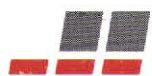
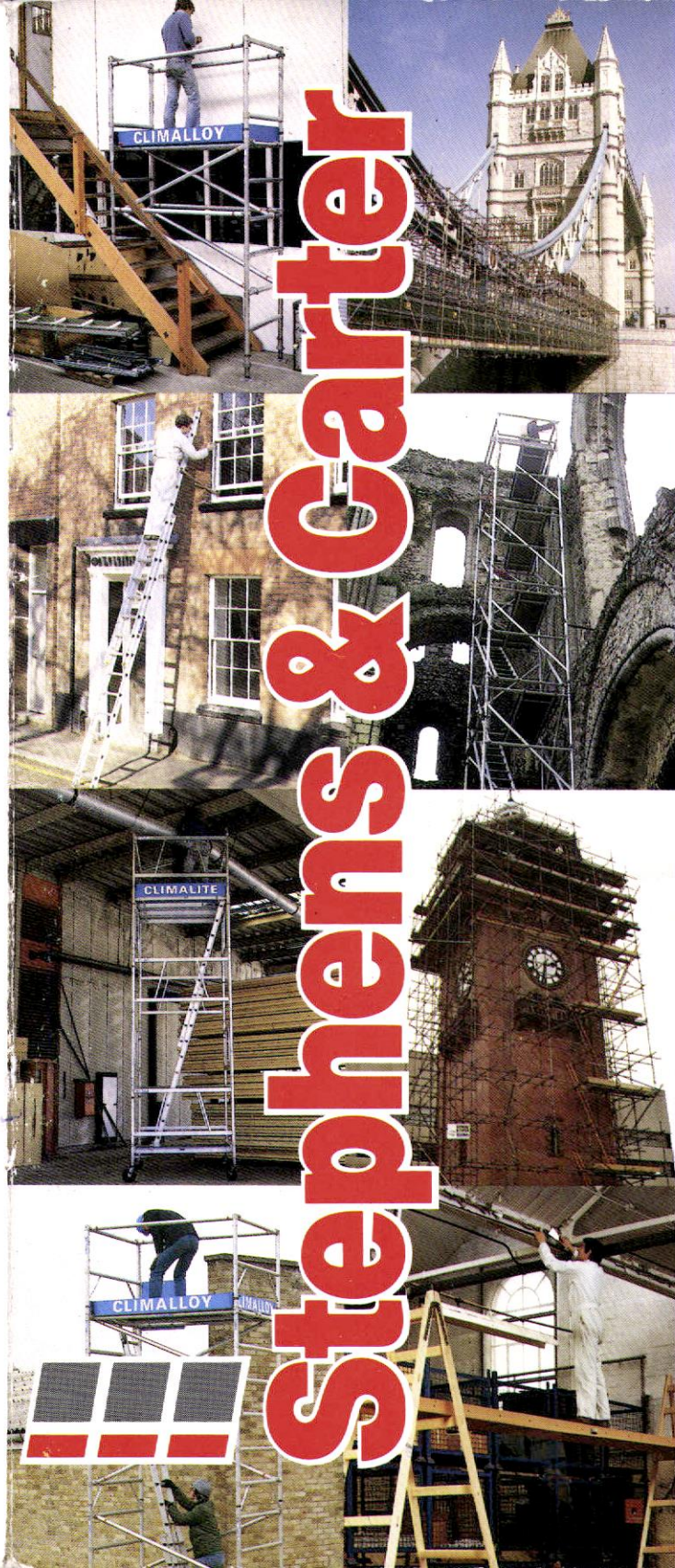


ITEM NO : 80-019.

A **BET** PLANT SERVICES COMPANY



**Stephens & Carter**



**Stephens & Carter**

**GUIDE TO ACCESS SYSTEMS**



A BENTLEY PLANT SERVICES COMPANY

 **Stephens & Carter**

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# Stephens & Carter

## GUIDE TO ACCESS SYSTEMS

What to buy • What to hire • Where to get it • How to use it • Safety

# Introduction to the sixth edition

When we first produced the 'Guide to Access Systems' we didn't expect that it would be quite so popular. We printed 10,000 copies, and expected that quantity to last us for a few years. In the event, we had to reprint the handbook before the end of the year, so great was the demand.

Naturally we're happy that this handbook has proved successful and that people have found it useful. It also gives us an opportunity to make revisions and improvements. We have slightly enlarged the dimensions of the booklet and increased the number of pages.

Finally, we would like to thank all the people who made suggestions for improvement, many of which have been incorporated in this edition.

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# A great range – and a great deal more

How can one company produce an unbiased survey of access systems? Surely it will tend to favour its own products at the expense of its rivals? It's in business to sell its own products, after all.

That's certainly true of Stephens & Carter. But we can survey the systems available in an unbiased way – simply because our product range covers almost every system in use, from simple steps to aerial work platforms. If he were so inclined, an access buyer need never deal with any company other than us.

In selecting an access system, products are only one factor. Stephens & Carter offer you the right products – and a lot more. We offer you a strategically placed network of depots. Each depot operates as an independent self-contained business (so you have all the advantages of dealing with a small local company) yet is backed by the national resources of Stephens & Carter (so you have all the advantages of dealing with a big company). Each depot has its own problem-solving management team, to ensure that you get the right products, on time and in good condition. The facilities of the depots are described in detail on page 32.

Just as important, perhaps, is reassurance that you're getting a product you can trust. Stephens & Carter have over 130 years of experience in the access industry – experience that means Stephens & Carter is a name to rely on.

Complementing Stephens & Carter is Grayston UBM, the Contracting Division of BET Plant Services.

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# Making access an asset

Nobody would contend that access equipment is a very exciting subject. For most people it's simply a means of getting to, and getting on with, the job in hand.

Yet the selection of the right access system can make an enormous difference to the time a job takes – and to how well the job's done, and how much it costs.

The choice of the right system isn't easy. For a start there are dozens of companies supplying access equipment. They range from one-man outfits to huge multinational companies. And there are dozens of systems available – from simple ladders, to steps, to complex hydraulic platforms. Added to that are the various factors which influence the choice: the height, the time involved, the number of people using the platform, the type of work, the conditions and so on.

