



اوتوريٽي كيشن ان كسلامتن
كصيتن دان عالم سكيتر
Safety, Health and Environment
National Authority

INDUSTRY GUIDANCE NOTE

TOPIC: GUIDANCE FOR LIFTING OF PERSONS IN WORK PLATFORMS SUSPENDED FROM CRANES				Reference Number: 2025/IGN/01
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1. INTRODUCTION

This document outlines the legal and safety requirements for lifting operations that involve cranes and work platforms, emphasising compliance with the Workplace Safety and Health Act, Chapter 277 (WSHA, Cap 277) and its regulations made thereunder. The WSHA, Cap 277 and its relevant regulations place a legal duty on employers, occupiers, principals, manufacturers, suppliers and persons who own, operate or have control over any lifting equipment to ensure proper risk assessments, training, and safety measures are undertaken and in place for all personnel involved in lifting activities. It further sets out specific duties which include ensuring that all lifting equipment is examined, certified and periodically inspected by an authorized examiner.

Lifting operations must be carefully controlled to prevent accidents in the workplace by taking safety measures which include restricting crane operations in adverse conditions, such as windy weather or poor visibility. The design and certification of work platforms (man-baskets) must meet stringent safety standards, and cranes shall be equipped with the necessary safety devices such as load indicators and emergency lowering systems before beginning lifting operations.

This document also covers the need for emergency response plans, including rescue procedures for lifting operations and the importance of clear communication between all personnel involved in lifting operations.

2. GLOSSARY OF TERMS AND ABBREVIATIONS

ABBREVIATIONS	TERM	DEFINITION
AE	Authorised Examiner	A person approved by the Authority under Section 33 of the WSHA, Cap 277 for the purpose of carrying out any prescribed examination or test of hoist and lift, lifting gear, and lifting appliance or lifting machine. (as defined under the WSHA, Cap 277)
WSH Officer	Workplace, Safety and Health Officer	Workplace, Safety and Health Officer appointed under Section 28 of the WSHA, Cap 277.
WSH Co-ordinator	Workplace, Safety and Health Co-ordinator	Workplace, Safety and Health Co-Ordinator appointed under Section 29 of the WSHA, Cap 277.
WSHA, Cap 277	Workplace Safety and Health Act, Chapter 277	Primary Law on Workplace Safety and Health in Brunei Darussalam, introduced in 2009 which sets the general legal framework to which all workplaces must comply and has been enforced with effect from 1 st August 2013

3. DEFINITIONS

Key definitions for this IGN are listed below:

TERM	DEFINITION
Anti-Two Block Device	A positive-acting device that prevents contact between a load block (or fall ball) and the boom tip.
Approved Welding Procedure	A welding procedure is qualified by making a test weld to demonstrate that the properties of the joint satisfy the requirement specified by the application standard.
Competent Person	<p>A person with the necessary knowledge, experience, training, skill and ability to perform the specific activity. A competent person is defined as a person having such practical and theoretical knowledge and experience of the equipment which is to be thoroughly examined that will enable him / her to detect defects or weaknesses.</p> <p>The purpose of their examination is to discover and assess the safety of the equipment. The person must be able to certify with confidence whether it is free from patent defects and suitable in every way for the duty for which the equipment is required. An example of this person could be a Lifting Equipment Engineer.</p>
Cranes	Any machine incorporating an elevated structural member to jib beneath which suspended loads can be moved vertically (whether upwards or downwards) or horizontally or both, either by slewing (swinging) the machine or derricking the jib, or any other means not solely involving a travelling motion of the crane.
Employer	A person who, in the course of the person's trade, business, profession or undertaking, employs any person to do any work under a contract of service.
Factors of Safety	This refers to a factor that is applied to the MBL to determine the SWL. The factor of safety for lifting gears which is intended to be used to suspend the workbasket shall be at least 10: 1 and equipped with a double safety load line.
Headroom	Unhindered floor-to-roof space within a work platform.

