

The dangers of 'DIY towers'

You wouldn't accept it at work, so
don't lower your standards at home

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About PASMA

PASMA is the lead authority in mobile access towers, tower scaffolds and podiums. We bring together members from all corners of the sector – think manufacturers, rental companies, training companies, instructors and hire & assembly businesses – with one thing in common: a commitment to prioritise safety over all else.

Together we're on a mission to ensure you've got access to safe equipment, proper training and expert guidance.

We do all this as a not-for-profit trade body. And guess what? We're celebrating our 50th anniversary in 2024. Our research into 'DIY towers' is the latest move we've made in half a century of advancing tower safety.



Introduction

Every tower should be a safe tower

Access towers are widely available from hire centres, stores and online marketplaces. Every day, thousands of them are used in workplaces and homes by people who need to work at height.

PASMA strives for a world where, when assembled and used correctly, every one of those towers is safe.

In the UK, existing legislation and regulations agree with us that towers must be safe. It's the same for all products on the market, but is especially meaningful for those you trust with your life. This applies whether the towers are intended for use in the workplace or at home.

In addition, there are existing design standards for towers that help manufacturers comply with the law. They are not legally compelled to follow these standards, but it's highlighted in regulations as a way of ensuring a product meets minimum safety requirements. Again, the same standards apply whether towers are intended to be used in the workplace or at home.

Unfortunately, despite all that, there are still towers on the market that are not safe at all. These so-called 'DIY towers' are readily available and easy to buy online.

PASMA has long been concerned about the dangers of 'DIY towers'. These towers don't comply with any recognised standard, though sometimes, due to ambiguous claims on their marketing materials, you could be forgiven for believing that they do.

'DIY towers' are marketed at domestic users who are told that at least they're 'safer than a ladder', a simplistic claim and one we dispute. They often come with a warning that they are not suitable for the workplace – the implication being that people can somehow get away with being less safe at home than they are at work.

Regardless, 'DIY towers' can be bought by anyone and there is evidence that they are used not just in homes, but in workplaces and the voluntary sector too, where there has been at least one fatal accident in recent years.









We know consumers don't think about safety; they rightly expect it to be a given. Unfortunately, safety is one thing they really should be thinking about before they put their life in the hands of a tower manufacturer who has omitted essential safety features and made misleading – potentially even fraudulent – claims in a bid to boost profits.

The challenge is that, if a tower doesn't conform to a design standard, there is no simple or reliable way for a consumer, or anyone else, to tell if it is safe or not. PASMA has always believed that 'DIY towers' are dangerous, but without putting them to the test, we couldn't say that for sure. Perhaps they aren't **dangerous**, but just **less safe** than other towers?

To answer that question once and for all, PASMA undertook market surveillance on 'DIY towers' for sale in the UK, putting a selection of them through a series of robust safety tests. We did this in partnership with the Test & Research Centre, a UKAS-accredited certification body and test laboratory specialising in access equipment. **What we uncovered was shocking.**

Key findings

As part of our investigation, PASMA put seven of the most popular 'DIY towers' through a series of rigorous tests designed to highlight any safety concerns. Here's what we uncovered:

-  Instruction manuals that lack crucial safety information, leaving users guessing
-  Ladder rungs that buckle when weight is applied or that don't offer a firm foothold
-  Inadequate fall prevention features, including gaps big enough for a person to fall through
-  Weak components that may be prone to buckling or breaking
-  Components that can be inadvertently dislodged, risking catastrophic failure
-  Towers that cannot be levelled, except on perfectly even ground
-  Basic safety features like platforms and stabilisers offered as 'optional extras' or missing altogether
-  Misleading claims, giving users a false sense of security

In every 'DIY tower' tested, numerous issues were identified that increase the risk of the tower overturning or collapsing, or of a person falling from height.

The rest of this report contains more detail about the tests, the findings and the urgent action we hope will follow.

Background

Legislation

In the UK, the sale and use of access towers falls under different laws depending on whether they're intended for use in the workplace or at home. However, it's important to note that either way, producers, importers and distributors have a legal responsibility to ensure that towers are only placed on the market **if they are safe**.

Products offered for sale in the UK must be safe. That principle applies whether the product is intended for use in the workplace or at home.

Due to the regulatory framework in place for both consumers and workplaces, anyone buying a product in the UK, for any reason, should reasonably expect that they are buying a safe product.

Relevant legislation

For consumers:

- The Consumer Rights Act
- The Consumer Protection Act
- The Consumer Protection from Unfair Trading Regulations
- Trade Descriptions Act
- The General Product Safety Regulations

In the workplace:

- The Health and Safety at Work (etc) Act
- The Provision and Use of Work Equipment Regulations
- The Work at Height Regulations
- The Management of Health & Safety at Work Regulations

Standards

Standards set out the minimum requirements for designing and manufacturing a tower that is safe to use. For example, they tell us how much weight a platform should be able to support and how many guardrails should be provided to prevent people falling from height. Manufacturers and suppliers rely on standards to help them meet their legal obligation to provide safe products.

There is only one set of standards for towers, which apply whether they are intended for domestic use or trade use.

The consequences of a fall from height are the same at home as they are at work, so there is no difference in the safeguards needed to protect the people using them.

If it's a mobile access tower – a straight up and down, single bay structure with four legs and wheels – the tower and its instruction manual should comply with the European standard BS EN 1004. If it's another configuration of tower, such as a cantilever tower or a tower on baseplates, the relevant standard is BS 1139-6.

Both BS EN 1004 and BS 1139-6 include the same key dimensional and strength requirements.

Here is a quick reference guide to tower standards

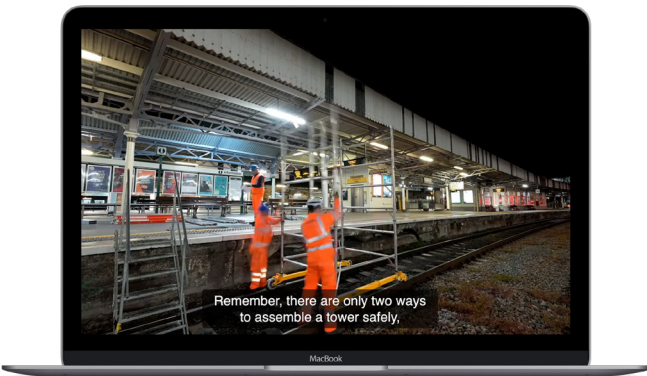
Standard	Region	Covers
EN 1004-1	Europe & UK	Mobile access and working towers from 0m to 8m when used outdoors and 0m to 12m when used indoors
EN 1004-2	Europe & UK	Instruction manuals for mobile access and working towers
BS 1139-6	UK	Tower scaffolds (towers outside the scope of EN 1004 but using EN 1004 components) e.g. towers on base plates, high level towers, cantilever towers, linked towers etc.

Note: European 'EN' standards are preceded with 'BS' when published in the UK e.g. BS EN 1004-1.

How does a consumer know if their tower conforms fully to BS EN 1004?

Manufacturers can use **independent third-party certification** to show their towers meet the requirements of the standard. A third-party certification body will assess the product against the requirements in the standard. It will also assess the product's production management to ensure the product 'as tested' can be made to the same specification in the future. Once completed, the manufacturer will be issued with a Certificate and a Certification Mark to place on the product.

Certification, especially when it comes with a mark on the product, provides everyone with a quick and reliable way to check that a tower conforms to the standard.



PASMA

As the subject matter experts on towers, PASMA has a key role in advancing tower safety. Our efforts span three areas:

1 Safe equipment

PASMA plays a leading role in the creation, maintenance and adoption of design standards for towers. It's a condition of membership that PASMA members only manufacture and supply towers that meet the most up-to-date standards and are independently certified.

2 Training scheme

No tower is safe unless it's assembled, inspected, used and dismantled by someone who knows what they're doing. PASMA runs the industry-standard training scheme for towers, through our network of approved training centres. Our members train nearly 80,000 delegates every year.

3 Expert guidance

PASMA publishes free guidance on its website to help people use towers safely. Our first code of practice was issued in 1980 and remains in publication to this day, along with more modern forms of guidance such as videos, webinars and a mobile inspection app, TowerSure.

PASMA achieves all of this by working alongside our 350+ members, spread across 15 countries.

These days, there is widespread awareness among health & safety practitioners about the importance of safe work at height equipment in the workplace.

Unfortunately, this awareness doesn't always extend to tradespeople and micro businesses. Neither does it translate into a domestic environment, even though the risks are the same.

Consumer attitudes

Recent research by the OPSS¹ into consumer attitudes to product safety found that only 17% of consumers consider safety when purchasing a product. Instead, their decisions were largely driven by cost and quality.

The fact that consumers rarely consider the safety of their products reflects an inherent trust in the product safety system to protect them. Across all phases of the research, consumers were consistently found to trust and believe that an effective system is in place in the UK.

Only 17%

of consumers consider safety when purchasing a product

This trust in the system was based on several assumptions. There **was a common assumption amongst consumers that manufacturers would not risk reputational damage by making unsafe products, that retailers would thoroughly check the manufacturers** they purchased from, and that regulations are in place to stop potentially dangerous products from entering the market.

The research showed that **consumers believed that manufacturers have the greatest responsibility for setting product safety standards**, ensuring they were met and resolving any product safety issues, with the government playing a secondary role.

Research participants in workshops, who were given a more detailed explanation about how the system currently works in practice, raised some concerns.

First and foremost, **consumers were concerned about the extent to which the system appeared to be reliant on consumer awareness** of, and engagement with, safety. This was not consistent with their assumption that the system would protect them without their input.

Consumers expressed further concern about the distribution of responsibilities across different factors, including different levels of government. Consequently, **consumers sought reassurance that central government are providing an overall leadership role in setting and upholding safety standards.**

In other words, UK consumers trust the product safety system. But what if this trust is misplaced? Could a manufacturer or supplier ever take advantage of the trust consumers place in them?

1 Consumer attitudes to product safety. (2020). [online] Office for Product Safety & Standards. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/923600/consumer-attitudes-product-safety-report.pdf [Accessed 25 Apr. 2024].



Accidents

During PASMA's lifetime, the number of accidents on towers has reduced significantly. But, five decades on, falls still happen. Unfortunately, there is a lack of published data and insights into the causes and frequency of falls from towers. This is an ongoing source of frustration, and a situation PASMA has long been campaigning to resolve. In this section of the report, we share the information we do have available.