The purpose of this book is not to provide a 'beginner's' guide to access; rather, it is to provide a simple compact reminder of the systems available and the factors governing the selection of a system, for people whose job includes the hiring or buying of access equipment. It also attempts to highlight the safety aspects of the various systems and explain very briefly the law in regard to access systems – in particular, the implications of the Health & Safety at Work Act, 1974, for people who supply and employ access equipment.

We hope that you find it useful and informative.

# Which product/service?

The chart (right) is a simple guide to which system to use in given situations. It may look rather involved, but in fact it is very simple. We have taken the three main factors involved in the selection of a system: the working height, the length of time the access will be in use, and the loading the equipment will have to bear (in terms of number of people using it, weight of materials and so on). Another important factor which could influence selection is the condition of the bearing surface. An unsatisfactory surface could mean extra preparation and expense in the case of tube structures.

Across the top of the chart there are 4 graduations of height (0-3 m, 3-9 m, 9-24 m, over 24 m) (0-10 ft, 10-30 ft, 30-80 ft, over 80 ft). Each of these height divisions is further divided into light (L), medium (M) and heavy (H) usage sections. Down the side the chart is divided into five duration sections – hours, days, weeks, months, and years. Thus to find a suitable system for doing medium duty work at a height of 8 m (26 ft) lasting a few days, you select the 'M' column of the 3-9 m (10-30 ft) section, follow it down until you meet the across 'days' duration column. You find that probably the best answer is a lightweight tower

## Why use Contract?

This table is a rough guide to the right system. When you apply it to your own application, you may decide that access is a complex business!

Sometimes it is, of course; on these occasions, you should consider using contracting services. Grayston UBM, the Contracting Division of BET Plant Services, can take responsibility for all or any part of your job: design and safety, materials selection and supply, labour, and removal of materials.

The major factors governing the positioning of the systems within the chart are cost and safety. This is largely a matter of common sense: clearly it would be economically foolish to erect scaffolding for a few hours work at low heights and dangerously unsafe to use, say 12 m (40 ft) trestles!





# The Stephens & Carter depot

The key to the Stephens & Carter service is the Stephens & Carter depot. There are nearly 50 of them strategically located around the country.

In addition there are nearly 40 Grayston UBM depots nationwide, many sharing the same premises as Stephens & Carter and all offering a complete contracting service.

Each Stephens & Carter depot operates independently of the head office, yet can still draw on central services and facilities when required. In this way each depot can operate as a small local company, with a profit and service-conscious 'boss' on the premises. At the same time, the depot can still offer all the security and resources of a big company.

A typical depot would hold extensive stocks of all products – tube and fittings, aluminium towers, system scaffolding, aerial work platforms, suspended platforms and ladders. These products would be available for sale, contact or hire. The depot would have transport to deliver the equipment to you.

But that's not enough. The depot will also have a problem-solving management team whose task is to make sure you get the best products and service. They will supervise the maintenance and inspection programme to eliminate defective and potentially unsafe equipment. They will offer you a design and advisory service, to help you use the equipment safely and economically. On larger contracts, they can call on the services a central design department. The depot will also ensure that your queries and complaints are acted on.

The staff and facilities of the depots can be a big asset to you. It makes sense to find out what they offer and how you can use it.

WORKING HEIGHTS												
0-3 m (0-10 ft)			3-9 m (10-30 ft)			9-24 m (30-80 ft)			over 24 m (over 80 ft)			
L	M	H	L	M	H	L	M	H	L	M	H	
DURATION	Hours	ST	ST TA	TA TS	LA TA MP	TA MP TS	TA MP SP	TA SP MP	TS	MP SP	MP SP	TF SS
	Days	ST	ST TA SA	TA TS SS	LA TA MP SA	TA MP SA TS	SA LA TA SP MP	TA SP MP SA	TS TF SS	SP MP	SP MP	TF SS
	Weeks	ST TF SS	TA TF SS SA	TA TS TF SS	TA TF SS MP SA	TA TS TF SS	TA SP TF SA MP	SA TA SP TF SS MP	TF SS	TF SP SS	TF SP SS MP	TF SS
	Months	TF SS	TF SS	TF SS	TA TF SS	TA TF SS	TA SP TF SS	TA SP TF SS	TF SS	TF SP SS	TF SP SS	TF SS
	Year/perm	TF	TF	TF	TF	TF	PP TF	PP TF	TF TF	PP	PP	TF

## KEY

L = light duty (1/2 workers, light work, eg: painting)

M = medium duty (3/4 workers, medium work, eg: maintenance)

H = heavy duty (4+ workers, heavy work, eg: construction)

## Equipment

ST – steps and trestles

LA – ladders

TA – aluminium towers

TS – steel towers

TF – tube and fittings

MP – aerial work platforms

SP – suspended platforms

PP – permanent platforms

SS – steel system scaffold

SA – aluminium system scaffold

Contracting service available ☐

# Systems summary

Of course the chart is a very rough guide to narrow down a choice of available systems. The table below will give you a clearer idea of the benefits and shortcomings of each system.

	Max. working height	Max. load	Erection speed to 1/2 max. ht.	Work/access factor*
Steps & trestles	c. 3 m (10 ft)	170 kg (375 lb)	v. fast – seconds	good
Ladders	20 m (65 ft)	170 kg (375 lb)	v. fast – seconds	fair
Aluminium towers	25 m (82 ft)	816 kg (1800 lb)	fast 20-30 min.	good
Steel towers	10.5 m (34 ft)	453 kg (1000 lb)	quite fast 1 hr.	good
Aerial work platforms+	46 m (150 ft)	500 kg (110 lb)	v. fast	good
Suspended platforms	height of building	500 kg (1100 lb)	quite fast 2-3 hours	good
Tube & fittings	152 m (150 ft)	variable	slowest	very good
Steel system scaffolding	152 m (500 ft)	3.0 kn/m <sup>2</sup> (60 lb ft <sup>2</sup> )	twice the speed of TFB	very good
Aluminium system scaffolding	40 m (130 ft)	1.5 kn/m <sup>2</sup> (30 lb ft <sup>2</sup> )	four times the speed of TFB	good

\* = Combination of accessibility and stable work surface.  
 + = Load and working height vary depending upon machine type.