<p style="text-align: center;">Lifting Equipment</p>	<p>Generic terms used in this IGN which covers hoist and lift, lifting gear, lifting appliance and lifting machine.</p> <p>For the purpose of this IGN, these are equipment used for lifting and lowering loads, including attachments used for anchoring, fixing or supporting a load. Lifting equipment covers a wide range of items which include:</p> <ul style="list-style-type: none"> • Overhead cranes and their supporting runways; • Motor vehicle lifts; • Mobile cranes and cranes fitted to vehicles (Hiab Truck); • A building cleaning cradle and its suspension equipment; • Goods and passenger lifts; • Telehandlers and forklifts; • Lifting appliances include a pulley block, gin wheel and chain block or set of chain blocks; • Lifting gears include any chain, rope, chain sling, webbing sling, rope sling, hook, shackle, swivel or eyebolt and cage, basket or work platform used for carrying persons while it is suspended from the load line of a crane, container, skid, spreader bar etc.; and • Lifting machine includes any crane etc.
<p style="text-align: center;">Lifting Gear</p>	<p>(a) any chain, rope, chain sling, webbing sling, rope sling, ring, hook, shackle, swivel or eyebolt; and (b) any cage or work platform used for carrying persons while it is suspended from the load line of a crane. (as defined under the WSHA, Cap 277)</p>
<p style="text-align: center;">Load chart</p>	<p>Each crane has a load chart that, in short, specifies the crane's capabilities and detailing its features and how its lift capacity varies when considering distance and angle</p>
<p style="text-align: center;">Minimum Breaking (Or Failure) Load (MBL)</p>	<p>This is the theoretical load below which a sample of the item will not break or fail, when new.</p>
<p style="text-align: center;">Professional Engineer</p>	<p>A person registered as a professional engineer and who has in force a practicing certificate issued under the Board of Architects, Professional Engineers and Quantity Surveyors (BAPEQs).</p>
<p style="text-align: center;">Qualified Welder</p>	<p>A welder who has demonstrated his ability to produce welds meeting the requirements of the international standard such as EN ISO 9606, EN 287-1.</p>

<p>Quality Assurance / Quality Control (QA / QC)</p>	<p>Documents and their system are conducted and prepared by a company to check and monitor the quality of their work during the project stage.</p>
<p>Responsible Person</p>	<p>The employer of the person to the principal under whose direction the person works.</p>
<p>Safe Working Load (SWL)</p>	<p>The maximum load as assessed by a competent person that an item of lifting equipment may raise, lower or suspend under the service conditions. The safe working load is marked on the equipment by the manufacturer.</p>
<p>Suspended Basket</p>	<p>Arrangement designed for the lifting of persons by a crane.</p>
<p>Work Platform</p>	<p>A platform that is designed specifically for carrying personnel while being suspended from the load line of a crane.</p> <div data-bbox="655 1025 1190 1424" data-label="Image"> </div> <p>Figure 1: Examples of platforms or man riding baskets (photo taken from International Crane Stakeholder Assembly, ICSA N003)</p> <p>Note: A rescue box is different from a platform and should not be used as a platform. It should only be used for dedicated rescue operations.</p>

4. PURPOSE

The purpose of this document is to serve as guidance and reference on the basic requirements for the design, construction, installation, inspection and safe use of work practices for lifting persons on cranes, also referred to as *man riding activities*. Cranes are generally designed for lifting loads and are not normally designed for lifting persons.

Ladders, scaffolds, stairways, aerial lifts and personnel hoists must first be considered prior to using a crane to hoist personnel. **This is only recommended as the final option if there is no safer, practical or conventional means of access to an elevated work area.**

5. SCOPE

This document applies to the standard that specifies the safe use of work platforms suspended from cranes. **This IGN does not cover the following platforms:**

- Work platforms which are permanently attached and not suspended, and form an integral part of the crane; and
- Platforms designed and used for the sole purpose of facilitating emergency rescue work.

The use of universal piling rigs, mobile cranes operating on-board barges or floating platforms, excavators and lorry loaders (Hiab truck crane) for lifting persons in suspended work platforms is PROHIBITED AT ALL TIMES. Only lifting equipment that complies with the requirements stipulated under Section 10 of this IGN can be used for man-riding.

6. APPLICABLE LAWS AND REGULATIONS

All occupiers, employers, self-employed persons, principals, self-employed persons, and persons at work shall comply with the applicable laws and regulations, in particular to those listed below:

WORKPLACE SAFETY AND HEALTH ACT, CHAPTER 277

Section 16 of the WSHA, Cap 277:

- It shall be the duty of the manufacturer or supplier as far as reasonably practicable that the following information about the safe use of machinery or equipment is available to any person to whom it is supplied for use at work.
- To ensure that there are precautions to be taken for the proper use and maintenance of machinery or, equipment
- To ensure that the health hazards (if any) associated with the machinery or equipment are available to the person to whom the machinery or equipment is supplied for use at work.
- To ensure that the information relating to and the results of any test or examination of the machinery or equipment are relevant to its safe use.
- The machinery and equipment are safe and without health risks when properly used.
- The machinery, equipment is tested and examined to be safe.

