

Defender™ rung ladders

Defender rung ladders are the safe and reliable choice for accessing roof areas, platforms and plant equipment.

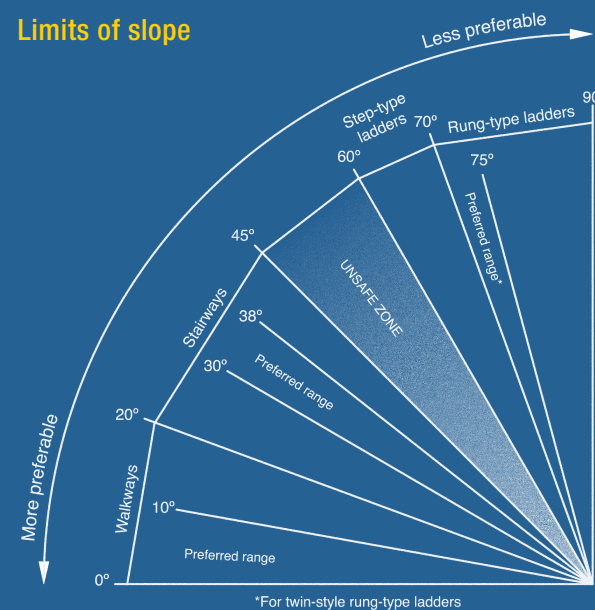
They are designed and independently certified to fully meet the requirements of Australia's **National Construction Code** (formerly the BCA) and **AS 1657**, ensuring compliance with **Australian Standards**, **OHS legislation** and **state regulations**.

All Defender rung ladders are installed by Certified Defender Installers, ensuring the highest standards in quality, reliability and compliance with safety requirements.

About the AS 1657 Standard

The AS 1657 Standard requires that the means of access shall be selected from the following limits of slope, and considered in the hierarchical order given:

Limits of slope



Defender's wide range of equipment includes all the means of access discussed in AS 1657, in addition to all components (stabilising brackets, safety-lines, guardrails, hand-rails, cages, intermediate platforms, lockable gates, access hatches, etc.), for a complete and safe height access system.

Other Specifications Guides in the **DEFENDER** series:

- | | |
|-------------------------|-------------------------------|
| Access Hatches | Staircases |
| Cooling Tower Platforms | Static Lines & Rail Systems |
| Guardrails | Step Type Ladders |
| Landings & Platforms | Walkways |
| Roof Anchors | Internal & Suspended Walkways |



AS 1657 Approved

AS 1657 is the Australian Standard for the design, construction and installation of guardrails, fixed platforms, walkways, stairways and ladders. This standard underpins Defender's performance.

ISO 9001 Quality

ISO 9001 is the world's most established quality framework, currently being used by over 750,000 organisations in 161 countries. This standard assures Defender's quality.

NATA™ Accredited Testing

NATA is the authority that provides independent assurance of technical competence through a proven network of best practice industry experts. The criteria for determining a facility's competence are based on the relevant international standard (e.g. ISO/IEC 17025, ISO 15189, ISO/IEC 17020). NATA provides assessment, accreditation and training services to laboratories and technical facilities throughout Australia and internationally.

CodeMark™ – National Construction Code Approved

The CodeMark scheme recognises Defender's compliance with the National Construction Code (formerly the BCA).

Proudly Australian Made

Engineered and fabricated in its own ISO 9001 quality-assured factory, Defender guardrails are certified Australian-made.

Get it done right, first time, for less.
Defender equipment and installation is
extraordinarily cost-effective. Why?
Because smart design shouldn't cost extra.