## 6. Seek expert advice

If you are in any doubt at all over the application or safety of access equipment, seek expert advice. Usually this will be the manufacturer or supplier. In any event, a reputable company will have specialists on its staff and will be glad to assist you.

## 7. Deal with reputable suppliers

As we've seen, simply dealing with a reputable supplier does not absolve your company from any legal liability. However, it can carry weight in any question of personal liability, whether civil or criminal. Conversely, using a supplier of dubious reputation is hardly an indication of a fanatical devotion to safety.

Quite apart from the legal questions, there's the more positive side.

A larger, reputable company has more at stake. Certainly, in the access business, reputation plays a very large part in success. So large companies work harder to preserve their reputations and have more resources at their disposal to do so.

So however tempting it may be to deal with 'the little man around the corner' it is probably safer and wiser to deal with the 'big boys'.

## 8. Bibliography

The following is a list of authoritative publications dealing with safety of access equipment. It is by no means a comprehensive list of publications available on the subject.

### Health & Safety Executive – purchase from HMSO

Guidance notes GS10 Roofwork – prevention of falls.

Guidance note GS15 General Access Scaffolds.

Guidance note GS30 Suspended Platforms.

Health and Safety at Work series booklet HS(G) 12 Offshore Construction.

Health and Safety series booklet HS(G) 19 Safety in working with power operated mobile work platforms.

Leaflet SHW 25 – The safe use of ladders.

GF42 Guide to Scaffolding Tower Scaffold.

### British Standards Institution

BS 5973:1981 Code of Practice for Access and Working Scaffolds and special scaffold structures in steel.

BS 5974:1982 Code of Practice for temporarily-installed suspended scaffolds and access equipment.

BS 6037:1981 Code of Practice for permanently-installed suspended access equipment.

BS 6289:Part 1: 1982 Work Platforms Pt 1 Code of Practice for mobile scissor operated work platforms.

B1139 – 1982 (Part 1 to 4) Specification for Metal Scaffold.

### Building Employers' Confederation – purchase from BAS

Management Services 'Construction Safety' manual – available either as a full manual covering 27 sections or in individual sections.

# Hire, buy, or contract?

equipment available. For the common items, such as ladders and scaffolds, a list of authoritative publications is given in the bibliography. For our own products, Stephens & Carter offer the following:-

Erection guides Climalloy span towers  
Climalloy step towers  
Climalite towers  
Ladder access for alloy towers  
Outriggers for alloy towers  
Climalite system scaffold  
Climastage system scaffold

These guides are issued free with every item sold or hired.

Code of Practice for Aluminium towers (PASMA) issued free with the training module and sold separately.

Safety information sheets for powered suspended platforms issued free of charge.

Ladder safety booklet issued free with the training module.

Copies of the above publications may be obtained by application to your local Stephens & Carter depot or to our Head Office.

## 5. Training

Most manufacturers and suppliers offer training courses in the correct and safe use of their equipment. Take advantage of these as they are a positive step towards improving safety and complying with statutory obligations.

Apart from the safety aspect, training has financial benefits. Employees become aware of the limitations of equipment and consequently treat it with more care. This leads to less damage and as a result less for you to pay for repairs or replacements.

As a service to our customers, Stephens & Carter offer standard training packages in the safe use of:

Aluminium towers (PASMA module)  
Aluminium system scaffolds  
Ladders (tape/slide production)  
Scaffolds (onshore and offshore)  
Suspended platforms

Additionally, training can be tailored to meet your individual needs and may cover either one or a combination of subjects in the access field. Contact your local depot or our Head Office to discuss details.

With most of the items described on the preceding pages you will have the option of hiring or buying. The decision in each case will depend on the individual user requirement.

The advantages of hire are that you can get specialist equipment to do a particular job, or large quantities of equipment for a short period. The equipment is always in good condition and involves you in no long-term storage or control problems. If your requirements are subject to peaks and troughs, it can make sense to buy equipment to cope with the lower level of activity and hire equipment to cope with the peaks. So you never have more than you need and you only pay for what can earn its keep.

The advantage of buying is that it can be cheaper if you can keep the equipment fully employed and you have sufficient storage facilities.

## Ladders & steps

Ladders give long service and require little maintenance so they tend to be purchased – especially if used regularly in a factory or by specialist trades. If you need specialised ladders, or ladders for a limited period, then it is better to hire.

## Towers

Towers are a relatively cheap and safe access method and there is an increasing tendency to purchase lightweight towers for use around the factory. If a large number of towers are required for a short period (during annual shutdown maintenance, for instance) it would clearly be preferable to hire.

## Tube & fitting & system scaffolds

Depends on the size of the structure and the duration of the work. Usually, it is more economical to hire.

## Suspended platforms

Usually more economical to hire, unless there is a permanent and frequent need for access to a particular place.

## Aerial work platforms

Usually more economical to hire, because of the high capital cost. The exception might be where the equipment will be constantly utilised for a wide variety of applications.

## Contracting services – the other option

If you're weighing the financial advantages of hiring versus purchase, perhaps you should consider the other option – contracting services. Not only will this greatly simplify your job – in some circumstances it can also save you money.

By coming up with the precise solution for the job and implementing it quickly, your overall costs could be less – thanks to savings on materials, labour and – often the most vital commodity – time.

# Climalloy

Since lightweight aluminium towers were introduced to the market, they have firmly established their value to the access industry.

There are a number of systems on the market, but Climalloy is far and away the most popular. This popularity is due to the system's inherent high quality, its brilliant design and its versatility – over 230 major permutations of tower are possible.

Climalloy is designed for one-man assembly and can be adapted for use on uneven surfaces or as a bridging tower for working over obstacles.