Workplace accidents

Falls from height remain the leading cause of fatal accidents in workplaces in Great Britain. 40 workers lost their lives in 2022/23, with over 5,000 people left injured after falling from height at their workplace.

According to the Labour Force Survey, the number of falls over the last 10 years may be as high as 425,000.

Unfortunately, no data was published to provide insight into what access equipment was being used at the time of these falls, or what caused them.

Falls from height are also an economic issue, with estimates showing 992,000 working days were lost through non-fatal falls from height in 2022 alone, with the total cost of falls in 2022/23 over an estimated £847 million when considering the costs to employers, the individual and Government.

IN 2022-23 ALONE

 **40** PEOPLE
DIED
(THAT'S ONE PERSON EVERY 9 DAYS)

UP TO
33,000 
PEOPLE INJURED
(THAT'S 90 PEOPLE EVERY DAY)

992,000
 WORKING
DAYS LOST

COSTS TO GREAT BRITAIN OVER
 **£847**
MILLION

OVER THE LAST 10 YEARS

357 
LOST THEIR LIVES

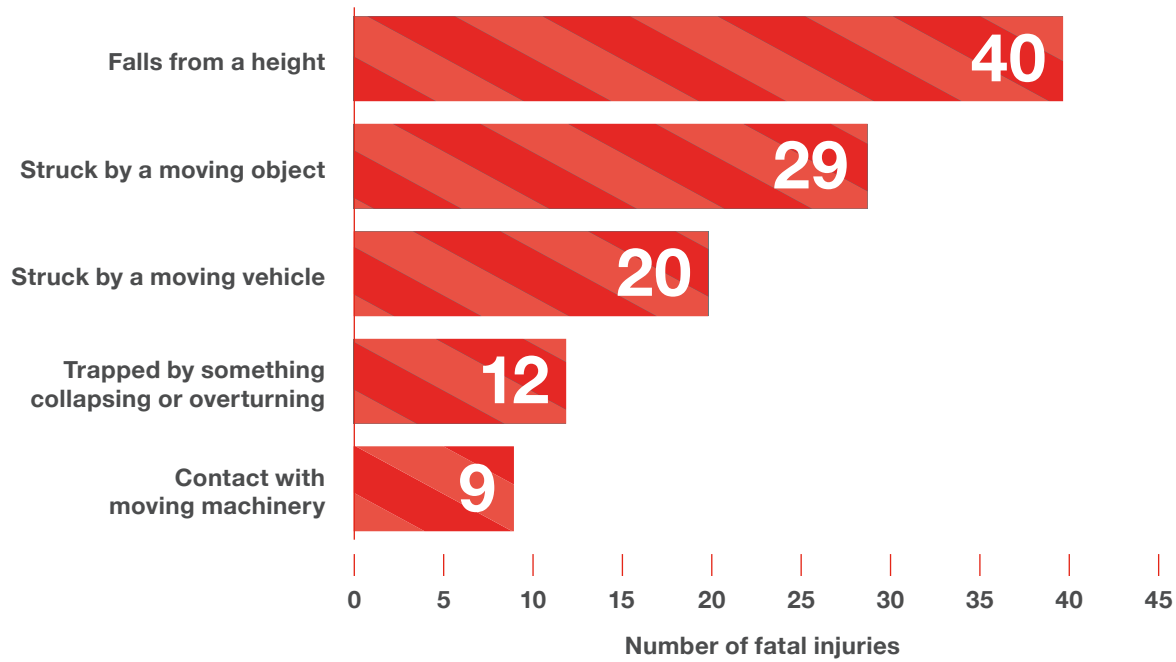
425,000 
PEOPLE INJURED



© No Falls Foundation 2024. Thank you to No Falls Foundation for collating these statistics. This infographic was reproduced with their permission.

Main kinds of fatal accidents for workers, 2022/23

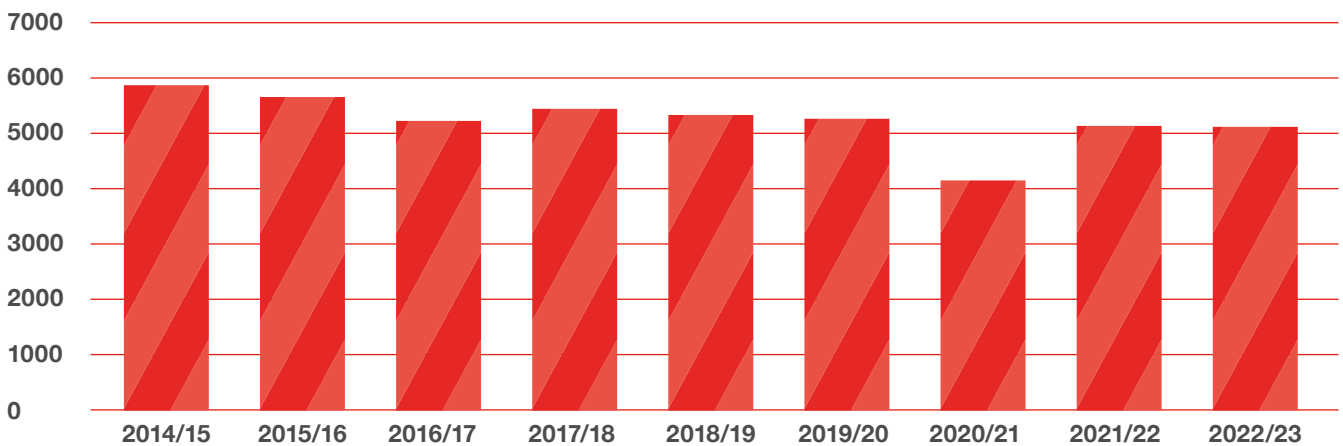
Falls from height remain the leading cause of fatal accidents in UK workplaces.



Source: Health & Safety Executive (2023). Statistics - Fatal injuries in Great Britain. [online] Hse.gov.uk. Available at: <https://www.hse.gov.uk/statistics/fatals.htm> [Accessed 25 Apr. 2024].

Non-fatal injuries to employees, 2014-2023

The number of non-fatal fall from height injuries per year has remained fairly static since 2014.



Source: Health & Safety Executive (2023). Kind of accident statistics in Great Britain, 2023. [online] Hse.gov.uk. Available at: <https://www.hse.gov.uk/statistics/assets/docs/kinds-of-accident.pdf> [Accessed 25 Apr. 2024].

Domestic accidents

No data is available for falls from height or accidents involving towers in domestic environments. While we wish we had comprehensive statistics on these incidents, it's plausible to suspect that people fall from towers at home more frequently than we might realise. They are lightweight, easy to store and quick to build and dismantle, making them an appealing tool for the keen home DIYer. The absence of reported data underscores a gap in our understanding of falls from height in UK homes.

Third sector

No data is available for falls from height or accidents involving towers in the third sector, the name often used for voluntary, non-governmental and not-for-profit organisations. However, we are aware of a very sad

accident involving two volunteers and a 'DIY tower' (see below) and suspect that towers are widely used by third sector organisations and voluntary groups. Volunteers are covered by workplace safety legislation and regulations, so there is an obligation on these organisations to provide them with safe equipment for working at height.

Very little data is available on the causes of accidents involving towers but from what we do know, it's often the same factors at play:

1. Lack of planning
2. Lack of training
3. Incorrect assembly
4. Improper use
5. Unsafe equipment

This report focuses on one potential cause of accidents – unsafe equipment. Specifically, so-called 'DIY towers'.

Two men die when 'DIY tower' overturns

In August 2021, two men died after falling from an H-frame 'DIY tower' in Peterhead, Scotland. Press reports suggest they were carrying out maintenance work on a church as volunteers when the structure overturned. George Forbes died at the scene and Alistair Buchan died in hospital five days later. They were both 77 years old.



Towers

Towers are a common way to work at height safely and efficiently, allowing the user quick and easy access to areas that are otherwise out of reach.

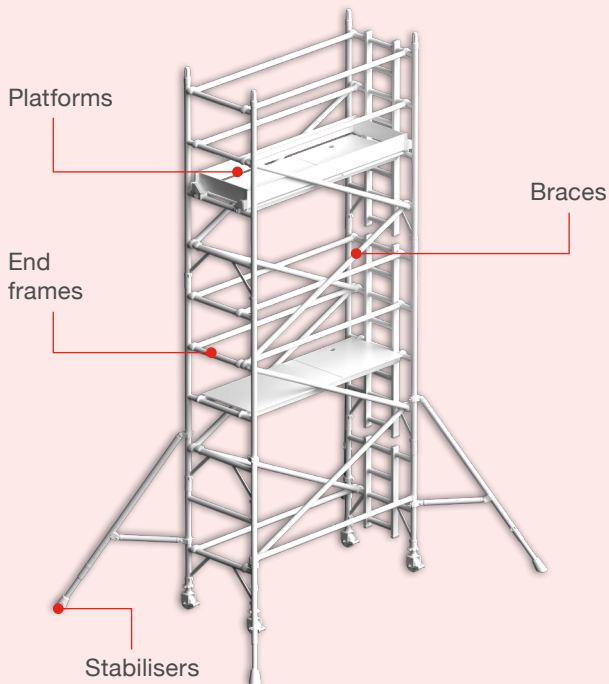
They are a familiar sight in workplaces across the world, used by everyone from facilities managers and signage companies to joiners and event organisers.

Towers are lightweight, easy to store and quick to build and dismantle. This makes them popular in domestic environments too. They are used by people carrying out lots of DIY projects or big home renovations, who have determined that a ladder is not the right tool for the job.

There are different configurations of tower available, but the focus of this report is mobile access towers and towers on baseplates. The only difference between the two is that one has wheels (so it's mobile) and the other doesn't.

✓ What makes a good access tower?

Typically made from end frames, braces, platform units and stabilisers, an access tower is a single bay structure (with four upright posts). It can be made of various materials, like aluminium or GRP (fibreglass) and has one working platform at a time. Its dimensions are fixed by the design, which means the user should not have to measure anything during assembly.