Section 17 of the WSHA, Cap 277:

- It shall be the duty of any person who erects, installs, or modifies any machinery or equipment for use at work as reasonably practicable, that the machinery or equipment is erected, installed or modified so that it is safe for use and without health risk. Note that this shall only apply to Part 1 of the Fifth Schedule of the Workplace, Safety and Health Act, Cap 277.

WORKPLACE SAFETY AND HEALTH (CONSTRUCTION) REGULATIONS

Regulation 134 states that it shall be the duty of the owner of a crane, an employee's lift or a material handling machinery being used in a worksite to ensure that the crane, employee's lift or material handling machinery is of good construction, sound material and adequate strength, free from patent defects and properly maintained. Additionally, it shall be the duty of the operator of a crane or material handling machinery being used in a worksite to ensure that the crane or machinery, as the case may be, is positioned and operated as to be stable.

WORKPLACE SAFETY AND HEALTH (RISK MANAGEMENT) REGULATIONS

Regulation 3 states that in every workplace, the employer, self-employed person and principal shall conduct a risk assessment concerning the safety and health risks posed to any person who may be affected by his undertaking in the workplace. This includes the need to ensure that the work activities as well as plant and equipment have undergone proper risk assessment before installation and use to prevent inadvertent impact on employees due to any harm to the persons involved.

WORKPLACE SAFETY AND HEALTH (INCIDENT REPORTING) REGULATIONS

Regulation 6(1) specified that it is the duty of the employer after receiving a written statement prepared by a medical practitioner diagnosing the occupational disease, the employer shall, not later than 10 days after receipt of written diagnosis, to submit a report to the Authority.

Regulation 6(2) specified that any registered medical practitioner who diagnoses an employee with occupational disease shall, no later than 10 days submit a report to the Authority.

7. RESPONSIBILITIES

This guidance applies to all workplaces covered by the WSHA, Cap 277 where there are lifting operations that involve lifting of persons by cranes. It provides a useful reference to all persons and assist interested parties to ensure control measures are in.

DESIGNATION	RESPONSIBILITIES
<p>Employer, Principal, Occupier, Self-Employed Person</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • a control plan and program are in place to ensure the safety of the lifting activity; • employees are provided with sufficient and adequate information, instruction, equipment, training and supervision for them to perform their work safely; and • adequate safe work practices such as the use of Personal Protective Equipment (PPE) and in cases of emergency, are developed, implemented and available on site.
<p>WSH Officer, WSH Coordinator or Safety Officer</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • regular routine inspections are conducted to verify the use of and implementation of equipment and work practices; • adequate presence on site to identify and assess any foreseeable risk arising from the activity; and • culture of intervention is promoted to raise safety concerns on site.
<p>Management</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • all lifting equipment is properly inspected and certified by an AE; • persons using the lifting equipment are competent; and • adequate resources are available for the implementation of this document.
<p>HSE Manager</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • persons to be lifted receive adequate training for the activity; • insist on the details of the lifting procedure including the lifting plan and risk assessment prior to allowing the lift to commence; and • regular routine inspections of lifting operations are conducted by the WSH Officer, WSH Coordinator or Safety Officer.

<p>Site Supervisor</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • correct lifting equipment is used prior to the activity; • persons involved are trained and hold valid certification prior to carrying out the lifting activity; and • persons involved in lifting wear the correct PPE, for example, rigging gloves, boots and helmets prior to and during the activity.
<p>Persons involved in the lifting activity</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • risk assessment and safe systems of work (method statements) associated with the activity have been received and understood; • persons are trained with valid certification prior to use of lifting equipment; and • any defects on lifting equipment are reported in a timely manner.
<p>Lifting Supervisor / Person in Charge (PIC)</p>	<p>Shall ensure that:</p> <ul style="list-style-type: none"> • Present on site for activities that require supervision on the use of a work platform suspended from the crane; • prior to the lifting activity, they are appointed as the Lifting Supervisor by their Management based on their experience and skills relevant to the activity; • riggers and signalmen possess the experience and skills relevant to the activity; • all the requirements laid down in this document are complied with prior to the lifting of persons using a mobile crane; • the lifting operation is led, directed and coordinated by them; • communication between the crane operator, signalman, lifting supervisor and persons in the work platform is maintained throughout the lifting operation; • any unsafe lifting operation that may compromise the safety of the crane, lifting operation, or persons being lifted is stopped for further re-assessment; and