## Features

Light – each 2.1 m (6 ft 11 in) frame weighs just 6.5 kg (14.3 lb).

Fast assembly – one man can erect a 6.5 m (21 ft 3 in) tower in 20 minutes. 2.1 m (6 ft 11 in) lift per frame.

Safe – conforms to BS 1139 and carries the BSI kitemark.

Strong – thick-gauge aluminium and welded cross members give real security.

Mobile – locking castors enable Climalloy towers to be quickly moved from job to job.

Range – designed to be versatile and yet keep components to a minimum.

## Step tower components

Step frames

Clip-in stairways

Bannister braces

Top bannister braces

## Span tower components

Span frames

Diagonal braces

Portal frames

Pavement frames

Clip-in 70° ladder

High-clearance frames

Inclined ladders

## Applications

Climalloy was designed to meet the needs of subcontractors and the finishing trades – plasterers, heating and ventilating engineers, electricians, and decorators – and the maintenance industry, where mobility, fast assembly and lightness are important.

Maximum free standing heights (indoors for standard towers).

Step towers:

with standard outriggers – 10.68 m (35 ft).

with adjustable stabilisers – 12.78 m (42 ft).

with large outriggers – 14.88 m (48 ft 10 in).

## Common sense and safety

### 1. Know the law

A working knowledge of the law is essential, and you should acquaint yourself with it as it applies to you. The Building Employers Confederation produce an authoritative and comprehensive guide to construction safety and the laws which is invaluable to anyone using access equipment.

Another excellent, though more general, book is 'The Employer's Guide To Law On Health, Safety And Welfare At Work' by Ewan Mitchell, published by Business Books. It is a clear, concise and, as far as any book with such a complex subject can be, entertaining.

### 2. Using the right equipment for the job

A lot of accidents are caused, quite simply, by using the wrong equipment. The most commonly misused equipment is the ladder.

Ladders should be used, by one person at a time, for access to another work level or for work of short duration. They should not be used as work platforms over any length of time. For most jobs, towers provide a much safer, efficient work surface. Of course, ladders are convenient and readily available and the temptation is to avoid the expense of hiring or buying towers – but remember your civil and criminal liability. It's no use, either, turning a blind eye; the courts expect you to 'use all reasonable persuasion and propaganda' to ensure that your employees do not take unnecessary risks or use unsafe equipment.

Even when you do use ladders, make sure they are the correct ones for the job. Do not use ladders that are too short, ladders instead of steps, ordinary ladders instead of roof ladders, alloy ladders for electrical work or light duty ladders for heavy industrial work.

### 3. Use the equipment properly

That means, of course, taking positive steps to ensure that you and the people reporting to you know and follow the supplier's information on how to use the equipment. Obtain and read suppliers' literature, instruction manuals, erection guides and safety information.

Pass this on to your subordinates. Ensure that assembly has been correctly carried out, inspect each item before it is put into use and see that equipment is not being overloaded or abused.

### 4. Information

There can be very few reasonable excuses for anybody not to know what is required for safety with access equipment. Almost every official authority concerned in the field of access has published books and guidance covering the full range of



# Safety

There is currently a maze of statutory rules and regulations employed to promote the health, safety and welfare of persons at work, much of it controlling the condition and use of access equipment.

Health and Safety legislation first originated as far back as 1802. Since then new and up-dated acts and regulations have developed into a complex, and often confusing, structure. Now, however, much of this will be replaced by a simpler structure of regulations and approved codes of practice made under the general umbrella of 'The Health and Safety at Work Act, 1974'.

Amongst the objectives of the 1974 Act are those for:

- (1) Securing the health, safety and welfare of persons at work.
- (2) Protecting persons not involved with work activity but who may be affected by it.

These objectives will be met by:-

- (A) Reinforcing existing laws for health, safety and welfare at work.
- (B) Setting out new statutory responsibilities and duties.
- (C) Instituting new enforcement arrangements.

To put it simply, the Act means (1) that you may be more likely to commit an offence against health and safety legislation (2) you are more likely to be punished if you do and (3) the punishment is more likely to be severe.

The implications for people using and supplying access equipment are immense.

When we say 'you' we mean not just the company or your managing director. If your company can prove that they had set up an adequate system which you failed to operate, then as well as, or in place of the company you may be prosecuted. The penalties may be severe; fines, in some cases of an unlimited amount, and imprisonment for up to two years, for each offence, are possible. Therefore, it is more important than ever to avoid 'cutting corners' and for everyone's area of responsibility to be clearly defined.

The employer's Liability (Defective Equipment) Act, 1961, on the other hand, puts the employer under a legal obligation to provide safe equipment. This is especially relevant where access equipment is employed. Suppose you buy a ladder or other piece of access equipment. There are no obvious defects so it is issued for use. An employee uses it, it breaks, the employee is injured. The company haven't been negligent in any way – but they're still absolutely liable. Of course, they can in turn sue the manufacturer – provided he hasn't gone into liquidation or simply vanished. The moral is, use reputable suppliers who can be trusted regularly to test and maintain their equipment, and comply with existing standards and codes of practice.

Span towers available in 1.8 m (6 ft), 2.5 m (8 ft 3 in) and 3 m (10 ft) lengths and 0.74 m (2 ft 5 in) or 1.35 m (4 ft 5 in) widths.

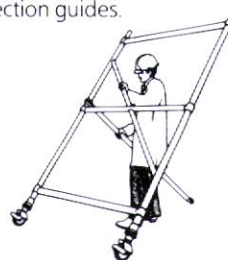
With standard outriggers – 0.74 m (2 ft 5 in) width –  
9.3 m (30 ft 6 in)  
1.3 m (4 ft 6 in) width –  
11.53 m (38 ft)

With adjustable stabiliser – 0.74 m (2 ft 5 in) width –  
(fully extended) 10.44 m (34 ft 3 in)  
1.35 m (4 ft 6 in) width –  
12.72 m (41 ft 9 in)

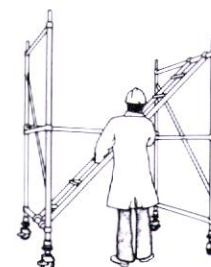
With jumbo outriggers – 0.74 m (2 ft 5 in) width –  
13.86 m (45 ft 6 in)  
1.35 m (4 ft 6 in) width –  
15.0 m (49 ft 2 in)

N.B. Specially designed free-standing towers are possible up to 25 m (82 ft).