It comes supplied with:

- A detailed instruction manual, so you know how to use the tower safely
- A built-in ladder with slip resistant surfaces, for safe ascent and descent (leaning your own ladder against a tower is not safe; the structure may overturn)
- Purpose designed trapdoor platforms, so you can climb up and down the inside of the tower
- Intermediate platforms, so there are no huge drops
- Double guardrails for all four sides of each platform, to stop you falling off
- Sufficient braces, to create a strong, stable structure
- Toe boards, to prevent objects falling and harming people below
- Four stabilisers, to prevent the tower overturning
- Adjustable legs, so the tower can be levelled on uneven ground
- Four castor wheels, if the tower is meant to be moved around, or baseplates if it is not

When built correctly, collective fall prevention is in place at all times. It is NOT safe to use personal fall protection equipment (i.e. safety harness and lanyard) on a tower.

'DIY towers'

'DIY towers', as they are frequently known, are marketed at domestic users. They're often claimed to be a safer alternative to ladders, due to the larger working platform to stand on.

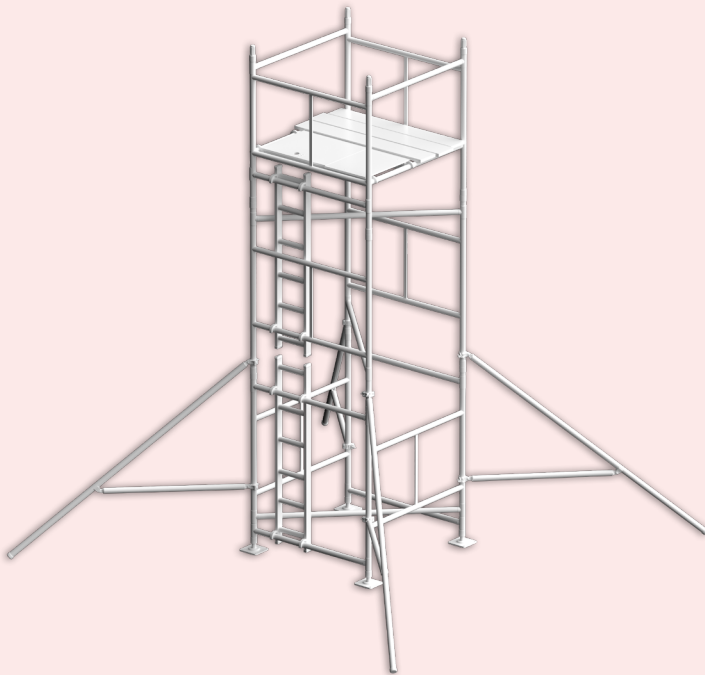
They tend to fall into two distinct categories: H-frame towers and end frame towers.



What do DIY towers look like?

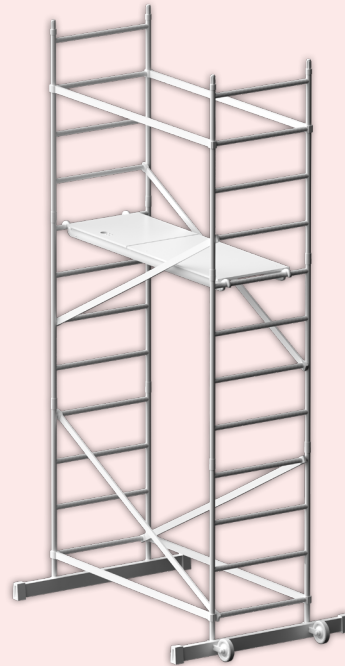
H-frame towers

H-frame towers are generally made of tubular, galvanised or painted steel with 'H' shaped frames that fit together in alternate directions. Clip-on stabilisers, platform units and a safe means of access are either provided or offered as an 'optional extra'.



End frame towers

End frame towers have round or rectangular tubed end frames, which are joined by braces and platform units. They have a cross-bar at the base for stabilisation. Additional clip-on stabilisers may be provided or offered as an 'optional extra'.



There's no way of knowing how many 'DIY towers' are out there, but with one manufacturer claiming to have sold "many, many thousands of units over the past 15 years", another having sold 48,000 items on eBay alone, anecdotal evidence from social media, forums and online reviews, and numerous sightings of them in a mix of settings (see photos below) it is likely the market is substantial.




'DIY tower' used on George Clarke's Amazing Spaces S10E07 (first aired 2022)



'DIY tower' featured in TV advert for Cofra safety footwear (2024)



'DIY tower' outside a home in Glasgow, Scotland (2022)



Toptower Ltd

99.6% positive Feedback 48K items sold 1.2K followers

Screenshot from Top Tower store on online marketplace, eBay

BPS Home Master DIY Scaffold Tower

We are the UK Tower Experts having sold many, many thousands of units over the past 15 years. Massive stocks always held for next day delivery all backed up by our knowledgeable sales teams and celebrated aftersales service.

Screenshot from BPS Access Solutions website, laddersandscaffoldtowers.co.uk

Our research

Market surveillance

What is market surveillance?

Market surveillance is the activity carried out by authorities to ensure that products on the market conform to the applicable laws and regulations including with existing health and safety requirements.

Consumer confidence is built on trust – consumers need to be confident in the products they buy, either through trusting the product brand or the distributor selling it.

In the UK, product market surveillance is the responsibility of the Office for Product Safety & Standards (OPSS), Trading Standards and the Health and Safety Executive (HSE).

Market surveillance is delivered across the product spectrum by a range of national and local authorities and through the Market Surveillance Governance Group (MSGG)¹. MSGG was created in 2020 and is led by OPSS. In addition, the National Product Safety Group (NPSG) established in 2012, coordinates the regulatory activity specifically on consumer product safety. It brings together local authority market surveillance representatives, relevant Governmental departments, OPSS, the HSE and the Chartered Trading Standards Institute.

Market surveillance work at points of entry into the UK is one of the regulatory tools used to detect, disrupt and deter unsafe goods from entering the market. OPSS is responsible for developing national capacity for product safety in the UK. One of the ways it does this is to enhance capability to understand the data on imports and fund regulatory activity at UK ports and borders.

Local authorities are responsible for Trading Standards. They are the front line when it comes to consumer product safety. Since 2010 Local Authority budgets have been cut. In England alone, there was a real-terms reduction in total spending by Trading Standards of 39% in the decade between 2010 and 2020.²

Having identified this potential problem in our sector, the right thing to do is take decisive action.

PASMA is a responsible industry body with an overriding objective to advance tower safety, so feel duty bound to play our part in eliminating any unsafe towers from the market. Doing so will require the involvement of Trading Standards, the OPSS and the HSE, but PASMA is well placed to join the team effort.

Market surveillance of access towers

PASMA understands, from our members and stakeholders, that there are concerns regarding sub-standard access towers on the UK market. These are known as 'DIY towers'.

Recognising that Trading Standards have reduced capacity and capability, PASMA has stepped up to help with market surveillance activity in the access tower sector.

This project was established to determine if there is an issue with sub-standard products and to gather intelligence on the state of the 'DIY tower' market that can be shared with regulatory bodies, which may then support a wider market surveillance initiative.

¹ National Market Surveillance Programme 2021/22 (2021). [online] Office for Product Safety and Standards. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1041248/uk-market-surveillance-programme-2021-2022.pdf [Accessed 25 Apr. 2024].

² Protecting consumers from unsafe products (2021). [online] National Audit Office. Available at: <https://www.nao.org.uk/report/protecting-consumers-from-unsafe-products/> [Accessed 25 Apr. 2024].



Purchased online

Product selection

To facilitate this project, seven 'DIY towers' were purchased in late 2023. Some were sourced directly from their manufacturers and others were purchased from online retailers.

The towers were selected based on an internet search of the term 'DIY tower'.

The top-ranking products were shortlisted and obvious duplicates were removed. We suspect that 'DIY towers' are often made by the same manufacturer and then sold under numerous different brands. It wouldn't be an

efficient use of resources to repeatedly test the same product, hence their removal from the sample.

Once that was done, the final seven were purchased anonymously from UK companies.

It is worth noting that many of these towers are also available from other suppliers and popular online marketplaces such as Amazon, eBay and B&Q Marketplace.

The products selected for testing are listed in the appendix.



Examples of 'DIY towers' as they were delivered.

Limited scope testing

All seven 'DIY towers' selected fall under the scope of either design standard BS EN 1004 parts 1 and 2, or BS 1139-6.

Both standards have identical requirements for:

- Dimensions, including:
 - Platform sizes
 - Side protection
- Access to platforms
- Means for stabilising
- Structural design
- Tests
- Markings and instructions



Limited scope

To assess a tower against the full requirements of the standard would take some time. Additionally, some requirements would be challenging to independently verify, as a structural analysis would need to be undertaken by a competent structural engineer.

Therefore, it was decided to focus attention on a limited set of dimensional and strength requirements that could be independently reviewed in the Test & Research Centre test laboratory.

Limited scope testing of safety critical features is a common approach by Trading Standards to make best use of time and funding.

Clauses

Specific clauses were agreed between PASMA and the Test & Research Centre, which would investigate critical features of the sampled products. The limited scope of tests agreed for this project were:

- 7.1 – General requirements** – General requirements for the design of the tower, such as not requiring personal fall protection equipment to build the tower safely.
- 7.2 – Dimensions** - Measurements are taken to ensure the platforms are sufficiently sized, the toe boards aren't too far apart and there is enough clear height between platforms for most people to stand up on them.
- 7.3 – Openings within platforms** - The tower is checked for openings in platform units to allow users to climb the tower safely on the inside. Trapdoor openings are measured for size and checked that the trap door has safety mechanisms.
- 7.4 – Side protection** - The structure is checked to ensure that all platforms have sufficient guardrails, on all sides, to reduce the risk of a fall from height. Working platforms must also be provided with toe boards on all sides.
- 7.6 – Access to platforms** - The structure is checked to ensure a safe means of accessing the platforms is provided and that the tower can be climbed safely from the inside.
- 7.7 – Means for stabilising** - The structure is checked to ensure there is a suitable means of stabilising it.
- 7.8 – Connections** – Connection devices are inspected to ensure they are easy to assemble and monitor in use, and cannot be removed unless by direct intentional action.

7.9 – Working and access platform units -

The platform units are inspected to ensure they are durable, slip-resistant and can be secured to the tower at both ends.

7.10 – Erection and dismantling - The erection and dismantling process is reviewed to ensure the tower will remain stable throughout.