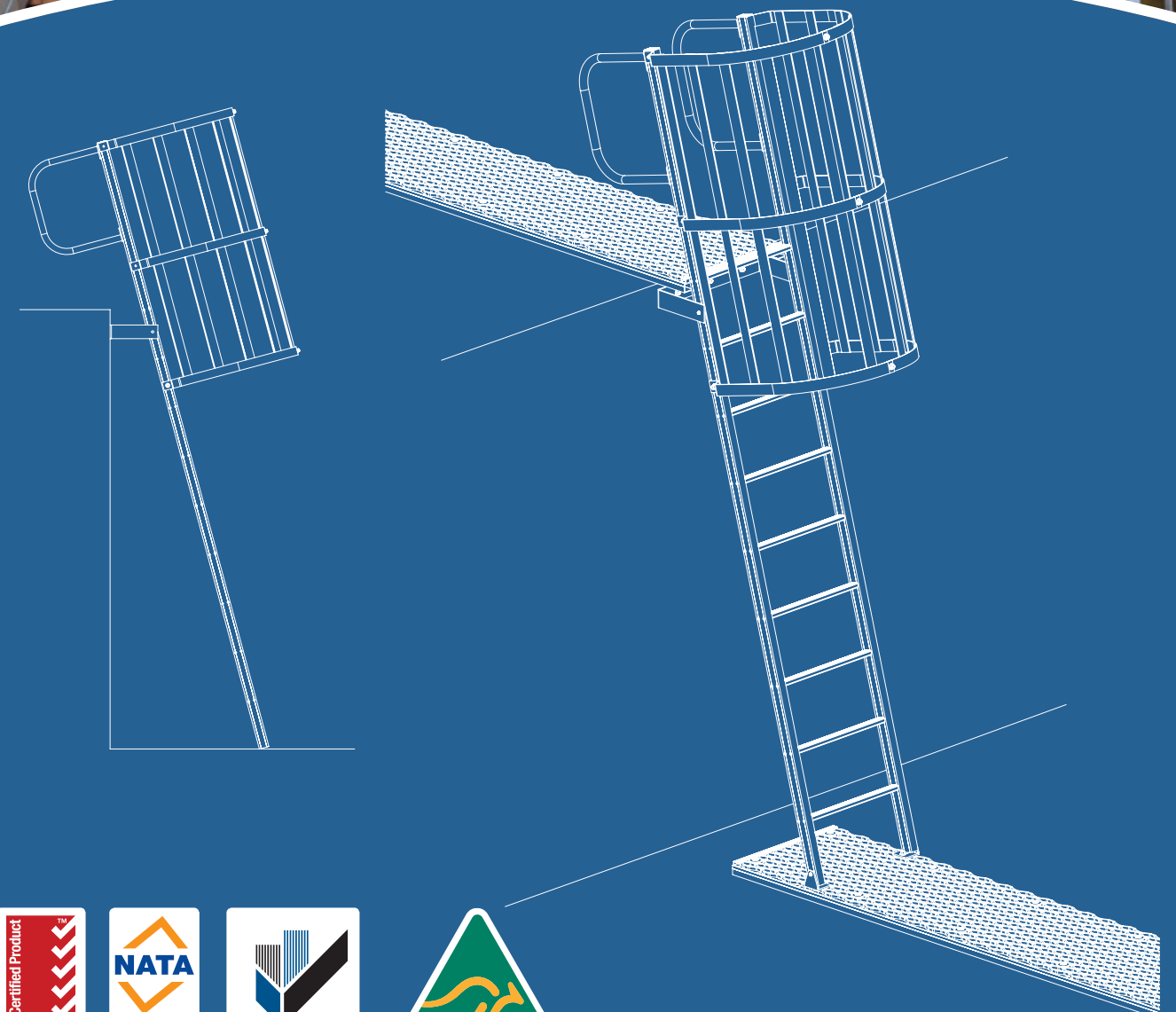
**CALL US TODAY ON 1300 013 794
TO ARRANGE A VISIT FROM A
CERTIFIED DEFENDER™ CONSULTANT**

Rung Ladders

SPECIFICATIONS GUIDE



Independently certified safety



To order, receive a quote, or for more information contact us today at:

enquiries@workplacedefender.com.au
or call 1300 013 794

www.workplacedefender.com.au

Certified Defender™ Installer:

**workplace
access&safety®**

the fall prevention specialists

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Defender™ rung ladders

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They are designed and independently certified to fully meet the requirements of Australia's **National Construction Code** (formerly the BCA) and **AS 1657**, ensuring compliance with **Australian Standards**, **OHS legislation** and **state regulations**.

Manufacture and installation specifications:

- > Ladder, with the correct accessories to meet AS 1657, to be installed at a 75-degree (1 in 4) incline wherever possible (see figure 2.)
- > The stile to be made of an unbroken length of aluminium to avoid points of weakness. Splicing is unacceptable.
- > Brackets to be installed at correct intervals – at least every 2.4 metres – to maintain 250kg load rating.
- > Ensure a minimum 200mm clearance behind rung ladders.
- > Rungs, including the distance from the bottom rung to the landing, are to be equally spaced (see figure 3.)
- > Rungs to be shaped to maximize foothold as proved in ergonomic research*.
- > Positive fixings will be used: never rivets or Tek screws for primary structural fixings. All are to be galvanized and never zinc coated.
- > Provide slip resistance tests results confirming rungs are independently tested in a NATA laboratory (No. 2735) to meet outdoor slip rating of R10 on a wet oil ramp test.
- > Rungs to be bolted, not welded, to the stiles, with additional mechanical fixings to provide redundancy, guaranteeing rungs won't fail and dislodge from stiles.
- > Labelled to ensure traceability, identify parties and to nominate the load rating of the system.