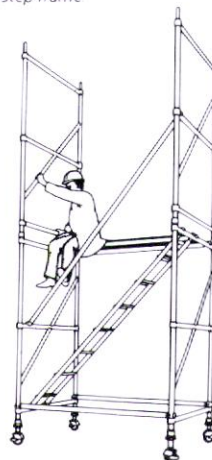
Erection is quick and simple using the free Stephens & Carter erection guides.



Fitting temporary brace to first step frame



Fitting ladder between first two step frames



Erecting fourth step frame



Fitting second guard rail

# Climalite aluminium tower & scaffold system

Climalite aluminium tower and system scaffolding is a breakthrough in access equipment.

Used as a system it has all the advantages of conventional scaffolding but one third of the weight. Coupled with its simple but secure slot-together coupling system, it offers real on-site productivity benefits.

Firstly, transport to and from the site is cheaper allowing you to carry up to three times the equipment in one go.

Secondly, on the site itself, it's easier for operatives to carry and locate in position (50% of conventional scaffolders' time can be spent simply carrying equipment.)

Thirdly, erection time is cut by up to 75%, because of Climalite's lightness and simplicity – which also means that with elementary training end-users can erect Climalite themselves.

Used as a tower it provides a light but robust mobile tower with a large open platform area up to 9 m<sup>2</sup> (98 square ft) in size and up to 10 m (33 ft) freestanding height. Ladder access is achieved by using the Stephens & Carter inclined ladder system.

In the highly competitive world of building and refurbishment, it's crucial that access equipment makes its contribution to cost-saving – yet stands up to the rough treatment dished out on site.

Climalite meets the need – uniquely.

## Features

- Heavy gauge aluminium tube construction, half the weight of steel.

- Twist-proof joint increases rigidity, reduces need for diagonal bracing.

- Full 2 metre height between lifts and fittings.

- Compatible with standard tube and fittings.

- All-welded construction.

- Versatile – 3 basic frame lengths and 2 heights.

- Internal access ladders available.

## Components

Frames: 1.5 m (4 ft 11 in), 2 m (6 ft 7 in), 3 m (9 ft 10 in) lengths, 2 m and 1 m (3 ft 3 in) high. Available with decking of scaffold boards and bearers or plywood platform assemblies, complete with trapdoor for easy access.

## Application

Wherever a light/medium duty access scaffold or mobile tower is required for days or weeks.

## Personnel

Overall control of any project is in the hands of an Offshore Manager, who is technically qualified, trained and fully conversant with OCPCA, Northern Isles, Lewis and all such agreements. He visits platforms at regular intervals to check progress.

Day-to-day control of larger projects is by engineers permanently on the platform. This gives better control and faster response to problems than is possible with shore-based project controllers – the normal industry practice.

All scaffolding work is carried out by CITB-trained and certified operatives, experienced in offshore work. Where fast response is required the labour force can be mobilised within 24 to 72 hours.

## Petrochemical access

Although the logistic requirements are less demanding than for offshore operations, access work for onshore petrochemical installations is in other respects just as stringent in its requirements for safety and speed and these are catered for by BET Plant Services subsidiary Industrial Scaffolding Ltd.



# Specialist contract services

## Access for offshore and petrochemical installations

Earlier in this guide, we emphasised the importance of dealing with an experienced, reliable supplier of access equipment and services.

That's not too difficult if you just want to hire the odd ladder.

But if you need access for highly demanding applications such as offshore access or petrochemical installations, then your choice is more limited.

Very few companies have the sheer logistic capability, combined with detailed knowledge of the special requirements of these customers and the extensive product and personnel resources to provide the necessary fast, skilled response.

BET Plant Services have been involved in offshore access since the earliest days of the North Sea operations. Today, they are easily the leaders in the field. Recently they have extended their capability to the field of onshore petrochemicals, where the training and experience of offshore work has proved invaluable.

### Offshore access

Like the industry itself, the business of supplying access equipment for use on offshore platforms is relatively new. Through their subsidiary, Aberdeen Scaffolding, BET Plant Services have been involved right since the beginning and are today one of the largest companies in the field.

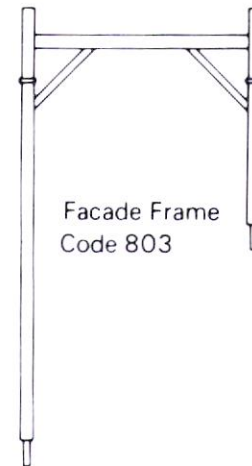
It's a highly specialised and very demanding business. The access equipment is required not only in construction yards onshore during construction, but also at sea for hooking up, upgrading, installation of gas compression equipment and maintenance. The access equipment must be quickly installed and meet the strictest standards of safety.

Success in offshore access work requires not only skills and resources in conventional access terms, but also detailed knowledge of platform technology and systems – and specialised materials and personnel.

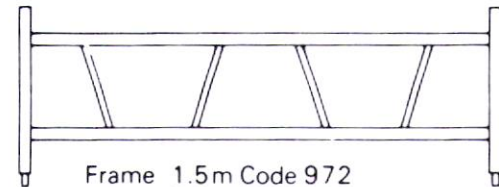
### Materials

The hostile environment makes special demands on access equipment and this often needs to be specially adapted to meet offshore logistic and operating requirements.