8.3.2 – Load on side protection - Guardrails are load tested to ensure they're capable of supporting the weight of people and tools.

8.3.5 – Loads on vertical ladder - The vertical ladder is load tested to ensure it's capable of supporting the weight of people and tools.

8.4.1 – Deflection of platform units - The platform units are load tested to ensure they do not deflect more than the prescribed limit for strength and durability in use.

8.4.2 – Elastic deflection of side protection - The guardrails are horizontally load tested to ensure they're capable of withstanding side forces from users working on the tower.

10 – Tests (Annex A) - The complete structure is tested for stiffness.

11 – Instruction manual - The instruction manual is reviewed against the requirements of EN 1004-2 to ensure it is comprehensive and contains all the critical information needed to use the tower safely.







12 – Marking - The components are checked to ensure they are marked with identifying information to support product recalls and that the tower is labelled with information including the manufacturers' name.

In preparation for testing, the towers were assembled following the instruction manual provided and using all the relevant components that were supplied for the tower. The conclusions reached in this report are based on the equipment supplied.

Summary of findings

All seven 'DIY towers' failed to meet the requirements of BS EN 1004 parts 1 and 2. The reasons for this are outlined below.

Reasons the 'DIY towers' failed testing

-  One had no platforms for the user to stand on
-  Five had platforms that were narrower than the 600mm minimum
-  Numerous side protection (guardrail) dimensional issues were found:
 - All seven failed to meet the guardrail requirements of double side protection on all platform levels
 - Four had principal (upper) guardrails that were lower than the minimum 950mm above the platform level
 - Five had insufficient guardrails on intermediate platforms
 - One had guardrails that could be removed inadvertently, as there were no locking mechanisms to hold them in place
-  Three products failed to support the 1.25kN (127kg) guardrail test, buckling before the full test load could be supported. They also failed the horizontal deflection test with deflection under load greater than 35mm.
-  Several products had access issues:
 - One did not provide any access for the user to safely build or climb the tower.
 - One had access that could be removed inadvertently.
 - Two had access of insufficient strength that bent under test loads.
 - One tower was provided with only a single platform for a 3m platform height tower. The instructions asked the consumer to provide their own temporary board to facilitate assembly.
-  All seven products failed to provide adequate instructions to meet BS EN 1004-2. One tower was supplied without any instructions, and none could be found on the seller's website.

Now, the news that none of the 'DIY towers' complied with the standard did not come as a shock. Most of the products carried no claims of compatibility and anyone who's ever done a PASMA training course could tell just by looking at them that they weren't made to BS EN 1004.

But a BS EN 1004 certificate isn't just a piece of paper. It's what the piece of paper means that's important. Remember, this standard has evolved over decades to make towers as safe as possible.

By failing to meet such critically important safety standards, the real shock is what this means for the wellbeing of the people using them. These concerns are outlined in more detail in the next section.



Breakdown of safety concerns

1 INSTRUCTION MANUALS THAT LACK CRUCIAL SAFETY INFORMATION



This manual is printed on the underside of a platform!

✓ What we expect:

Towers should come with an instruction manual that includes all the details you need to assemble and dismantle the tower correctly and safely to the required height. Critical safety information should be clearly marked, so the tower isn't inadvertently misused. The information in a manual should include:

- How to assemble the tower without having to stand on an unprotected platform (i.e. one that doesn't have double guardrails, from which it would be easy to fall)
- The bracing pattern, which is what gives the tower its strength
- Which stabilisers to use for the height of the tower you're building – these are really important because they're used to increase the base size of the tower and prevent it from overturning
- Guidance on maximum allowable side loads, such as the wind or use of high-pressure jets
- The maximum safe working load that a single platform and the whole tower can support
- A schedule of the components and the number required for each configuration



! What we found:

The instruction manuals for all the towers we tested were missing critical safety information, such as maximum wind speeds, how to level the tower, how to move the tower, what horizontal forces it could withstand, what components are required for building it, what platforms can be used for working, the safe working load or how to select the correct platform height. This is important guidance for anyone using a tower.

One tower was supplied without any manual whatsoever. We searched the supplier's website and even contacted them to ask for one, without success.

Instruction manuals are so vital to tower safety that they have their own dedicated standard, BS EN 1004-2. There is also a legal requirement to provide consumers with safety information to allow them to assess risks and take precautions against them¹.

By any measure, providing inadequate instructions to consumers is unacceptable. It means people are being left guessing how to assemble and use 'DIY towers' safely. But with working at height involved, the consequences for getting it wrong could be grave.



? How we tested this:

These concerns were highlighted when we tested the towers against clause 7.1 (general requirements) and clause 11 (instruction manual) of BS EN 1004-1 and EN 1004-2 (instruction manual requirements).

Never stand on an unprotected platform... an explainer

The highest risk of a fall from height is standing or working on a platform (even for a moment) that does not have guardrails around it – that's known as an unprotected platform.

There are two ways to build an access tower without standing on an unprotected platform, significantly reducing the risk of a fall.

There's the 'through the trap' method (**3T**) where you connect the guardrails, whilst sitting within the trapdoor of the platform. And there's the 'advance guardrail' (**AGR**) system, where guardrails can be fitted from the safety of the protected platform level below.

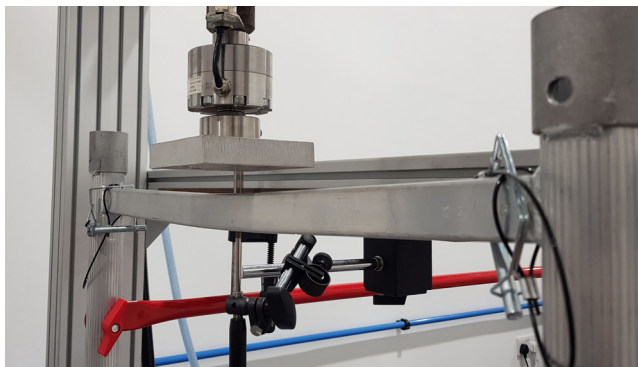
Both methods let you safely build a tower without standing on an unprotected platform.

None of the 'DIY tower' manuals referenced 3T or AGR and for some of the towers, it was **impossible** to build them using either method.

The General Product Safety Regulations 2005. [online] HM Government. Available at: <https://www.legislation.gov.uk/ukxi/2005/1803/regulation/7/made> [Accessed 25 Apr. 2024].

2

LADDER RUNGS THAT BUCKLE WHEN WEIGHT IS APPLIED OR THAT DON'T OFFER A FIRM FOOTHOLD



What we expect:

Towers should be supplied with a ladder so you can climb up the inside of the structure, with stiles to hold onto and evenly spaced rungs that feel comfortable to climb and have slip-resistant surfaces. The ladder should be strong enough to withstand normal use over its lifetime.



What we found:

We put the ladder components of each 'DIY tower' through a series of tests, which are standard for any ladder on the market in Europe. We did these tests on six out of the seven sample products – one couldn't be tested, since no ladder was provided.

In some 'DIY towers' the rungs were permanently deformed during load testing, which is intended to mimic the imposed load of a person climbing it. This raises the obvious concern that rungs could buckle during normal use.

In some towers, the rungs weren't wide enough to provide a firm foothold. Others did not have a slip resistant surface, meaning users must climb a series of smooth, round tubes. Both these issues increase the risk of falls.

Some towers had a ladder that could be clipped on and off. Our testing found that it was possible to remove these ladders inadvertently, which means it's not secure enough to use safely.

Climbing a ladder will always have a level of risk associated with it. However, responsible manufacturers minimise those risks by building in simple safety features and ensuring the rungs are robust enough to withstand normal use. This really is basic stuff. The sub-standard ladders on the 'DIY towers' we tested put people at unnecessary risk of falling.



How we tested this:

These concerns were highlighted when we tested the towers against clause 7.6 (access to platforms) and 7.8 (connections) of BS EN 1004-1.

3

INADEQUATE FALL PREVENTION FEATURES

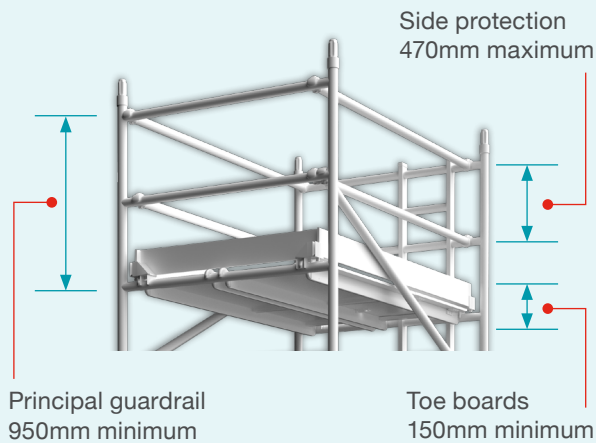


What we expect:

Towers should have built-in features designed to prevent people or objects falling from height. We expect:

- At least two strong guardrails all the way round every platform that can be locked securely into place before anyone stands on the platform, leaving no spaces big enough for a person to fall through. There should be one around waist height and one halfway down between that and the platform.
- Strong, purpose designed platforms that are securely fixed to the structure and give users enough room to move around the work area.
- Enough intermediate platforms between the ground and the working platform. This means that if you did fall while climbing, it wouldn't be a huge drop. It also means you can reach to install components above you safely. Just over 2 metres is the usual distance between platforms.
- A set of toe boards for the working platform, to prevent falling objects harming people below.

What good side protection looks like



What we found:

None of the 'DIY towers' we tested had double guardrails around every platform, leaving gaps in side protection large enough for a person to fall through. Some towers only had a principal guardrail, while others did have double guardrails but not around every side. In some towers, the principal guardrail was too low – it should be around waist height, i.e. above our centre of gravity, which gives the greatest protection from falls. One tower had no guardrails at all.

In some towers, the guardrails that **were** present buckled under a test load of around 55kg (less than 9 stone). The full test load we'd normally apply is around 125kg, to mimic the impact of someone falling or leaning heavily against it.

Some guardrails also bent when pulled horizontally, mimicking what might happen if you leaned against it, creating a gap big enough to fall through.

Guardrails that aren't strong enough to hold a person's weight are not fit for purpose.

On other towers, we found that it was possible to knock the guardrails out of place inadvertently, for example if one was struck by a piece of equipment you were carrying, which creates a fall hazard.

