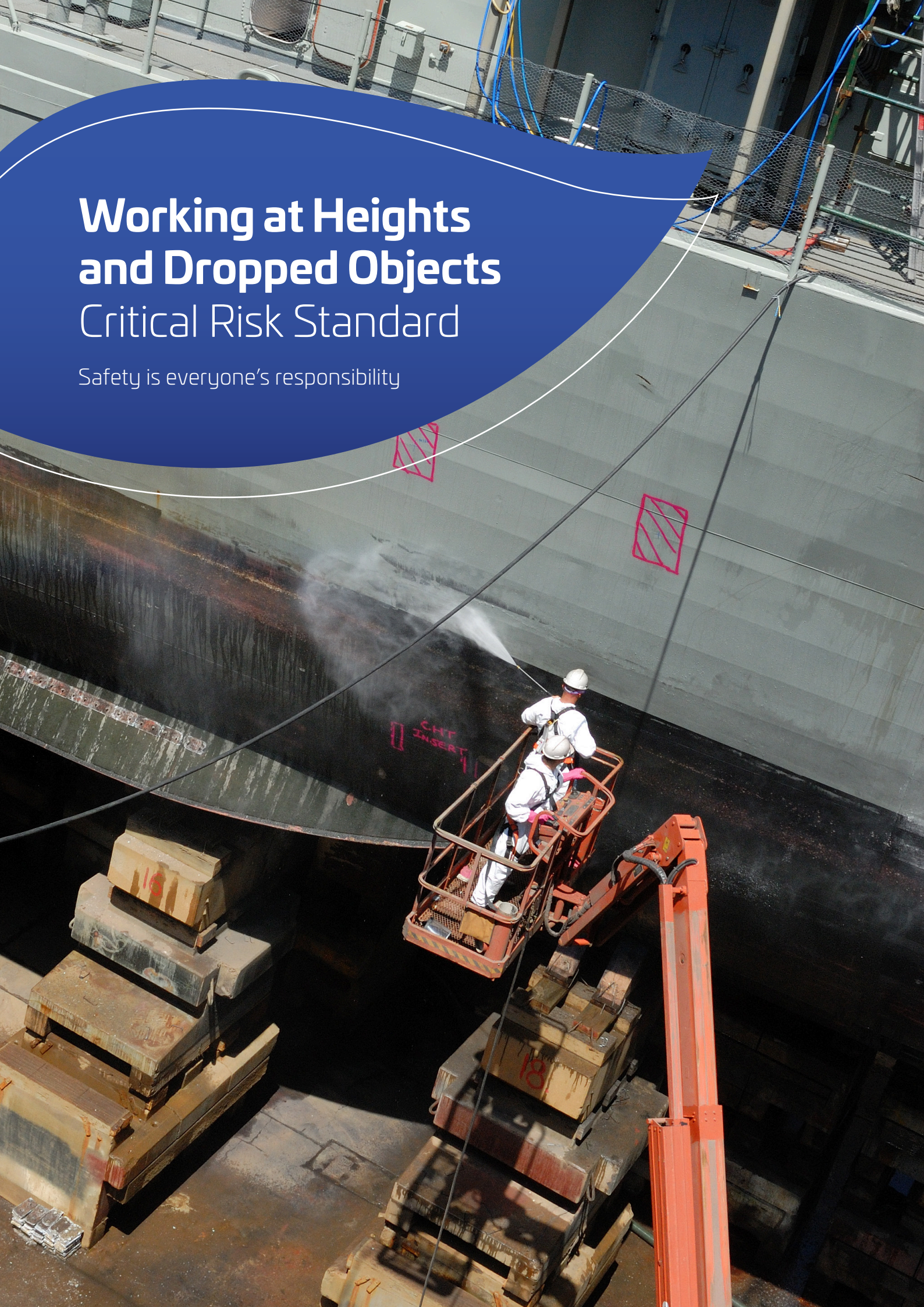
When working on a roof

- Lock the door or gate to control access to the roof
- Make use of any walkways on the roof
- Make sure any fragile roofing is clearly signed
- If possible, use barricades or restraints to prevent people walking on skylights and roof openings. If not, use a fall arrest system.

Working at Heights and Dropped Objects

Critical Risk Standard

Safety is everyone's responsibility



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Introduction

The Thales Australia Critical Risk Standards describe the minimum requirements for controlling each of the critical work health and safety risks that are common to our operations and workplaces. The Critical Risk Standards provide a high level framework for managing health and safety hazards.

Scope

This Critical Risk Standard describes the Critical Controls for work at height activities and applies to all Thales sites and operations. **Every effort must be made to eliminate the need for personnel to work at height.**

The intent is to eliminate or minimise the risk of fatalities and serious injuries arising from falls from height and dropped objects during working at heights activities.

The aim is to prevent harm to persons resulting from:

- Working at height when it is unavoidable
- Working near unprotected edges
- Working from ladders
- Unloading from a truck
- Working on roofs;
- Working from Elevating Work Platform (EWP)
- Working from Scaffolding
- Working near excavations, holes, pits and shafts;

Where Thales Australia does not have control of the worksite or is working under a client's safety management system, then:

- The client's standards shall be applied if they are equal or higher, and
- The Thales Australia Standard shall be applied for all aspects where the client's system is "silent".
- If the client's standards are lower and this presents a material risk then this must be escalated with the Thales Australia Project Manager.