*Caple, D, 2012 report

Testing

- > Tested in a **NATA™-accredited** laboratory to meet the nine mandatory AS 1657 tests for stile, rung, fixing, extended stile strength and durability.

Manufacture

- > Manufactured by an independently audited ISO 9001 accredited facility, delivering consistent product with full traceability.
- > Certified Australian-made

Documentation and labelling

- > Comprehensive handover documentation allows the system to be properly managed by the workplace controller.
- > Provides all of the user information, layouts and compliance labelling to meet AS 1657 safety requirements.

Installation

- > Height safety installers demonstrate competency through training delivered by a registered training organisation.
- > Independently accredited installation contractor to install the rung ladders.

Safe installation and fabrication

- > Installation by a company independently certified to AS/NZS 4801 Standard for Health and Safety.

Management Systems

- > Installation performed by organization independently certified to AS/NZS 4801 Standard for Health and Safety Management Systems.

Environmental accreditation

- > Manufacture and construction to be conducted by an organisation independently certified to satisfy the ISO 14001 Environmental Management System standard recognising the management of primary environmental issues.

Traceability

- > Mark all rung ladders to provide full traceability to material batches.

Design

- > System layout and design to be completed by an RTO-trained designer.

Rung Ladders

- > Provide certification by a body independently accredited by SAI Global or equivalent to AS 1657.

Design Certification

- > Issue a design certificate guaranteeing the system meets the requirements of the Code of Practice (Safe Design of Structures 2012).

Labelling

- > Tag/label each rung ladder individually with a unique ID number specifying the manufacturer, installer, certifier and next inspection due date on a label that is capable of withstanding at least 12 months of weather exposure (see figure 1.)

Figure 1.

DEFENDER™ LADDERS www.workplacedefender.com.au	
Job No.	
RL- 0810	Registered design, patent pending
Inspection next due date:	
Notes:	
Installed by workplace access&safety® 1300 552 984	
Certified by	CODEMARK™ 22156 - RIWHS2040 AS 1657 SMK40193
AUSTRALIAN MADE	



Health & Safety
AS/NZS 4801



Environment
ISO 14001



AS 1657
Approved
SMK40193

Figure 2.