	<ul style="list-style-type: none"> • whether prior to or during the lifting activity, safety concerns are to be notified timely and rectified with the support of the responsible person on site.
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8. OPERATIONAL CONTROL

8.1 GENERAL OPERATIONAL CONTROL

1. The mobile crane intended to be used for the lifting of work platforms shall be subjected to a thorough examination and certified fit for use by an **AE** not more than 6 months before the lift. A sample inspection checklist for the operational use of the work platform can be found in **Annex B**.
2. The mobile crane shall be **inspected visually** by the crane operator or a competent person to confirm it is free from any defect or missing safety devices just before any lift.
3. Only an experienced crane operator, who has performed the crane operations for the past 12 months as a **qualified crane operator**, is allowed to operate the crane to lift the suspended work platform.
4. The lifting and lowering speed should **not exceed 0.5 m/s**.
5. The mobile crane shall be **operated with caution** such that the suspended platform will not sway excessively when the crane is slowed down.
6. The load line hoist drum shall have a controlled load-lowering feature. **Free falling is prohibited**. There shall be a minimum of 5 rounds of rope left at the drums at all times.
7. Load and boom hoist drum brakes, slewing brakes, and locking devices such as safety pawls, as equipped **shall be engaged** when the platform is in a stationary working position with personnel working on it.
8. The use of a crane with boom downwards derricking controlled by brakes without aid from other retarding devices is **prohibited**.
9. The crane shall be uniformly level **within 1%** of the level grade and located on firm footing. Crane outriggers shall be fully extended.
10. The total weight of the loaded platform (i.e. the weight of the platform plus the rated maximum safe working load of the platform) shall **not exceed 50%** of the rated capacity for the radius and configuration of the crane.

11. The crane shall **not be operated** under the following conditions or when its safe operations may be compromised:
 - a) Windy conditions;
 - b) Poor lighting and visibility;
 - c) Inclement weather;
 - d) Incompatible works in the vicinity; and
 - e) Lack of competent and standing supervision during lifting.
12. All personnel on the work platform shall position themselves **away from danger zone** by keeping every part of their bodies inside the platform during movements such as raising, lowering, and positioning.
13. **Tag lines** should be used whenever reasonably practicable.
14. **No person** shall be within a suspended work platform while the crane is travelling unless the crane is mounted on a fixed track.
15. The crane operator shall remain at the **controls at all times** when the work platform is laden with personnel
16. The work platform shall be hoisted a few centimeters above the ground and inspected to ensure that it is **secured and properly balanced**, and a trial run shall be performed to ascertain the following before personnel are allowed into the work platform:
 - a) The crane configuration is adequate to perform the intended task;
 - b) No interference with any surrounding structures or overhead power cables;
 - c) Sufficient rope length in the drum.

8.2 OPERATOR

- The competent operator should receive instructions from the designated banksman (or signaller) at any one time. Two-way communication (walkie-talkie) shall be used for communication between the person inside the work platform, the crane operator and the banksman (or signaller).

8.3 LIFTING SUPERVISOR / PERSON IN CHARGE (PIC)

- The lifting supervisor shall be in close sight of the work platform. However, if it is not possible, then another suitable and competent person shall be assigned by the responsible person to maintain close sight of the work platform and assist the lifting supervisor in the lifting operation through direct communication.

8.4 WORKING OVER THE WATERLINE

- When a work platform is suspended over the waterline and the crane is operating on land, or mounted on a floating dock or rig, the following shall apply:
 - a) The crane and the vessel on which it is operating shall be properly anchored;
 - b) Except for those operating from shore, lifejackets are to be worn by all personnel involved in the operation; and
 - c) The operation is restricted to fixed-jib cranes only.

8.5 WORKING IN THE PROXIMITY OF OVERHEAD POWER CABLES

- Cranes shall not be operated in such a way that any part of the crane or load may enter into the danger zone, as shown in Figure 2.