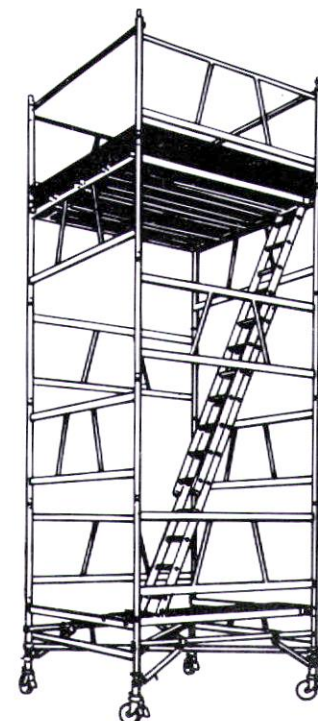
Timber products, for instance, are often fireproofed for greater safety. Gravlock and SK drop forged couplers are used instead of standard putlog couplers, as they are much faster to fit, more rigid and stronger. Containers are often used to speed and simplify despatch of scaffolding products. Special safety harnesses are used to give freedom of movement, combined with complete security to operatives.



Facade Frame  
Code 803



Frame 1.5m Code 972  
2.0m Code 973  
3.0m Code 974



Completed tower

# Climastage steel scaffold system

## Galvanised steel system scaffolding

Climastage is a new, flexible steel system scaffold which offers considerable benefits compared to conventional tube and fitting scaffold and other, conventional systems.

### Less maintenance, more life

New Climastage systems scaffolding is galvanised throughout, so it may cost you a little more than a conventional painted system.

But because it's galvanised it doesn't rust, so it never needs refurbishment.

And because it doesn't rust it has a longer working life. It's also easier to handle and easier to assemble and dismantle.

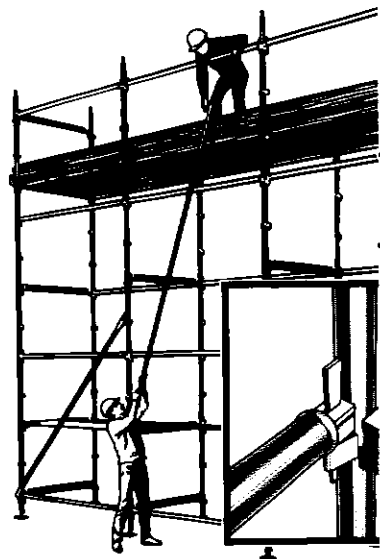
Moreover, there's no risk of staining special surfaces, so you avoid the added expense of cleaning.

### Less weight, more strength

Climastage is up to 25% lighter than ordinary steel systems, but it's also as strong.

Because it's lighter, Climastage is easier and cheaper to transport. You can carry more on individual lorries, and use smaller lorries into the bargain.

Because it's lighter you gain higher productivity – with Climastage operators will be less prone to fatigue or strain. This means it's safer too.



service engineers operates a round-the-clock service. In some areas, mobile radio is used to deploy service engineers more quickly and efficiently.

## Platforms

The aluminium platform possesses a number of advantages. They are a good deal lighter – 161 kg (356 lb) for a 5 m (16 ft 5 in) platform as opposed to 218 kg (481 lb) for a similar sized steel platform – and therefore far easier to handle in transit and on site. Assembly is much faster, employing snap-together components with self-locking pins (steel platforms have bolted assembly).

The platforms on these pages are just a selection to illustrate capability. Platforms can be made specially to suit the application, or where the configuration or profile of the building façade demands it.

## Power units

The power unit is obviously a crucial factor in the platform's speed, safety and efficiency of operation.

The standard power unit on Stephens & Carter suspended platforms is the Power Climber winch. Introduced in the last few years, it offers a number of important advantages.

**'Climb-up' rope action** – eliminates the need for a bulky take-up drum.

**Self reeving** – no fiddly manual threading necessary.

**Extra safety rope** – in addition to the 'power' rope, there's secondary braking.

**Fail-safe activation** – up/down lever automatically returns to neutral when released, can't be left on.

**Operational time meter** – allows accurate timing and logging of on-site operations.

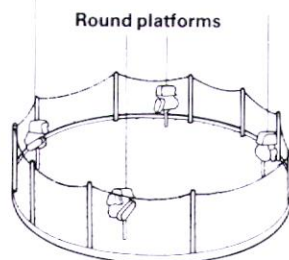
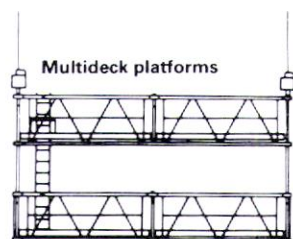
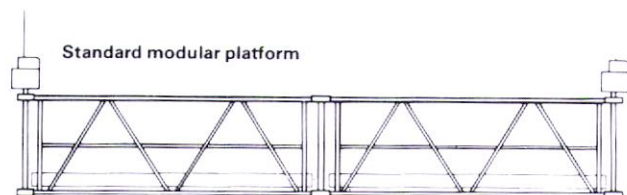
**Manual ascent/descent** electrically interlocking for safety.

In addition to powered platforms, manual platforms and cradles may be required in certain circumstances. Stephens & Carter are able to offer cradles with rope and pulley operation or platforms with the Alba range of manual winches which work on the drum and traction principle.

## Selecting a supplier of powered platforms

Any piece of access equipment is potentially dangerous. Suspended powered platforms are no exception – although if properly installed and operated they are among the safest method of access. In general, suspended powered platforms are used at greater heights and employ more sophisticated equipment than other access systems. It is therefore essential to deal with a reliable supplier.

Apart from the supplier's reputability, there are three major elements to consider: the quality and extent of the service offered by the supplier, the range of platforms and the power units employed which can be supplied. On this and the following three pages we'll be looking at Stephen & Carter's capability in each of these three areas.



## Service

The heading 'service' covers project control, installation, maintenance and repair and safety.

Stephens & Carter contracts supervisors have overall responsibility for the project and work closely with the customer to ensure smooth running.

All motors are regularly serviced and equipment such as platforms and cable inspected and tested. A team of safety officers supervises and controls the safety programme, both in the depots and on site. For on-site service or repair work a team of mobile

What's more, you can achieve a greater load capacity on assembly. Climastage has a lower 'self-weight' than many conventional systems.

All this comes naturally from better thought-out design. We manufacture Climastage ourselves, and when we developed it, we drew on the hard experience and practical needs of our own scaffolders. Now they use it for their own contract scaffolding work.

