

**Guide to estimating  
for small works  
2022**

Twenty-eighth edition

**BCIS Guide to estimating for small works 2022**

Preface to the 28th edition 2022

We appreciate that for many firms estimating can be a headache; conventional building price books being too expensive, too complex and generally intended for larger projects. They also contain unit rates which are not relevant and perhaps not easily understood.

For many years BCIS had received persistent requests for a building price book aimed specifically at the smaller builder who is chiefly engaged in the construction of small extensions to existing buildings using traditional methods and materials, with the result that the *Guide to estimating for small works* was produced. This book has established itself and is very popular with the small builder.

Such work represents a significant part of the total volume of construction undertaken in the UK and is generally carried out by small firms typically having less than 20 employees, often as few as one or two, with some trades sub-contracted out.

The smaller builder is more likely to build up his estimate in recognised building sections or elements using just the total costs of the foundations, walls, roof, etc. Certainly our research shows that most smaller builders are happier with this approach.

The book follows the method of estimating in sections or elements by providing:

- a) A comprehensive selection of fully priced standard estimates for the most common type, style and size of building extension with the total cost of each section or element clearly shown.
- b) A separate detailed price build up for each section or element included in the standard estimates showing how the cost of the foundations, walls, roof etc. have been built up.

Drawings and specifications are also included together with essential pricing information such as labour hourly rates, gang rates, plant hire rates and basic material prices. In addition, measured rates are given for alteration works and external works including paving and drainage. The pricing information is completed with a fully detailed estimate for a roof space conversion.

An important feature of this book is that in addition to providing prices and estimates, it explains in a clear and straightforward manner how to adjust and manipulate the standard estimates to suit the builder's particular project. By this means we aim to enhance the value of the book, increase the confidence of the user and promote a greater understanding of building estimating.

Although this book has been published with the smaller builder in mind, it will nevertheless be of immense value to larger builders engaged in the construction of small building extensions as well as building owners and consultants. The book is now also easier to use with a comprehensive index to take you straight to the place where you need to be and a far superior layout providing clearer and more concise information.

We believe that this publication bridges the gap between the estimating text book and the building price book, providing answers to the questions and solutions to many of the problems of estimating for small extension works.

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**BCIS Guide to estimating for small works 2022****28th edition**

BCIS would like to thank our members of staff together with all those who assisted in the preparation and production of the 28th edition of the *BCIS Guide to estimating for small works*. We also wish to acknowledge the invaluable assistance given by the following individuals, including those who have given their kind permission for the reproduction and publication of copyright material.

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**A note about the book:**

This publication represents one, in a range of construction price books from BCIS designed to assist in the preparation and pricing of estimates and contracts from small extensions right up to multi-million pound projects. All the pricing information within this book has been extracted from the BCIS Building price database. All extracted prices were then tailored to reflect the needs of the smaller builder, enabling a fast and reliable estimate to be produced.

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## Chapter 1

## Introduction

**Generally**

The objective of this book is to assist the smaller builder to estimate the cost of building construction work swiftly and accurately with the minimum of complication. Since most builders have to bid in competition for their work, it follows that a greater understanding of straightforward estimating methods coupled with reliable cost information will increase the builder's chances of winning contracts and building a successful business. This book aims to provide both the understanding and the cost information.

Most conventional building price books give unit rates for measured work, however, it is recognised that the majority of smaller builders do not estimate this way. Instead they simply break the building down into sections or elements and calculate the total cost of the foundations, walls, roof, etc.

This book gives the cost of each building section or element and provides a comprehensive selection of standard estimates priced in sections for a range of traditionally constructed building extensions of various types and sizes.

The building sections or elements used are:

Substructure	Wall finishes
Frame	Floor finishes
Upper floors	Ceiling finishes
Roofs	Fittings and furnishings
Stairs	Services
External walls	Site works
External doors and windows	Drainage
Internal walls and partitions	Manholes
Internal doors	Alterations to existing building

These building elements are in common use and are recognised by builders and professionals alike.

To provide an insight into the scope of this book and its usefulness to the smaller builder, the contents are summarised below.