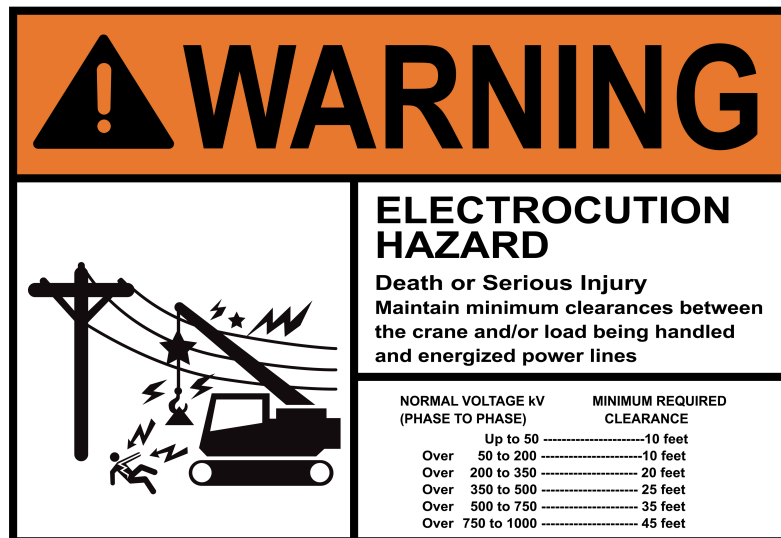


Figure 2: Maintain minimum distance between crane and overhead power cables

8.6 EMERGENCY RESPONSE

- Suitable emergency response plans must be in place before any attempt to operate any form of lifting equipment.
- Situations that need to be considered are medical emergencies, adverse weather, fire, power failure, striking power cables or other objects and chemical spill situations.
- A rescue plan shall be prepared for all personnel hoisting operations. All equipment required to implement the rescue plan shall be readily available

before and during the operation.

- Rescue operations can introduce their hazards; therefore, the planning and execution of a rescue requires particular care and attention including additional risk assessments before proceeding.

9. INSPECTION, MARKING, TESTING AND MAINTENANCE

9.1 INSPECTION

- The work platform including its suspension system shall be thoroughly examined and tested by an Authorised Examiner at least once every 6 months.
- Cranes that are used to lift the work platform shall also be thoroughly examined by an Authorised Examiner at maximum intervals of 6 months.
- The work platform and lifting gear shall be inspected by the lifting supervisor before the commencement of each lift.
- The crane shall be inspected by a crane operator immediately prior to lifting a work platform. This shall include inspection of the wire rope, hoist drum brakes, boom, and other mechanical and rigging equipment vital to the safe operation of the crane. A record of this inspection shall be maintained.
- The inspection shall be performed at the beginning of each shift and during the shift, where necessary, to ensure that the crane is capable of safely supporting the platform with its maximum intended load.
- Any structural or functional defect that could adversely affect the safe operation of the cranes shall be rectified as per recommendations issued by the crane manufacturer before any work platform is lifted.
- The employer shall hold a meeting with all persons involved in the lifting of work platforms (i.e. crane operator, signalmen, persons to be lifted and the person responsible for the lifting operation) to review the procedures that shall be adhered to before any such lift operation is being carried out. This meeting shall be held before the trial run at each new work site and shall be repeated for any newly appointed person to perform any role in the operation.

9.2 IDENTIFICATION AND MARKINGS

- All work platforms shall have a registration number as indicated on the certificate issued by the Authorised Examiner.

Every platform shall have the following markings on it:

- a) Registration number;
- b) Safe working load
- c) The maximum number of workers allowed in the platform at any one time;
- d) The load maximum capacity; and
- e) The markings shall be painted in large bold letterings located on the outside of the platform such that they are visible and legible from a distance of at least 10 m.

9.3 OVERLOAD TESTING

- The work platform including its suspension system shall be load tested to an overload of at least twice the rated maximum safe working load of the platform.
- This shall be done by holding the work platform with test loads placed within a suspended position for not less than 2 minutes. Visual inspection should be performed thereafter to ensure that there is no sign of material distress, deformation, local buckling, weld failure or cracking at any location.
- Any defects observed shall be corrected and another load test shall be conducted. Such an overload test shall be conducted once every 12 months by an Authorised Examiner.
- Load tests can be dangerous, as the strength of the work platform under test is not yet proven. The competent person supervising the tests shall ensure that only essential personnel are within the vicinity and that all necessary precautionary measures are implemented.