## Less system, more versatility

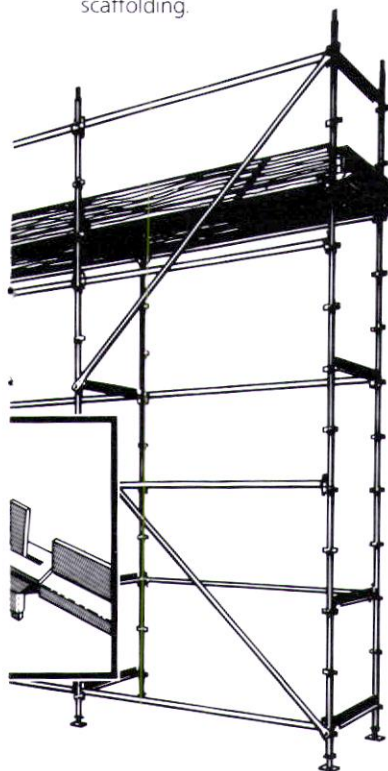
There are only five major components in the Climastage system: standards, battens, ledgers, transoms and adjustable bases.

Because there are so few individual elements you can be sure of having adequate stock to meet the requirements of most jobs.

And with fewer loose fittings you're less likely to suffer site losses.

However, in no way do you lose on versatility. The in-built adaptability of the Climastage means you can build all the usual configurations with ease.

But what is more, you can integrate Climastage with existing traditional scaffolding and with some other makes of system-scaffolding.



# Clima Ladders and Steps

Stephens & Carter are Britain's leading manufacturer and supplier of ladders and steps and, together with the sister company Bijstede, are Europe's largest. The range covers steps, trestles, aluminium ladders, timber ladders, pole ladders and roof ladders. All products are manufactured to the highest standards and rigorously tested. Most ladders comply with the requirement of BS 1129 (for timber ladders) and BS 2037 (for aluminium ladders).

## Features – timber

- Range – access from 2.44 m (8 ft) to 19.21 m (63 ft)
- Quality – stiles of selected softwoods (Douglas Fir or Western Hemlock); rungs of highest quality European Ash
- Safe – rungs guaranteed tested 177.8 kg (3 1/2 cwt)
- Secure – all rungs housed full section for extra strength
- Durable – all rung joints sealed with waterproof glue; all metal fittings rustproofed, all timber varnish-finished
- Strength – specially designed stile sections give exceptional strength/weight ratio

## Features – aluminium

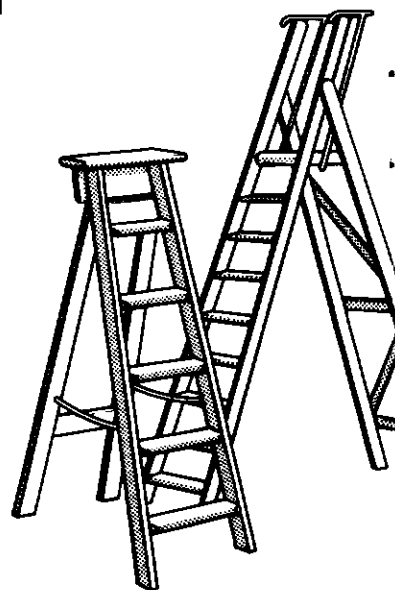
- Range – from 2.51 m (8 ft 3 in) to 19.66 m (64 ft 6 in)
- Secure – unique locking beads prevent rungs turning, deep fluted extrusions ensure secure foothold
- Protected – all stile ends fitted with solid rubber serrated plugs to protect the ladder and the building
- Comfortable – full width foothold on all ladders, one handed operation on most models
- Safe – most ladders in size range of BS 2037 supplied kite-marked

## Range

### Timber

- Heavy duty – single section
  - two part push-up
  - two part rope-operated
  - three part rope-operated

- Lightweight (trade use) – two part push-up
- Lightweight (single section) two part push-up



# Suspended platforms

Are powered platforms a substitute for scaffoldings? The answer is yes – and no.

No, platforms aren't a substitute for jobs where all parts of the structure must be accessible at once.

Yes, platforms are a substitute in those applications where scaffolding has been used because it was the only practical means of gaining access – maintenance or finished work, for instance.

Suspended platforms have, of course, been employed for access for many years. However, the manual operation of these platforms makes their operation slow and suitable only for a limited range of work. The breakthrough came with the introduction of safe, reliable power units which considerably speed the process up and vastly increase the range of applications. Today, suspended platforms are used in almost every area of construction and maintenance – on high-rise buildings, power stations, dockyards and even in the construction of offshore drilling platforms.

Stephens & Carter pioneered the use of powered access equipment in the UK in 1964. Since then acceptance has been rapid and today Stephens & Carter are the leading company in the field. The company offers a wide choice of systems backed by a full installation, maintenance and on-call repair and relocation system.

## Features

Fast – installed in hours where scaffolding erection to cover a comparable area might take days.

Mobile – horizontal and vertical movement to a new location takes moments, horizontal relocation an hour or two.

Safe – built-in safety plus rigorous maintenance mean equipment you can really rely on.

Efficient – staff spend their time working, not climbing. They are fresher, more alert and effective.

Takes equipment to the job – no need for risky hauling and manhandling of materials.

Versatile – you can use platforms in places where scaffolding just isn't practical – on ships, oilrigs, bridges, dams.

All equipment complies with or exceeds the requirements of BS 5974 for temporary suspended access.



Grayston UBM – the contracting division of BET Plant Services – are certainly large and reputable – and rather more. They have unrivalled resources, skills and experience to draw upon – it's significant that BET Plant Services are one of the biggest operators in the immensely demanding field of supplying access on offshore oil and gas rigs.

Of course, the contract scaffolding service is most valuable where a project is very big and/or very complex. However, the same experience and resources can be used to make smaller projects much faster, efficient and economical.

Below are some of the facilities which Grayston UBM the Contract Division of BET Plant Services can put at your disposal.