Another problem identified is the lack of intermediate platforms on some 'DIY towers'. We bought a 6 metre tower that came supplied with only one platform, so if you fell while climbing it, there would be nothing to mitigate the distance or consequences of your fall. Not to mention the risks involved in getting the platform up there in the first place!

For one of the towers, the user is instructed to find something to stand on so they can reach a platform placed at 3 metres above the ground. Presumably this means a timber board or similar, but it is 'not included in the scope of delivery'. How would the average person know if the board was strong enough to support their weight and wasn't going to slip out of place?

In addition, six out of seven 'DIY towers' did not come supplied with toe boards, increasing the risk of materials or equipment falling from height and harming people below.

Because of the risk of falling from height, PASMA's risk assessment concluded that we could not build any of the towers 'the normal way' in preparation for testing.

Instead, our team had to create a safe place of work (a BS EN 1004-1 tower or BS 8620 podium) and build the tower from there, without standing at height on the 'DIY tower' platforms.



We must not be complacent about falls from height, considering how many people are killed and injured by them each year. Making a product designed for working at height but scrimping on fall prevention measures puts users at risk of harm and is simply unacceptable.



How we tested this:

These concerns were highlighted when we tested the towers against clause 7.2 (dimensions) and 7.4 (side protection) of BS EN 1004-1.

4

WEAK COMPONENTS THAT MAY BE PRONE TO BUCKLING OR BREAKING



What we expect:

Towers should have strong components made of a suitable material that aren't going to buckle or break during normal use.



What we found:

We found guardrails that buckled during tests designed to mimic the impact of a person falling or leaning on it. This happened with three out of the seven towers in our sample. The main purpose of a guardrail is to prevent you falling from height and could ultimately save your life, so it needs to be fit for purpose.

On two of the seven towers tested, the ladder rungs bent during tests designed to mimic the imposed load of a person standing on it. You need a firm foothold on a ladder to climb it safely and the last thing you want is a rung giving way as you put your weight on it.

The components in an access tower should work together to create a strong, stable structure for working at height. When key components are prone to buckling or breaking, it's deeply concerning.



How we tested this:

These concerns were highlighted when we tested the towers against clause 8.3.2 (loads on side protection), 8.3.5 (loads on vertical ladder) and 8.4.2 (elastic deflection of side protection).

5

COMPONENTS THAT CAN BE INADVERTENTLY DISLODGED, RISKING CATASTROPHIC FAILURE



What we expect:

Towers should be made up of components, including guardrails, platforms and ladders, that join together securely. It should be impossible to remove a component inadvertently.



What we found:

Our testing highlighted that in some towers, the components didn't join together securely enough. This means it's possible to dislodge or remove them inadvertently, for example by knocking it with a piece of equipment while working on a task.

Different tower components clip together in different ways.

Some components clip onto the main structure. For example, this usually applies to guardrails, ladders and platforms. On one tower tested, all these components could be removed inadvertently. Should this happen, it creates a fall hazard.

Tower frames are joined with spigot and socket connections. Our testing highlighted that in three towers, the connections between these components were ineffective. That's because the components did not overlap enough or were not fitted with a positive locking device. This means it's possible for them to be lifted unintentionally, which has consequences for the stiffness of the structure.

Once an access tower is built correctly, the user should not have to worry about connections coming loose or components falling off unexpectedly. The fact that this is a possibility is very concerning.



How we tested this:

These concerns were highlighted when we tested the towers against clause 7.4 (side protection), 7.6 (access to platforms), 7.8 (connections) and 7.9 (working and access platform units).

6

TOWERS THAT CANNOT BE LEVELLED



What we expect:

All towers should have adjustable legs so they can be levelled on uneven surfaces. If the tower can be moved around, it should have four castor wheels so it can be kept level while moving it to new work areas.



What we found:

None of the towers we tested could be levelled, meaning they can only be used on perfectly even surfaces. This might be fine indoors, but if the tower is used outdoors the chances are the ground won't be completely flat. It's a foreseeable risk that the user might go ahead and use it anyway. They might even improvise a way to level it, which is unlikely to be effective. Online reviews provide evidence that this is happening, for example users report using gravel boards to level the tower.

If the tower isn't level, it isn't safe.

Some of the towers we tested had wheels so they could be moved around. However, they only had two wheels, not four, so had to be tilted onto their side. This makes it harder to keep an eye out for any hazards along the route and there's a risk the tower could be dropped or fall over during the journey. Generally, no instructions were provided to show the user how to move the tower safely.



How we tested this:

These concerns were highlighted when we tested the towers against clause 7.7 (means for stabilising) and 11 (instruction manual).

7 BASIC SAFETY FEATURES OFFERED AS 'OPTIONAL EXTRAS' OR MISSING ALTOGETHER



What we expect:

When you buy a tower, it should come supplied with every component required to build a safe structure, as standard.



What we found:

Our research showed that 'DIY towers' are usually sold as a basic set of components with a range of 'optional extras'. These 'optional extras' can include guardrails, platforms, stabilisers and ladders – components that really are safety critical.

One tower in our sample had a 9-step ordering guide, which suggested a series of components you could order alongside your basic tower kit. If you decide you want one, you must find the relevant product in a long list of options and add it to your shopping cart.

Even with PASMA's knowledge and experience with towers, we found it difficult to understand what we were buying at times and to see exactly what components were included. If we found it difficult, it's likely consumers will too.

A tower is not complete unless it has a full set of components. When you start picking and choosing which components are essential and which aren't, you're left with a structure that people are more likely to fall from or that is more likely to overturn or collapse.

It's also foreseeable that users will take risks with their own safety, for example by leaning a ladder against the tower or fashioning their own platforms out of whatever wood they have lying around at home.



How we tested this:

These concerns were highlighted when we purchased the 'DIY towers' and spent time on the manufacturers' and suppliers' websites.

Tower Ordering Guide:

How to purchase a Classic Tower Basic Kit plus recommended safety accessories: -

The Basic Kits listed in the table below include Frames, Base Rails (for improved stability), Horizontal Braces, **Single** Handrails and Base Plates. Platform boards shown in the pictures are **NOT INCLUDED** in the Basic Kit price. Platform options are detailed in the accessories table on the main page.

1 – Choose the required Base Size for your tower. Consider if you will need to assemble it down narrow paths or down the side of your house. Remember if you choose a narrow base width (2'6") then it will be less stable and will require stabilisers (outriggers) even at lower heights unless you can 'tie-in' to the building.

2 – Choose your required 'Platform Height'. (Working height is approximately 2.0m (6'6") above platform height). If you need a very tall tower you should increase the base size as much as you can to make it as safe as possible.

3 – Safety Pack 'Upgrade' – Select this if you require a **Pair of Stabilisers**, a **Tower Stand-off**, **Double Handrail Frames*** and **Double Handrails*** – N.B. These items * **replace** 2 x single handrails and 2 x 4' frames supplied in the Basic Kit and therefore this 'upgrade' is only available for the listed price when purchasing at the same time as a complete tower.

4 – If you don't purchase the Safety Pack Upgrade, then add at least a pair Stabilisers if you require your tower to be more stable (less movement). If stabilisers cannot be used due to space or ground restrictions, then you should 'tie in' to the building somehow – we would also recommend one of our Tower Stand Off's – see note 8 below for more details.

Where possible, we recommend the use of stabilisers on all towers from these platform heights – 6'0" (4' x 2'6" & 6' x 2'6") and 8'9" (4' x 4' & 6' x 4').

For full Stabiliser recommendations see – Classic Tower Assembly Instructions

5 – Select the Internal Ladders – we recommend using our own hook-on vertical ladder sections to make it easier and safer to climb up to and down from the platform. Base Rails may need to be purchased for the ladder system to fit properly.

6 – You will need something to stand on – We recommend our Trapdoor/Boards option for ease of accessing the platform and an extra set of platform boards to provide a platform to stand on when assembling the tower – a small extra price to pay for added safety!

7 – Will you need your tower mobile or on sloping or uneven ground? – Choose from Standard Castors, Adjustable Castors or Adjustable Bases as an alternative to Standard Base Plates which are supplied free of charge with all Basic Kits.

8 – Select a Tower Stand-off (included in the Safety Pack Upgrade) to give two points of contact with the house to enhance stability. When this is used in conjunction with a pair of stabilisers, the tower is 'locked' against the building and massively improves stability. This also provides something to tie against if you have tie points in the wall – see thumbnail pictures (eye bolts or wall fixings and wire ropes – not supplied).

9 – Select Toe boards to prevent tools etc being accidentally kicked or knocked off the platform which may cause injury to people/animals or damage to property below.

The Sections (Frames) and components are lightweight but engineered to be extremely strong.

Steel is a stronger raw material than aluminium so will be sturdier than many cheaper aluminium towers. With an unrivalled selection of optional accessories, the Classic Tower range can solve almost any access problem.

Cantilever Adjustable Legs (sold in a pair) are also available to help assemble your tower on a Sloping or flat roof to access the roofline above extensions and porches.

We can even supply a **Stairwell Kit** which is just 2'0" wide to allow passage up and down the stairs – please see our Stairway tower page – <https://www.toptower.co.uk/scaffold-towers/stairway-scaffolding-towers/classic-diy-scaffold-tower-stairwell-kit>

One tower in our sample had a 9-step ordering guide.

8

MISLEADING CLAIMS

**What we expect:**

Manufacturers and suppliers should provide clear, factual and unambiguous information about the capabilities and features of the tower, to help consumers make an informed decision.

**What we found:**

COMPLIANT

Vague or ambiguous references to standards

While stopping short of claiming to be fully certified to the standard, three of the towers we purchased did include ambiguous references to design standards. We believe this would mislead the average consumer into believing they were buying a compliant product, when our testing proves that they are not.

For example, one tower came with a label featuring the logo of a well-known certification body, TUV. The website claimed it was certified to EN 131-2, a standard for portable ladders.

Another manufacturer wrote on their website that 'Platforms and braces are tested and comply with EN1004 Class 3 Standard'. Why just the platforms and braces? What about the rest of the tower? Incidentally, there's no such thing as a Class 3 brace.

A third tower was marketed with a statement saying 'Components tested by the prestigious TUV testing agency, inline with EN1004 safety standards'. Note that it's not confirmed if the components passed or failed these tests!