What if a Critical Control Cannot Be Applied?

If for any reason there are circumstances where the Minimum Requirement for a Critical Control cannot be met, then a formal Control Standard variation is required.

Deviation from the requirements set out in each Control Standards shall be formally approved by a variation which involves:

- A documented and detailed risk assessment of the situation;
- A documented recommendation supported by the Business Safety Manager;
- A documented recommendation from a Technical Expert where appropriate; and
- Formal approval from the Business General Manager or Business Vice President that the level of risk as a result of the alternate control measures is understood, and considered acceptable to the organisation.

Contracted Work

Contracted workers and their Supervision must be inducted in this Critical Risk Standard.

Contractors are required to meet or exceed this Standard when undertaking work for Thales Australia where there is a risk of fatalities or serious injuries arising from falls from height and dropped objects during working at heights activities.

Definitions

The following terms are used in this Risk Standard. Additional definitions can be found in the reference documents.

Critical Risk	A risk where there is potential for a fatality or life-altering injury.
Critical Control	A control that is crucial to preventing the event or mitigating the consequences of the event. The absence or failure of a critical control would significantly increase the risk despite the existence of the other controls.
Minimum Requirements	Aspects of the Critical Control that must be applied in all Thales Australia controlled operations.
Additional Requirements	Aspects of the Critical Control that may be applied based on a site-specific or task-specific risk assessment.
Elevating Work Platform (EWP)	EWPs are powered mobile plant designed to lift or lower people and equipment by a telescopic, hinged or articulated device, or any combination of these, from a base support. EWPs can move over a supporting surface without the need for fixed runways. There are various types of EWPs, including but not limited to: • Scissor lift • Boom lift • Trailer lift • Truck or vehicle mounted lift • Vertical mast lift
Competent Person	A person who has acquired through training, qualification, competency or experience the knowledge and skills to carry out the task.
SWMS	Safe Work Method Statement
JSEA	Job Safety and Environment Analysis
Secondary Crush Protection	Secondary Crush Protection is a secondary protection barrier or device that provides the EWP operator/s protection against potential crush injuries. Examples of these barriers are as follows: • physical barriers attached to the platform, which reduce the likelihood of employees being crushed against structures • pressure sensing devices positioned over the control panel, which detect pending crush incidents and prevent further hazardous movements • proximity sensing devices which prevent an EWP's platform from maneuvering into high-risk areas near to fixed structures.

Working at Heights and Dropped Objects Safety Critical Controls

The minimum requirements for working at height and preventing dropped objects from causing serious injury or fatality are:

WAH1	Only approved and appropriately tagged and/or inspected scaffolding, fall arrest systems, fixed and elevated work platforms must be used.
WAH2	Physical barriers, barricading, encapsulation, tool straps, exclusion (drop) zones or lockouts to prevent entry by persons are installed directly beneath and immediately adjacent to areas where work is occurring above.
WAH3	Step ladders and extension ladders must be used for access and light work only.
WAH4	SWMS must be developed for any work that composes a risk of falling over 2meters in height.
WAH5	Personnel working at heights are trained and competent.
WAH6	Specific personal protective equipment must be worn at heights.
WAH7	A rescue plan for working at heights is in place and resources are available

WAH1 Equipment Inspection

Only approved and appropriately tagged and/or inspected scaffolding, fall arrest systems, fixed and elevated work platforms must be used.

MINIMUM REQUIREMENTS

- Pre-Start inspections shall be completed for all EWPs.
- Scaffolding must be designed, installed and modified by a competent person.
- Scaffolding must be inspected by a competent person upon site construction, and:
    - After an incident that may affect the stability of the scaffold (such as a severe storm or impact by mobile plant)
    - After any modifications
    - After repairs
    - At least every 30 days.
- Fall arrest systems must be appropriately tagged and inspected prior to use.
- An inspection schedule for all fall arrest system anchor points and equipment must be established and implemented.

ADDITIONAL REQUIREMENTS

The following additional requirements should be considered in risk assessments:

- If the work is being done using an EWP, then a mesh-enclosed bucket should be chosen.
- The hierarchy of controls is applied to minimise the need to work at height;
- Each anchorage point should be located so that a lanyard of the system can be attached to it before the person using the system moves into a position where the person could fall.

NOTES AND REFERENCES

For further information, refer to:

- 83392060 Working at Heights and Prevention of Falls Instruction

WAH2 Barriers

Physical barriers, barricading, encapsulation, tool straps, exclusion (drop) zones or lockouts to prevent entry by persons are installed directly beneath and immediately adjacent to areas where work is occurring above.