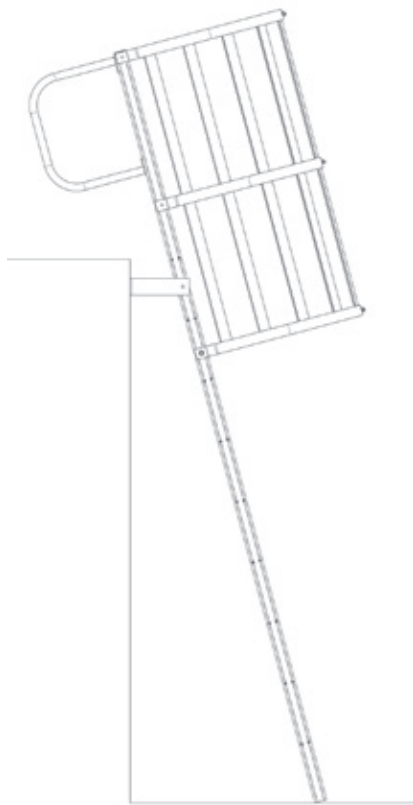


Figure 3. Rung Ladder Typical

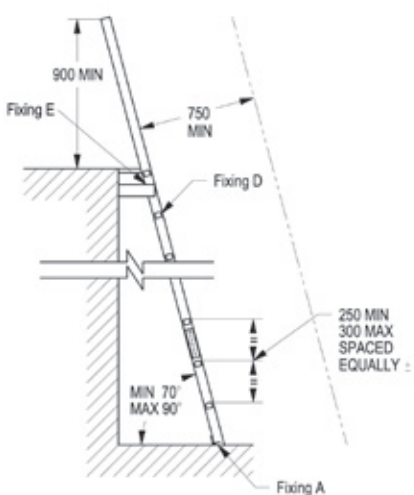


Figure 4. Rung Ladder Parapet

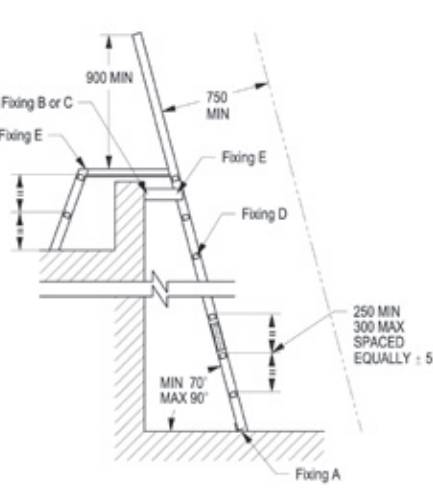


Figure 5. Minimum dimensions and properties for components of access ladders - Rung Type

COMPONENT	SHAPE	MATERIAL	SIZE (Minimum)	NOTE
Stile/Stile extension (0-2.4m)	Rectangular Hollow Section	Aluminum 6063-T6	57mm wide x 38mm lg x 1.7mm wall	Slip Resistant Surface (see Diagram*)
Rung	Oval	Aluminum 6063-T6	43mm x 25mm x 2.5mm wall	
Stile/Stile extension (2.4-5m)	Rectangular Hollow Section	Aluminum 6063-T6	57mm wide x 38mm deep x 3.5mm thick	
Fixings	See Schedule			

Figure 5. Minimum dimensions and properties for components of access ladders - Rung Type.

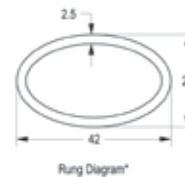


Figure 6. Rung Ladder through hatch opening

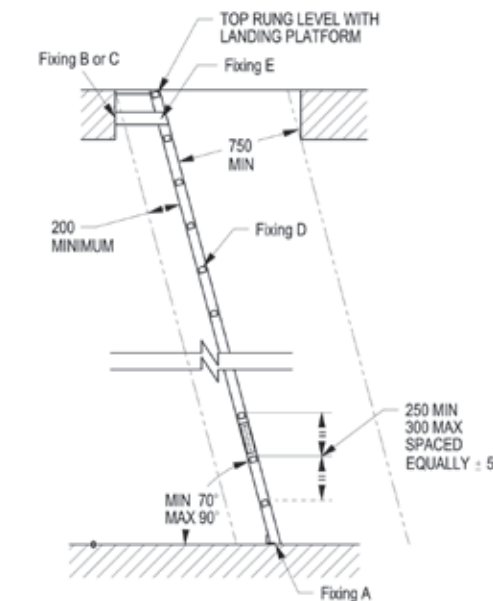
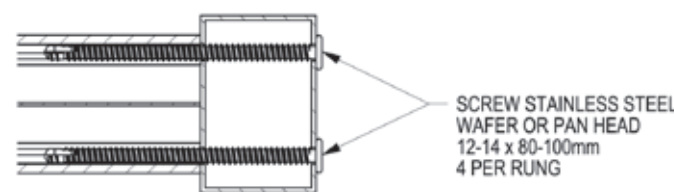


Figure 7. Ladder Fixings



SECTION B-B

Structural Fixing Area	QTY	Fixing	Material	Finish	Locn.
To base (complete)	2	M10 x 70mm Hex Head Dynabolt	Steel	Galvanised	A
To Vertical plane at top - Masonry	2	M12 x 60mm Dynabolt & Masonry Anchor	Steel	Galvanised	B
To Vertical plane at top - Timber	3	14-10 x 50mm Hex Head Type 17 Screw	Steel	Galvanised	C
Rung Treads to Stile (per tread)	4	14-10 x 115mm Type 17 Screw	Stainless Steel 316	Natural	D
Stiles to Brackets	2	M8 x 65mm Cup Head Bolt & Nut	Steel	Galvanised	E

Recommended designer, manufacturer, installer and certifier:

workplace access&safety®

Telephone 1300 552 984

www.workplaceaccess.com.au



DRAWN:	MGB	30/05/12
CHECKED:	WAS	30/05/12
APPROVED:	CS	30/05/12
TOLERANCES U.N.D.		
FABRICATION U.N.D. ±1.0		
MACHINING ±0.2		
MACHINE SURFACES ±0.2		
HOLE POSITION ±0.5		
ALL DIMENSIONS IN mm		

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TITLE: DEFENDER™ – RUNG LADDER

DWG. No. **WAS673**

SHEET 1 OF 3

SIZE
A3