These claims are interesting because it suggests these 'DIY tower' manufacturers and suppliers recognise there's a value in consumers believing their product complies with a standard. After all, it builds trust and should mean that the manufacturer is responsible and has done all the right things to ensure their safety.

We are left to wonder what is stopping the manufacturers **actually** complying with tower standards, instead of just making people think they do.

Safer than a ladder!

'Safer than a ladder'

The phrase 'safer than a ladder' often appears on websites selling 'DIY towers'. When targeted at people who are doing big household renovations or DIY jobs involving lots of tools and materials, it seems like a credible claim. There's a bigger platform area to stand on, so surely there's less chance of falling.

We disagree.

A ladder that is certified to EN 131 and is being used safely for an appropriate low risk, short duration task can be a safe way to work at height.

An access tower that is certified to BS EN 1004 or BS 1139-6, built according to the manufacturer's instructions and used for a suitable task can be another safe way to work at height.

A 'DIY tower' is not a safe way to work at height.

If a ladder is unsuitable for a task and there's no certified BS EN 1004 tower available to use, that doesn't mean the next best option is working unsafely.



Domestic use only

Many 'DIY towers' are marketed with a warning they are not suitable for use in the workplace.

An example reads: 'Classic DIY scaffold towers are for use in and around the home and are a safe alternative to ladders. They are NOT suitable for construction site or commercial use as they do not conform to regulations governing these areas'.

Despite these warnings, 'DIY towers' can be bought by anyone. PASMA believes it's likely they are being used by some tradespeople, small businesses and third sector organisations. In fact, one of the 'DIY towers' in our sample was purchased from a trade supplies website!

In any case, there's no such thing as a 'DIY tower'.

That's because people deserve to be equally safe at home as they are at work. By bypassing standards, the implication from 'DIY tower' manufacturers is that consumers don't need the same safeguards and protections as a worker does. We think that's wrong, which is why we're doing something about it.



How we tested this:

These concerns were highlighted when we purchased the 'DIY towers' and spent time on the manufacturers' and suppliers' websites.



One of the towers in our sample was purchased from a trade supplies store. This photo is from their website.

Test results in full

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7
Purchased from	BPS Access Solutions (laddersandscaffoldtowers.co.uk)	Ladders UK Direct (laddersukdirect.co.uk)	Ladders & Access (laddersandaccess.co.uk)	Top Tower (toptower.co.uk)	RWS Trade Supplies (rwstradesupplies.co.uk)	Machine Mart (machinemart.co.uk)	Ladders.co.uk
Brand	BPS Access Solutions	Aluminium Scaffold Towers / Loyal	Aluminium Scaffold Towers / Loyal	Top Tower	None	Tubesca	Krause
Product	Home Master	eDIY Scaffold Tower with Stabiliser Bars	Super DIY Aluminium Scaffold Tower	Classic DIY Scaffold Tower	Tower Scaffolding Set – Zinc Galvanised – DIY	First 5 Presto DIY Aluminium Tower	Corda DIY Scaffold Tower
Product code	-	eDIY700000	SDIYS80000	ST012	-	050311070	916129
Height	6m (working)	4.8m (platform)	6.0m (platform)	6.0m (platform)	15ft (platform)	2.73m	3.0m
Price	£580.49	£768.00	£1,310.99	£431.00 (plus extras)	£320.00	£430.80	£604.13
Advertised as confirming to BS EN 1004?	Website states: “Components tested by the prestigious TUV testing agency, inline with EN1004 safety standards”	No	Website states: “Platforms and braces are tested and comply with “EN1004 Class 3.” “Standard by TUV (the European equivalent to BSI).”	No	No	No	Website states: “Certified to the new EN131-2 professional safety standards” “TUV approved” Product: “EN1004”
BS EN 1004 clauses:							
7.1 – General requirements	FAIL	FAIL	FAIL	FAIL	FAIL	PASS	PASS
7.2 – Dimensions	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
7.3 – Openings within platforms	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
7.4 – Side protection	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
7.6 – Access to platforms	FAIL	FAIL	PASS	FAIL	FAIL	PASS	PASS
7.7 – Means for stabilising	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
7.8 – Connections	PASS	PASS	PASS	FAIL	FAIL	PASS	FAIL
7.9 – Working and access platform units	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS
7.10 – Erection and dismantling	PASS	PASS	PASS	FAIL	FAIL	PASS	PASS
8.3.2 – Load on side protection	FAIL	FAIL	PASS	PASS	Not tested – guardrails cannot be identified without a manual	FAIL	PASS
8.3.5 – Loads on vertical ladder	FAIL	FAIL	PASS	Not tested – would not fit test equipment.	FAIL	PASS	PASS
8.4.1 – Deflection of platform units	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
8.4.2 – Elastic deflection of side protection	FAIL	FAIL	PASS	PASS	Not tested – guardrails cannot be identified without a manual	FAIL	PASS
10 – Tests (Annex A)	Not tested – cannot be built to 6m platform height	Not tested – cannot be built to 6m platform height	PASS	Not tested – could not be built safely to 6m platform height	Not tested – cannot be built to 6m platform height	Not tested – cannot be built to 6m platform height	Not tested – cannot be built to 6m platform height
11 – Instruction manual	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
12 – Marking	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL

Conclusion

We set out on this market surveillance journey to find out if 'DIY towers' are actually dangerous, or if they're just less safe than other towers. Having analysed the test reports compiled by the Test & Research Centre, we have our answer.

Every single tower we tested failed key safety tests and omitted basic safety features resulting in an increased risk of the tower overturning or collapsing, or of a person falling from height.

It is therefore PASMA's view that 'DIY towers' are dangerous.

Manufacturers have chosen to set aside the collective wisdom of the expert committees responsible for tower standards. They miss out essential components, use weak materials, scrimp on safety features and fail to provide critical safety information, ignoring product safety legislation and regulations in the process.

They use ambiguous wording and unsubstantiated claims to give consumers a false sense of security.

They label their products 'DIY towers' to mislead consumers into thinking that workplace rules around the provision of safe access equipment go further than they need to. Ignoring, of course, the fact that year after year, falls from height are **still** the leading cause of workplace fatalities, even now these rules are in place.

They imply that people don't really need all the safeguards and protections that are available in the workplace. It's somehow fine to climb a substandard tower at home, even though it wouldn't be good enough at work. But the risks are the same. The consequences of a fall are the same.

We also know that these towers **are** used in workplaces. Adding a 'domestic use only' warning might make the manufacturers think they're cleverly sidestepping workplace regulations and can avoid enforcement action from the Health & Safety Executive, but they **know** not all of the towers they sell are being used for DIY at home. Otherwise, why are they sold on trade supply websites and why are some marketed with photos taken in workplaces?

PASMA hopes this report draws attention to a real and serious issue with the availability of substandard 'DIY towers' on the UK market, which are being supplied to unsuspecting consumers, small business owners and voluntary group leaders.

What now?

Guidance for consumers

✓ Choose a tower that is certified to a standard

Check that your tower is certified to BS EN 1004-1 or BS 1139-6, meaning it has been independently checked and certified by a recognised and accredited certification organisation such as the Test & Research Centre, BSI or TUV. To be doubly sure, ask your supplier for a copy of the certificate. If they cannot provide this, you should seriously consider getting your tower from another source. A reputable supplier will be able to give it to you and it's your only guarantee that it meets minimum safety requirements.

Don't be taken in by vague references to standards – they may be designed to mislead you.

“Regardless of what material you choose, be sure that it conforms with the BS EN1004 standard. If the tower comes from another country, be sure it carries a comparable rating.”

- BPS Access Solutions

(yes, that really is a quote from the BPS website, even though that very same website sells towers that don't conform with any standard)

✓ Check for safety features

Certified towers will come with all the safety features you should expect from a tower, including:

- A detailed instruction manual, so you know how to use the tower safely
- A built-in ladder with slip resistant surfaces, for safe ascent and descent
- Purpose designed trapdoor platforms, so you can climb up and down the inside of the tower
- Intermediate platforms, so there are no huge drops
- Double guardrails for all four sides of each platform, to stop you falling off
- Sufficient braces, to create a strong, stable structure
- Toe boards, to prevent objects falling and harming people below
- Four stabilisers, to prevent the tower overturning
- Adjustable legs, so the tower can be levelled on uneven ground
- Four castor wheels, if the tower is meant to be moved around

These things are there for your safety, and the safety of others nearby. If your tower doesn't have them, don't use it.

✓ Remember safety isn't an 'optional extra'

If your tower comes with a range of 'optional extras', ask yourself why they aren't included as standard. The optional extras we've seen for sale are certainly not just 'nice to haves'. They are essential safety features.

How is the average person supposed to judge what safety features they need on their tower? There's a reason consumer protection laws place a responsibility on manufacturers to make safe products. They're the ones that should have the technical knowledge and experience to decide what makes a safe tower. They can't just leave it up to you to decide.

A tower should be supplied to you in a kit, with all the components required to make a safe structure. If you find yourself having to make decisions about whether or not to buy stabilisers, platforms, ladders, guardrails, toe boards or adjustable legs, we'd recommend choosing a different tower.

✓ Don't lower your standards at home

Every 'DIY tower' we tested had safety concerns so serious that they increased the risk of it overturning or collapsing, or of a person falling from height. If you wouldn't accept a tower like that at work, why lower your standards at home?

If the tower is sold with a warning that it's not to be used in the workplace, that's a sure sign it's a 'DIY tower' and there's no guarantee that it meets basic safety standards.

✓ Read reviews carefully

As part of this project, we read a lot of reviews on online marketplaces such as Amazon and eBay. We found that a review might give a good star rating for a 'DIY tower', but the content of the review was more revealing.

For example, users are advised to do unsafe things like use a fall arrest harness with the tower because 'stability is not perfect' or to wrap the whole structure in tarp as 'it would make it less scary'. One man gives the tower a 5-star review but includes a photo showing he's had to fashion his own guardrails out of wood.



Photo taken from an Amazon review of a 'DIY tower'

Some reviewers say they had to tie the tower to a building to make it stable, which you should only do if you're trained to do it properly.

There's lots of advice to **just be careful**. 'Doesn't feel anywhere near as secure as commercial scaffolding,' says one reviewer, 'but you just need to use it carefully.' Another points out, 'the lack of toe boards means you could kick your hammer off onto your missus or kids underneath, so watch out for people below it.' In other words, just be careful.