**Design.** For work on complex or 'difficult' structures, Grayston UBM employ a team of experienced, qualified designers. Working from site information they can supply drawings for the most intricate and specialised structures. In addition, the erection of designed structures is carried out under the technical supervision of a senior designer.

**Delivery.** The Grayston UBM network of depots and transport fleet ensures that delivery to site is carried out quickly and smoothly.

To help overcome the special transport problems in London, a base/cab radio link is permanently in operation. In this way, urgent requirements can be met speedily and efficiently.

**Surveying.** We have a full time staff of quantity surveyors, who regularly visit sites to ensure correct charging for materials actually in use.

**Safety.** To ensure that structures are not only designed and built safely but also remain safe, a team of safety officers travel the country inspecting sites to ensure that high standards are maintained.

Lightweight with aluminium D-rung – two part push-up  
– three part push-up

Pole ladders

Roof ladders

Builders' steps

Platform steps

Timber trestles

Timber staging

### Aluminium

Box section (Stecalloy)

Single section – standard duty  
– heavy duty

Two part – standard duty push-up

– heavy duty push-up

– special heavy duty rope-operated

Three part – standard duty push-up

– heavy duty push-up

– special heavy duty rope-operated

Roof ladders

I-beam

Two part rope-operated

Builders' swing back steps

Folding platform steps

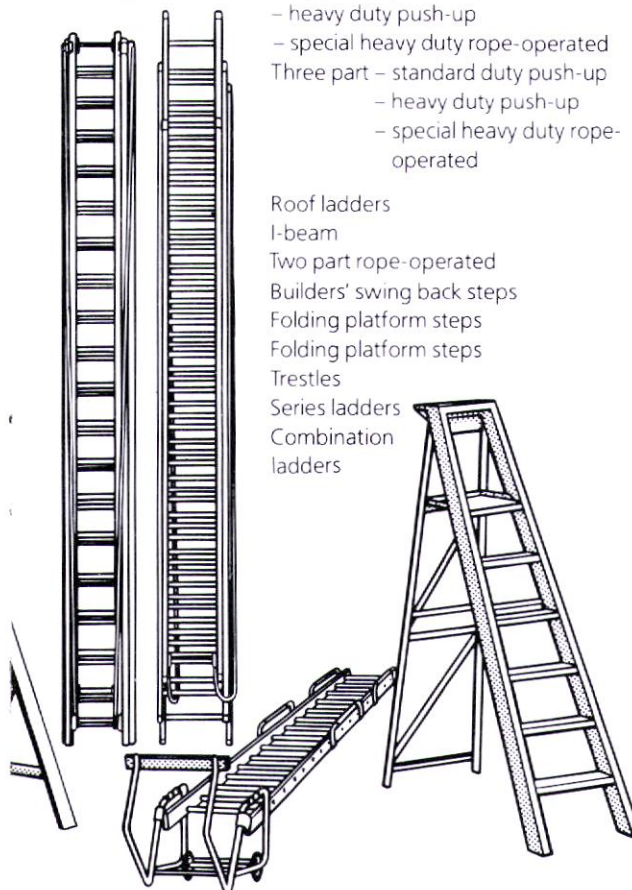
Folding platform steps

Trestles

Series ladders

Combination

ladders



## Standard scaffolding

This is the 'traditional' sector of the access business. Although replaced in many areas by more modern systems such as light-weight towers and suspended platforms, standard scaffolding is still the preferred solution for many applications. It gives unrivalled access to all parts of the structure and its great strength and versatility mean that scaffolding is often the only practical answer.

Scaffold tube, fittings and boards are available for hire, sale and contract from many companies. But few can offer services and resources to match Stephens & Carter, who have been scaffolding contractors since the turn of the century.

Stephens & Carter have the people, the experience and the resources to provide safe, properly-designed structures on time, and at the right price.

### Range

Stephens & Carter hold large stocks of black, galvanised and aluminium scaffold tube in all their nationwide depots. They also offer a complete range of drop-forged and zinc-coated pressed steel scaffold fittings – all at very competitive hire and sale rates.

Stephens & Carter are the only scaffold company who directly import scaffold boards. This allows us to offer the highest quality boards – every one is visually inspected. These boards are 38 mm thick, and meet the high standards we demand for our own hire and contract scaffolding.

Other items in the range include lattice beams, putlogs, tarpaulins, dust sheets, steel trestles, pole ladders, split-heads, gin wheels and steel towers.

## Contracting service

This guide, if it does nothing else, will have demonstrated to you the enormous variety of access answers which are available.

Hopefully, it will also help you to decide which is the right system for most tasks.

What it can't give you is the skill and experience gained by operating in all sorts of environments, solving all types of problems over many years.

For that, you need someone very like Grayston UBM, the BET Plant Services Contracting Division.

Our involvement can be as extensive as you like.

You can tell us what the job is (we'll survey the site for ourselves if necessary). We'll take responsibility for the whole job, starting with design and safety aspects, selection of systems and materials – tube and fittings, system scaffolding, suspended platforms, or a combination of these and other systems. We'll deliver the right materials, in the right condition, at the right place and time, control labour, and last but not least, remove materials from the site.

No doubt you could do all these jobs yourself, provided you and your staff didn't have other things to do! But by handling responsibility over to a specialist you can concentrate on other aspects of the project. You can rest assured that the access side is being dealt with by professional access specialists, who know access legislation, know the capabilities and limitations of the equipment and know how to get the best out of a labour force.

Not only does this take a weight off your mind, it can often work out less expensive than doing it yourself. Logistic skills, for instance, can mean that expensive equipment isn't left hanging round the site accruing hire charges – and that expensive labour isn't kept hanging around waiting for the equipment to arrive.

### Why use contracting?

Contract scaffolding – whereby a single company takes responsibility for the whole of a scaffolding project – is a very crowded field. Anyone can set up in business, hiring men and materials as they go along, tendering temptingly low prices and keeping fingers crossed on delivery dates.

Of course, they might pull it off, but if something goes wrong they've got no resources to fall back on. That's why, even on small projects, it makes sense to deal with a larger, more reputable company.