9.4 PLANNED MAINTENANCE

- To ensure the safe and satisfactory operation of the crane and workbasket, a properly planned maintenance system shall be established and used. Manufacturer's instruction books recommend that specific tasks be carried out at their stated intervals, and these periods shall not be exceeded. They also specify the lubrication points that require attention, the interval or frequency of greasing and oil changes and the grades and quality of lubricant to be used. Furthermore, the instruction books cover other essential maintenance such as replacement of filters, frequency for checking the security of fixing bolts and recommended torque settings and other adjustments, e.g. brakes, and hydraulic system integrity.
- An effective planned maintenance system shall recognise the possible need to prohibit the use of the crane until essential maintenance work is carried out.

10. REQUIREMENT FOR THE LIFTING EQUIPMENT TO BE USED FOR MAN-RIDDING

10.1 CRANE CAPACITY

- The intended crane for man-ridding shall have a dedicated rated capacity provided for the lifting of persons with corresponding settings for the rated capacity indicator and limiter.
- The rated capacity on the fixed load lifting attachments of the crane from which the basket is to suspend shall be at least 2 times (weight of the basket + basket lifting attachments (lifting gears) + the persons inside the basket) over the whole working range of the crane.

10.2 CRANE CONTROL SYSTEM

- Provide a smooth acceleration/deceleration of the basket.
- Automatically restrict the working speed to a maximum of 0.5 m/s.
- Cranes that are used for suspended baskets should be designed so that in the case of failure of the power supply or the control system, the suspended basket can be moved to a position to enable people to exit without risk (emergency lowering system).

10.3 HOOK

- The crane hook should be provided with a positive safety catch (double safety latch)

10.4 HOISTS AND SLINGS

- Where people are lifted using mobile or fixed hoists, the slings used should be of a suitable design to work with the type of hoist available. The sling should also be of the correct size and type for the person and activity being undertaken, the sling shall have at least 10: 1 design factor.

10.5 SAFETY DEVICES ON THE CRANE

- A boom angle indicator shall be installed on cranes used for the lifting of work platforms. It shall be located in such a way that it is clearly visible to the crane operator.
- Telescopic booms shall be equipped with an accurate boom length indicator which shall have the display located in the crane operator cabin. The use of markings on the boom sections to include the boom length is neither sufficient nor permitted.

- The crane shall be equipped with a load radius indicator which shall provide information on the safe working load at that particular working radius. A safety device to prevent overloading of the crane shall be installed in the crane.
- An over-hoist cut-off limit switch (or anti-two-block device) boom-up and boom-down limit switch shall be installed on the crane.
- It is advisable to install a hoist-down limit switch to stop the hoisting motion to prevent wire open overrun.

10.6 REQUIREMENTS FOR WORK PLATFORM (MAN-BASKET)

- The work platform and rigging shall be designed by a Professional Engineer in the structural or mechanical discipline. A copy of the engineering design documents of the work platform shall be available at the worksite or upon request. The manufacturer of such work platforms shall be familiar with the design requirements in this standard and ensure their compliance during the design and fabrication process through a declaration of conformity. Sample Inspection Checklist for Platform Suspended from Crane (Design Check) is undermentioned at **Annex A**.
- A safe design, made of sound and suitable material and adequate strength. If access doors are fitted to the carrier, they should not open outwards and should be fitted with a device to prevent inadvertent opening.
- An Authorised Examiner from a recognised Certification authority shall certify the workbasket. The certificate issued by the AE clearly indicate the workbasket is suitable for suspended work activities.
- The work basket must be of an approved design. The purpose-built workbasket shall be designed in accordance with an International Standard i.e., BS EN 14502-1, AS 1418 or ASME B30. 23 or equivalent.
- The standard guardrails should not exceed 42" in height, a middle rail equal distance between the Base and guardrail, and a 4" toe board will be installed on each platform.
- The work basket should have a toe board of 100 mm height above the bottom of the basket (if a solid cover plate is not provided).
- Two taglines should be attached to the workbasket, both with a length of 3 meters.

- The work basket should have an anchor point to connect the safety harness lanyard.