Reviews also show us that people can sometimes dismiss nerves or fear they actually should not be ignoring. 'It is a little rickety at the top of the tower but I think this is to be expected', said one reviewer. Another recommended placing the platform lower than the instruction manual states, because 'lower feels a bit safer'.

This attitude probably reflects the resourceful nature of the keen home DIYer, but please don't take chances like this with your safety. Our advice is to look beyond the star rating and really dig into the content of the reviews. Ignore those that focus on things like speed of delivery and look for detailed reviews that highlight all the good and bad points. This can help you make up your mind about the best tower to choose.

**You just need
to use
it carefully**

Buy or hire from a PASMA member

Your shortcut to a safe tower is to get it from a PASMA member. Remember, it's a condition of membership that PASMA members only manufacture and supply towers that meet the most up-to-date standards and are independently certified.

PASMA members make, sell and hire towers. If price is an issue, consider hiring a tower for the duration of your project instead of buying one.

To buy or hire a tower, speak directly to a PASMA manufacturing member or get in touch with a PASMA hirer/dealer member who will carry a range of different tower brands. Ask them to help you find the best tower to suit your needs; they'll be happy to advise.

You can find a list of PASMA members at [pasma.co.uk](https://www.pasma.co.uk)

Report unsafe products

If you think your tower is unsafe, dangerous or not made to standard, don't use it! You should contact your local Trading Standards team or report via our website: [pasma.co.uk/diy-towers](https://www.pasma.co.uk/diy-towers)

Call for action

Following the results of the surveillance activity, PASMA calls for action to be taken in the following areas, in order to address the sale of dangerous 'DIY towers' once and for all:

1) Proactive action from enforcement agencies

We're asking for the subject of 'DIY towers' to be raised nationally with Trading Standards, through the National Product Safety Group, the Market Surveillance Governance Group, Chartered Trading Standards Institute and the Office for Product Safety and Standards (OPSS).

We also urge the Health & Safety Executive (HSE) to get involved. They need to challenge manufacturers, importers and suppliers of 'DIY towers' to explain what measures they take to ensure their products do not end up in the workplace.

And finally, we're calling on these agencies to join forces with PASMA. Together, let's create an action plan to tackle the sale of unsafe 'DIY towers' in the UK.

2) Online retailers, marketplaces and social media selling platforms must share the responsibility

Unsafe products are being sold to unsuspecting consumers via your platforms and the consequences of that could be devastating. We are calling on retailers to take swift corrective action when they are made aware of unsafe 'DIY towers' being sold through their channels, such as those named in our report.

One challenge is that currently, the responsibility for product safety lies with individuals or companies selling the products via online marketplaces, rather than with the marketplaces themselves. It's clear that regulations have not kept pace with trends in online commerce¹. We await the outcome of the Product Safety Review by the OPSS, which we hope ensures the regulatory framework is fit for the future.

In the meantime, there is nothing to stop retailers being proactive.

3) 'DIY tower' manufacturers, importers and suppliers to do the right thing

When you make, import or supply products for working at height, that's a lot of responsibility on your shoulders. We are calling on those involved in providing 'DIY towers' to read this report carefully, conduct their own investigations into the safety concerns raised and implement whatever corrective actions they find are necessary to ensure their towers are safe.

In particular, we encourage them to consider how design standards BS EN 1004-1 and BS 1139-6 can provide a useful framework for designing a safe tower.

There is always room for responsible manufacturers in PASMA; we are here to support.

4) PASMA will continue to raise awareness

PASMA will now deliver a campaign to raise awareness of the risks of 'DIY towers' and help consumers stay safe when buying access towers.

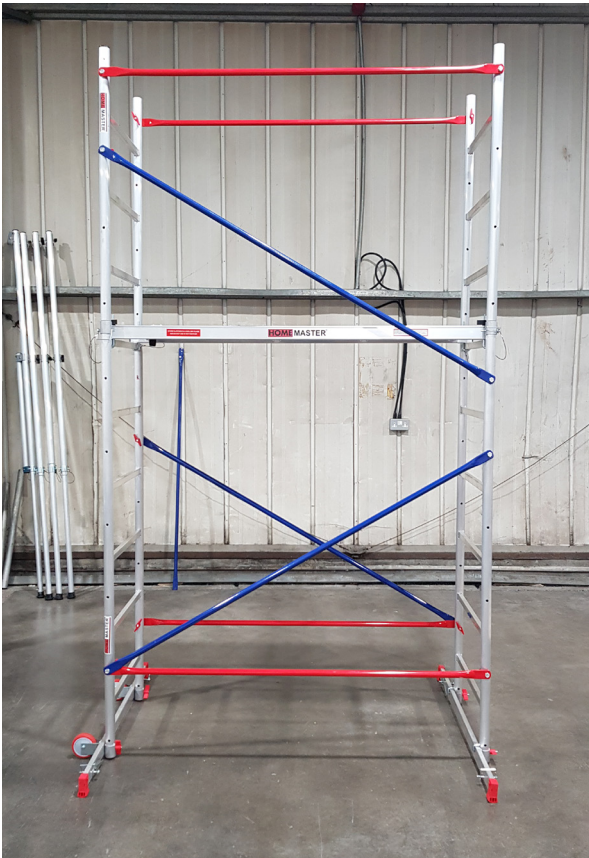
We will also investigate what additional intelligence can be gathered on 'DIY towers' in the UK market. We aim to provide good quality data to Trading Standards, the OPSS and the HSE that will help them better understand routes to market and where best to focus efforts.

We also recognise that this project only provides a snapshot of the products on the market at the time. Market surveillance is a regular, ongoing process and should be increased or reduced based on risk. PASMA undertakes to repeat this project again in future. Furthermore, we recognise that 'DIY towers' are not just a problem in the UK, but further afield too.

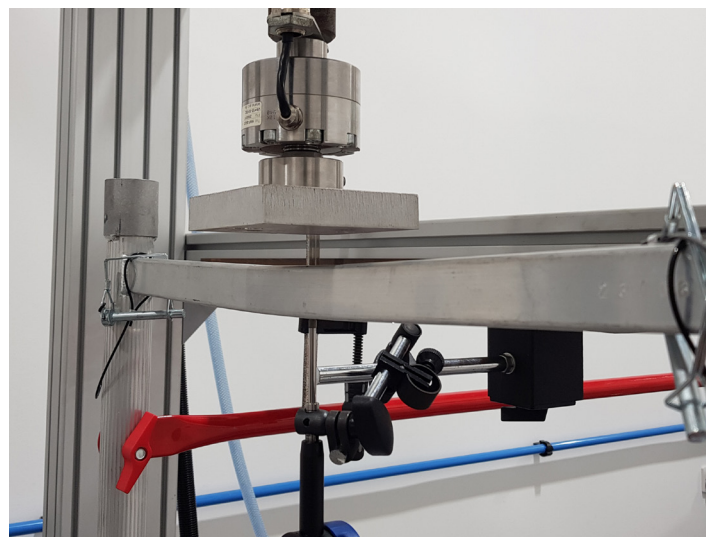


Sample 1: BPS Home Master

- 6m working height / 4m platform height
- Bought directly from BPS



Clause	Result	Comments
7.1 – General requirements	FAIL	Instructions do not state which platforms can be used for working.
7.2 – Dimensions	FAIL	Platform is narrower than 600mm minimum, no toe boards supplied.
7.3 – Openings within platforms	FAIL	Length of trapdoor opening below minimum.
7.4 – Side protection	FAIL	No toe boards as part of kit. 4m working height tower only has principal guardrail. 6m working height tower has only principal on intermediate platform. Principal guardrails less than 950mm minimum at ends. Gap between intermediate and principal guardrail greater than 470mm.
7.6 – Access to platforms	FAIL	Rung narrower than 20mm minimum.
7.7 – Means for stabilizing	PASS	
7.8 – Connections	PASS	
7.9 – Working and access platform units	PASS	
7.10 – Erection and dismantling	PASS	
8.3.2 – Load on side protection	FAIL	1.25kN downward load not supported before rail buckled.
8.3.5 – Loads on vertical ladder	FAIL	Ladder rung permanent deformation greater than limit.
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	FAIL	Horizontal deflection greater than 35mm limit.
10 – Tests (Annex A)	N/T	Not tested – cannot be built to 6m platform height.
11 – Instruction manual	FAIL	Did not contain all specified content.
12 – Marking	FAIL	Components not marked with minimum requirements.



Sample 2: Loyal eDIY Scaffold Tower

- 4.8m platform height
- Bought from Ladders UK Direct

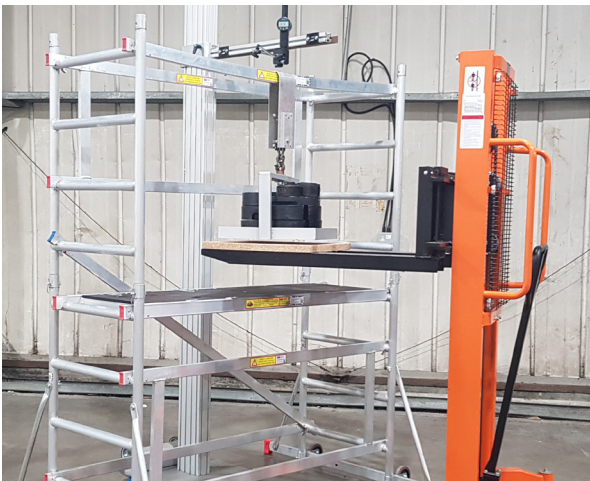


Clause	Result	Comments
7.1 – General requirements	FAIL	Instructions do not state which platforms can be used for working.
7.2 – Dimensions	FAIL	Platform is narrower than 600mm minimum, no toe boards supplied.
7.3 – Openings within platforms	FAIL	Platform unit trap door does not have catch to fasten in the closed position.
7.4 – Side protection	FAIL	No toe boards supplied in kit. 2.7m tower only has principal guardrail. 4.8m tower has only principal guardrail on intermediate platform. Principal guardrail less than 950mm minimum at ends. Gap between intermediate and principal guardrail greater than 470mm minimum.
7.6 – Access to platforms	FAIL	Rung narrower than 20mm minimum.
7.7 – Means for stabilizing	PASS	
7.8 – Connections	PASS	
7.9 – Working and access platform units	PASS	
7.10 – Erection and dismantling	PASS	
8.3.2 – Load on side protection	FAIL	1.25kN downward load not supported before rail buckled.
8.3.5 – Loads on vertical ladder	FAIL	Ladder rung permanent deformation greater than limit.
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	FAIL	Horizontal deflection greater than 35mm limit.
10 – Tests (Annex A)	N/T	Not tested – cannot be built to 6m platform height.
11 – Instruction manual	FAIL	Did not contain all specified content.
12 – Marking	FAIL	Components not marked with minimum requirements.