MINIMUM REQUIREMENTS

- Where reasonably practicable, work platforms and scaffolding should be fully encapsulated to prevent falling objects (i.e. kickboards, mesh fitted where required).
- An exclusion zone is established through risk assessment
- Where an effective exclusion (drop) zone cannot be established and encapsulation is not reasonably practicable, catch platforms or safety nets must be installed below the work
- Entry to the exclusion zone may only be authorised by the worker accountable for the exclusion zone.
- Systems shall be in place to secure tools, equipment and materials at height.
- Secure barriers, such as locked doors or gates, must be in place to control access to all roofs.

ADDITIONAL REQUIREMENTS

The following additional requirements should be considered in the risk assessment:

- Where possible it is good practice for a drop zone to assume a cone shape and extend in all directions. The size of the exclusion zone is largely dictated by the height of the work

  As a rule of thumb when the working height is less than 20m the Drop Zone radius should be approximately one third (33)% of the working height. However as a general rule, a minimum Drop Zone radius of 4m should be established (where practicable).

NOTES AND REFERENCES

The use of a dropped object calculator can be used to provide guidance on when tool lanyards must be in place when the potential energy of a dropped object exceeds 40 Joules. An example of a calculator is available from Dropsonline.

- Dropsonline - https://www.dropsonline.org/resources-and-guidance/drops-calculator/

For further information, refer to: 83392060 Working at Heights and Prevention of Falls Instruction

WAH3 Use of Ladders

Step ladders and extension ladders must be used for access and light work only.

MINIMUM REQUIREMENTS

- Platform ladders shall be used in preference to step ladders or extension ladders.
- Step ladders and extension ladders must only be used for access or for light work of a short duration where a platform ladder is deemed not practicable.
- Where determined by inspection or risk assessment, ladders, stairs and work platforms shall be treated with non-slip surface treatments.

ADDITIONAL REQUIREMENTS

The following additional requirements should be considered in the risk assessment:

- The selection of ladders should follow a hierarchy, with preference given to the safest ladder type, for example, a platform ladder with steps and guard rail.
- Maintain and inspect ladders regularly in accordance with manufacturers recommendations
- Ladders should have a load rating of at least 120 kg and be manufactured for industrial use. Domestic or 'homemade' ladders should not be selected for industrial use.
- Backpacks must be used when moving items on a ladder

NOTES AND REFERENCES

For further information, refer to:

- 83392060 Working at Heights and Prevention of Falls Instruction

WAH4 Safe Work Methods

SWMS must be developed for any work that composes a risk of falling over 2 meters in height.

MINIMUM REQUIREMENTS

- Permit systems must be applied for 1) all work under fall restraint or fall arrest and 2) any other non-routine work at heights greater than 2m.
- Safe work methods must include fall restraint or fall arrest where any worker is within 2m of an unprotected edge with the potential to fall 2m or more.

ADDITIONAL REQUIREMENTS

NOTES AND REFERENCES

For further information, refer to:

- 83392060 Working at Heights and Prevention of Falls Instruction

WAH5 Verification of Competency

Personnel working at heights are trained and competent.

MINIMUM REQUIREMENTS

- Workers must hold the required training and high risk work licenses required for the tasks they are performing.
- In accordance with the work to be performed, as a minimum, workers must be assessed for competency in:
  - using different types of elevating work platforms,
  - working from workboxes on cranes or other mobile plant,
  - using fall restraint and fall arrest systems, including the correct fit of harnesses

ADDITIONAL REQUIREMENTS

NOTES AND REFERENCES

For further information, refer to:

83392060 Working at Heights and Prevention of Falls Instruction

83392531 HSE Verification of Competency (VoC) Instruction

WAH6 Personal Protective Equipment

Specific personal protective equipment must be worn at heights.

MINIMUM REQUIREMENTS

- When working at heights the following PPE must be worn:
  - Non-slip footwear (including when working on the back of trucks).
  - High grip gloves.
  - Safety helmets in exclusion (drop) zones.
- Individual fall arrest systems must be installed so that the maximum distance a person would free fall before the system takes effect is 2m.
- Individual fall arrest and fall restraint systems shall be attached to a purpose designed anchor point/s that are certified by a competent person. Restraint anchorage should be designed for fall-arrest loading.
- Harnesses must be worn in boom type EWPs. Where indicated by risk assessment, harnesses must be worn in scissor lifts.
- At sites where safety helmets are required, they must be fitted with chin straps or lanyards when working at heights.

ADDITIONAL REQUIREMENTS

The following additional requirements should be considered in the risk assessment:

- PPE Requirements apply to all contractors and visitors

NOTES AND REFERENCES

For further information, refer to:

- 83392060 Working at Heights and Prevention of Falls Instruction
- 83392018-HSE-AUS-EN Personal Protective Equipment Instruction

WAH7 Rescue Plan

A rescue plan for working at heights is in place and resources are available.

MINIMUM REQUIREMENTS

- A Rescue Plan must be in place whenever workers are using a fall arrest system. The plan must nominate worker(s) who are:
    - not working at height
    - trained and competent
    - equipped and able to implement the rescue plan.
- All workers involved in the use of the fall arrest system and surrounding areas are trained in the rescue plan.
- The rescue plan has been tested within the last year.

ADDITIONAL REQUIREMENTS

NOTES AND REFERENCES

For further information, refer to:

83392060 Working at Heights and Prevention of Falls Instruction

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