10.7 REQUIREMENTS FOR LIFTING GEARS

- The work basket lifting gear, master links, slings, etc. shall have a factor of safety of at least 10 to 1. The work basket shall be equipped with a double safety load line assembly composed of a main wire rope sling and a secondary shock-absorbing safety line. The capacity of the wire rope sling and the secondary shock-absorbing safety line shall be such that either the sling or safety line shall be able to carry the full load including the safety factor.
- The shackle type to be used is the bow or safety-anchor type fitted with split pins, that is, bolt, nut and split-pin.
- Every platform shall have the following markings on it:
 - a) Registration number;
 - b) Safe working load;
 - c) The maximum number of workers allowed in the platform at any one time; and
 - d) The total weight of the platform.
- The markings shall be painted in large bold letterings located on the outside of the platform such that they are visible and legible from a distance of at least 10m.

11. REFERENCES

- Code of Practice for the lifting of persons in work platforms suspended from cranes, SS 617:2016, Singapore Standards Council
- BS EN 14502-1 Cranes. Equipment for the lifting of persons. Part 1: suspended baskets.
- ASME B30.23-2022. Personnel Lifting Systems Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks and Slings)
- Guidance Lifting of persons with mobile cranes, international crane stakeholder assembly, ICSA N003
- ANSI/ASSE A10.28 Safety requirements for work platforms suspended from cranes or derricks.
- AS 1418:17 cranes (including hoist and winches) part 17: Design and construction on workboxes.
- Workplace Safety and Health Act, Chapter 277
- Workplace Safety and Health (Construction) Regulations
- Workplace Safety and Health (General Provisions) Regulations
- Workplace Safety and Health (Risk Management) Regulations

ANNEX A
(Informative)

Sample Inspection Checklist for Platform Suspended from Crane (Design Check)

PROJECT TITLE			
LOCATION OF WORK			
DATE AND TIME			
S/N	ITEMS	YES / NO	REMARKS
1.0	DESIGN OF PLATFORM		
1.1	Platform designed by professional Engineer (structural or mechanical discipline)		
1.2	Platform designed with a minimum safety factor of 5.		
1.3	Steel material used to fabricate the platform (minimum grade 250 carbon steel).		
1.4	Platform protected from corrosion.		
1.5	Platform painted or marked by high visibility colour paint.		
1.6	Written declaration of conformity from manufacturer.		
2.0	SHAPE, MINIMUM WIDTH AND WEIGHT OF PLATFORM		
2.1	Width of platform to be ≥ 635 mm ≤ 750 mm.		
2.2	Length of work platform does not exceed 3200 mm.		
2.3	Work platform (empty) to be at least 150 kg.		
2.4	Minimum design safe working load to be 300 kg.		
2.5	Maximum safe working load design consideration (comprise of persons, tools and material) on platform.		
3.0	HANDRAILS, OVERHEAD PROTECTION, FLOOR AND ACCESS TO PLATFORM		
3.1	Handrail diameter between ≥ 16 mm ≤ 40 mm.		
3.2	Handrail is located 75 mm to 100 mm inside the upper edge of the side.		
3.3	Handrails can withstand a load of at least 90 kg.		
3.4	Side wall enclosure is at least 1:1 meter high.		
3.5	Side wall enclosure (with perforated opening) < 12 mm wide.		
3.6	Toe board is at least 100 mm high.		
3.7	Toe board to be able to withstand 25 kg.		
3.8	Roof with perforated opening < 12 mm wide.		
3.9	Headroom inside platform at least 2000 mm.		
3.10	Access doors at least 500 mm in width and permanently fixed to the work platform. Doors open only to interior of platform.		
3.11	Access doors equipped with safety devices to prevent accidental opening of door.		

3.12	Floor board does not allow any material to fall through.		
3.13	Floor board welded and/or bolted to the platform.		
3.14	Floor board flat and slip-resistant.		
3.15	Anchorage points provided for anchorage of body harness.		
4.0	SUSPENSION SYSTEM OF PLATFORM		
4.1	Rigging points at least 2000 mm above the floorboard.		
4.2	Wire rope (lifting gear) for hoisting platform is at least of 10 mm in diameter.		
4.3	Lifting gear use for suspending work platform with a minimum safety factor of 8.		

Note:

Platform stated in this checklist refers to a work platform suspended by crane. This checklist is meant to verify the design aspect of the platform against the requirement of this standard before using it for the first time. It may not be required to be used as a daily safety checklist.