Sample 3: Loyal Super DIY Scaffold Tower

- 6m platform height
- Bought from Ladders & Access



Clause	Result	Comments
7.1 – General requirements	FAIL	Instructions do not state which platforms can be used for working.
7.2 – Dimensions	FAIL	Platform is narrower than 600mm minimum, no toe boards supplied.
7.3 – Openings within platforms	FAIL	Platform unit trap door does not have catch to fasten in the closed position.
7.4 – Side protection	FAIL	No toe boards supplied in kit. Only uppermost platform on 2m/4m/5m/7m towers have principal and intermediate side protection. Side protection spacing only compliant on uppermost platform.
7.6 – Access to platforms	PASS	
7.7 – Means for stabilizing	PASS	
7.8 – Connections	PASS	
7.9 – Working and access platform units	PASS	
7.10 – Erection and dismantling	PASS	
8.3.2 – Load on side protection	PASS	
8.3.5 – Loads on vertical ladder	PASS	
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	PASS	
10 – Tests (Annex A)	PASS	
11 – Instruction manual	FAIL	Did not contain all specified content.
12 – Marking	FAIL	Components not marked with minimum requirements.



Sample 4: Top Tower Classic DIY Scaffold Tower + accessories

- 6m platform height
- Bought directly from Top Tower



Clause	Result	Comments
7.1 – General requirements	FAIL	Instructions do not state which platforms can be used for working. Only 1 platform provided for 6m tower.
7.2 – Dimensions	FAIL	No toe boards supplied in kit.
7.3 – Openings within platforms	FAIL	Platform unit trap door does not have catch to fasten in the closed position.
7.4 – Side protection	FAIL	Side protection can be removed accidentally. No side protection on intermediate levels. Principle guard rail lower than 950mm. No intermediate guard rail on uppermost platform. No toe boards.
7.6 – Access to platforms	FAIL	Access can be removed accidentally. Rungs are not slip resistant.
7.7 – Means for stabilizing	PASS	
7.8 – Connections	FAIL	Connections not effective. Spigots not long enough or connected with cross pins.
7.9 – Working and access platform units	FAIL	Platform units are not secured.
7.10 – Erection and dismantling	FAIL	Instructions has optional statement for fitment of stabilisers.
8.3.2 – Load on side protection	PASS	
8.3.5 – Loads on vertical ladder	N/T	Not tested – ladder could not be fitted into standard test equipment.
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	PASS	
10 – Tests (Annex A)	N/T	Not tested – tower could not be built safely to 6m platform height.
11 – Instruction manual	FAIL	Did not contain all specified content.
12 - Marking	FAIL	Components not marked with minimum requirements.



Sample 5: DIY Tower Scaffolding Set – Zinc Galvanised

- 15ft platform height
- Bought from RWS Trade Supplies



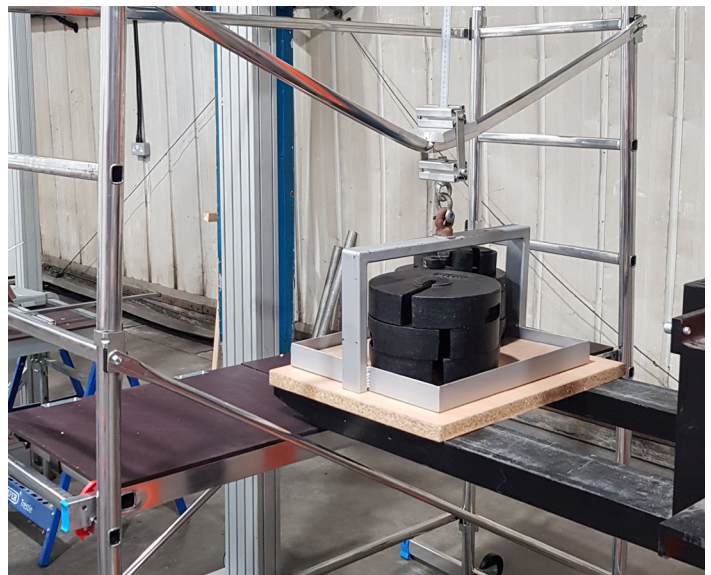
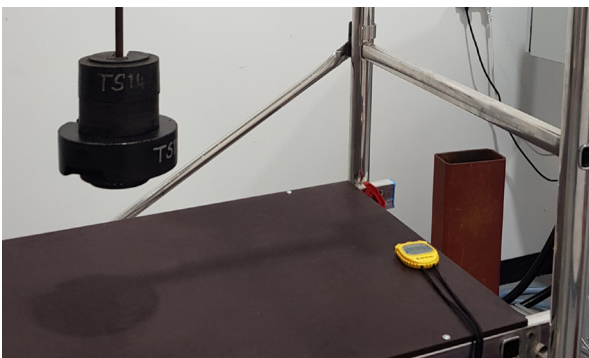
Clause	Result	Comments
7.1 – General requirements	FAIL	No platforms or instructions provided.
7.2 – Dimensions	FAIL	No platforms, toe boards or instructions provided.
7.3 – Openings within platforms	FAIL	No platforms provided.
7.4 – Side protection	FAIL	No platforms, toe boards or instructions provided – side protection is dimension in relation to platforms.
7.6 – Access to platforms	FAIL	No access provided.
7.7 – Means for stabilizing	FAIL	2x x stabilisers are provide but couplers are for larger tubes and do not clamp tightly enough to be effective.
7.8 – Connections	FAIL	Connections not effective. Spigots not long enough or connected with cross pins.
7.9 – Working and access platform units	FAIL	No platforms provided.
7.10 – Erection and dismantling	FAIL	Only 2 x stabilisers provided.
8.3.2 – Load on side protection	N/T	No platforms or instructions provided therefore guardrails not defined.
8.3.5 – Loads on vertical ladder	FAIL	No access provided.
8.4.1 – Deflection of platform units	FAIL	No platforms provided.
8.4.2 – Elastic deflection of side protection	N/T	No platforms or instructions provided therefore guardrails not defined.
10 – Tests (Annex A)	N/T	Not tested – cannot be built safely to 6m platform height.
11 – Instruction manual	FAIL	No instructions provided.
12 - Marking	FAIL	No marking on any component.

Sample 6: Tubesca First 5 Presto DIY Tower

- 2.73m platform height
- Bought from Machine Mart



Clause	Result	Comments
7.1 – General requirements	PASS	
7.2 – Dimensions	FAIL	Platform is narrower than 600mm minimum, no toe boards supplied.
7.3 – Openings within platforms	FAIL	Length of trapdoor opening below minimum.
7.4 – Side protection	FAIL	Principal guardrail under height 950mm. No intermediate guardrail or toe boards provided.
7.6 – Access to platforms	PASS	
7.7 – Means for stabilizing	FAIL	Stabiliser bar provided but product cannot be adjusted to ensure tower is level.
7.8 – Connections	PASS	
7.9 – Working and access platform units	PASS	
7.10 – Erection and dismantling	PASS	
8.3.2 – Load on side protection	FAIL	1.25kN downward load not supported before rail buckled.
8.3.5 – Loads on vertical ladder	PASS	
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	FAIL	Horizontal deflection greater than 35mm limit.
10 – Tests (Annex A)	N/T	Not tested – product cannot be built to 6m platform height.
11 – Instruction manual	FAIL	Did not contain all specified content.
12 - Marking	FAIL	Components not marked with minimum requirements.

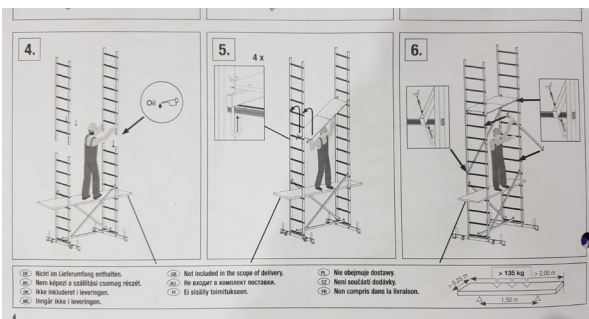


Sample 7: Krause Corda DIY Scaffold Tower

- 3m platform height
- Bought from Ladders.co.uk



Clause	Result	Comments
7.1 – General requirements	PASS	
7.2 – Dimensions	FAIL	Platform is narrower than 600mm minimum.
7.3 – Openings within platforms	FAIL	Opening width is smaller than minimum.
7.4 – Side protection	FAIL	Guardrail space between principal and intermediate greater than 470 mm limit. Toe board shallower than 150mm minimum.
7.6 – Access to platforms	PASS	
7.7 – Means for stabilizing	FAIL	Stabiliser bar provided but product cannot be levelled.
7.8 – Connections	FAIL	Spigots not long enough or connected with cross pins.
7.9 – Working and access platform units	PASS	
7.10 – Erection and dismantling	PASS	
8.3.2 – Load on side protection	PASS	
8.3.5 – Loads on vertical ladder	PASS	
8.4.1 – Deflection of platform units	PASS	
8.4.2 – Elastic deflection of side protection	PASS	
10 – Tests (Annex A)	N/T	Not tested – product cannot be built to 6m platform height.
11 – Instruction manual	FAIL	Did not contain all specified content.
12 – Marking	FAIL	Components not marked with minimum requirements.





NO FALLS WEEK

13 - 17

MAY 2024

Help us save lives by stopping falls

PASMA supports No Falls Foundation

PASMA is an official platinum supporter of No Falls Foundation, the only charity dedicated to the work at height sector. The Foundation is striving for a world where everyone who works at height comes back down safely. They undertake projects aimed at preventing falls from height and offer help to people affected by the consequences of a fall. PASMA, and our members, stand alongside them in this mission.

This report was released during No Falls Week 2024, an annual campaign to raise awareness about the importance of safe working at height.

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