ANNEX B
(Informative)

Sample Inspection Checklist for Platform Suspended from Crane (Operation Check)

PROJECT TITLE			
LOCATION OF WORK			
DATE AND TIME			
S/N	ITEMS	YES / NO	REMARKS
1.0	OPERATIONAL CONDITION		
1.1	Crane operated by an experienced crane operator.		
1.2	Crane inspected by crane operator/competent person before each lift.		
1.3	Platform and lifting gears inspected by lifting supervisor before each lift.		
1.4	Safety meeting/briefing held among lifting crew and persons working on suspended platform before lifting of platform are carried out.		
1.5	Lifting gear use for lifting work platform are not to be used for other purpose.		
1.6	Hoisting of personnel in the platform performed in a slow, controlled, cautious, manner.		
1.7	Lifting and lowering of platform speed does not exceed 0.5 meters/second.		
1.8	Lifting of platform not carried out under poor lighting, visibility and inclement weather condition.		
1.9	When work alongside the road ensure Placing continuous barricades from a safe distance prior and along the workspace to separate workers from traffic according to approved document from relevant Authority. This will also prevent workers from straying into traffic space during work.		
2.0	CRANES SAFETY FEATURES		
2.1	Boom angle indicator.		
2.2	Boom length indicator.		
2.3	Load radius indicator.		
2.4	Over-hoist cut off limit switch, boom-up and boom-down switch.		
2.5	Safety latch on hooks of crane.		
2.6	Minimum 5 rounds of rope left at the drums at all times.		
3.0	PLATFORM LOADING		
3.1	Safe working load not exceeded.		
3.2	Not more than 2 persons in platform.		
3.3	Material on platform evenly distributed.		

<p>4.0</p> <p>4.1 4.2 4.3 4.4</p>	<p>PLATFORM MARKING INDICATED</p> <p>Identify number. Safe working load. Maximum number of workers allowed in platform. Total weight of the platform.</p>		
<p>5.0</p> <p>5.1 5.2</p>	<p>PROVISIONS OF APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE)</p> <p>Person in platform is wearing safety helmet. Fall restraint/fall arrest system equipment should be used for persons in platform.</p>		
<p>6.0</p> <p>6.1 6.2 6.3</p>	<p>PROVISION OF LIFTING SUPERVISOR</p> <p>Lifting supervisor appointed has required training and experience. Lifting supervisor appointed to carry out full-time supervision, maintain communication and visual contact with lifting team and men in the platform throughout process. Riggers and signalman have required training and experience.</p>		
<p>7.0</p> <p>7.1 7.2 7.3</p>	<p>WORKING OVER WATERLINE</p> <p>The vessel on which the crane is situated is anchored. Taglines to be attached to the platform. Life jacket worn when working near/over waterline.</p>		
<p>8.0</p> <p>8.1 8.2 8.3 8.4 8.5 8.6</p>	<p>WORKING IN PROXIMITIES OF OVERHEAD POWER CABLES</p> <p>Crane does not enter danger zone (Figure 5). Danger zone cordon off around crane and warning signs set up. Electrically non-conducting taglines attached to platform. No person in contact with any metallic part of the crane when lifting has commenced. Crane is properly earthed to ground. Permit is granted by proper authorities</p>		
<p>9.0</p> <p>9.1 9.2</p>	<p>INSPECTION AND TESTING</p> <p>Platform and its suspension system examined and tested by Authorised Examiner once every 6 months. Overload test conducted by Authorised Examiner once every 12 months.</p>		

<p>10.0</p>	<p>WORKING ALONGSIDE THE ROAD</p> <ul style="list-style-type: none"> • Suitable risk management arrangements shall be developed for the activity and site suitably managed for the duration of the work. • Supervisors shall be actively involved with the worksite and ensure good communications are maintained with workers, in particular with those remotely located. • Placing continuous barricades from a safe distance prior and along the workspace to separate workers from traffic according to approved document from relevant Authority. This will also prevent workers from straying into traffic space during work. • Providing appropriate means for workers access when entering or leaving the work zone especially along high-speed roads. • Placing temporary safety barriers to protect workers from vehicular traffic. • Putting up signs to reduce vehicular speed as necessary for the safety of workers and road users, and effectively communicating this requirement to all road users who choose to use that route for the duration of the work. • Providing proper lighting for night work so that the work site is visible at night for the safety of workers and road users. However, the lights used shall not be blinding to motorists. • Providing a lead vehicle to warn oncoming traffic and to shield workers. • Providing workers with high visibility clothing and/or work vest so as to be more conspicuous and visible during both day and night. 		
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Note:

Platform stated in this checklist refer to work platform suspended by crane. The checklist should be using each time before using the platform.

END