<b>Chapter 1</b>	Introduction	In addition to the foregoing notes, this chapter outlines the basis of the prices including the criteria followed in the calculation of both net and gross rates together with the breakdown of the labour hourly rates.
<b>Chapter 2</b>	Contract	This useful chapter highlights the importance of using a written contract and provides a check list of points which any contract should cover.
<b>Chapter 3</b>	Preliminaries	This chapter identifies those items which should be included in Preliminaries and provides a worked example of a calculation of the cost of Preliminaries for a contract having a value of around £60,000.
<b>Chapter 4</b>	Standard estimates	Outlines the building extension types and sizes, the specifications used and provides 256 separate fully priced estimates.
<b>Chapter 5</b>	Cost details and adjustments	This chapter provides the detailed cost breakdown of all the items used in the estimates. It includes worked examples of how to adjust prices and modify the standard estimates.
<b>Chapter 6</b>	Alteration work	This chapter provides an extensive selection of rates for alteration work and includes a fully priced estimate for a roof space conversion.
<b>Chapter 7</b>	External works	Provides a selection of rates for paving, drainage, manholes and conservatories.
<b>Chapter 8</b>	Basic prices, labour, plant and materials	Provides details of which labour rates have been used in the prices and shows the calculation of gang rates. Also provides plant hire rates and an extensive selection of basic material prices.



<b>Chapter 9</b>	Planning and building regulation fees	Provides guidance for the application and cost of the 'Town and country planning regulations' and the building (prescribed fees, etc.) regulations
<b>Chapter 10</b>	Memoranda	Contains metric conversion tables, weights of materials, covering capacities, number of bricks and tiles per square metre, etc.

The standard estimates in chapter 4 are related to items of completed work and prices have already been built up from detailed labour, plant and materials cost information. By selecting the estimate nearest to that required a total cost can be obtained very quickly.

Should the standard estimate need to be modified, then the builder can measure 'finished' work from drawings and relate this to the detailed breakdown of the items given in chapter 5. The standard details can be compared with the required specification and repriced if necessary – an example is given in chapter 5. As can be seen from that example, labour times, labour costs and materials costs can easily be obtained for each element of the building. Labour times can be checked against the builder's own assessment of time for each element.

The standard estimates not only provide a framework for a fast and efficient estimate but they also enable a sound basis to be established for the contract which may follow. The builder can refer to the detailed breakdown of rates and prove exactly what is included in his contract price.

Successful estimates, which have been produced in this methodical way, will form good records which can be checked against work done. The builder can then use the information to modify future estimates and continue to improve his efficiency.

### Basis of pricing

The aim of the *BCIS Guide to estimating for small works* is to provide builders with a guide to current net cost unit prices for building work at competitive rates.

In calculating the hours required for each separate operation, and in seeking prices for materials; contracts of alterations and extensions to an existing house, of up to two storeys, with a tender price up to £100,000 have been assumed.

The prices have been created on a nationally averaged 'best price' basis. For an indication of regional differentials, see the last paragraph of this chapter.

The prices represent the net cost of labour, plant and materials, without additions for site overheads (examples of which are shown separately in chapter 3 – Preliminaries), or for off-site office overheads or profit, as such additions fluctuate with market conditions.

Prices for work which is normally under the builder's direct control, whether employing in-house labour or labour only sub-contractors, are broken down into 'Net labour', 'Net plant' and 'Net materials', with the total of these separate prices giving the 'Net unit price'.

Work is generally measured as composite items which relate to a particular operation on site. These composites are made up of unit prices. This system enables the builder to make a quick assessment of the work and modify the content of a composite item without the need to build up all the detail.

Work normally undertaken by specialist sub-contract firms has been priced by specialist firms and the prices given are total 'Net unit prices' inclusive of labour, plant, materials and the specialists' overheads and profit. The prices are inclusive of 2.5% cash discount to the Builder but are exclusive of the builder's own overheads and profit.

### Guide prices

It must be stressed that the prices in the book are **guide prices**. Quotations for materials and specialists' work should be obtained for particular projects as the prices cannot be guaranteed. The nature of the publication, which is intended to be a guide to building prices throughout the United Kingdom, precludes the possibility of firm prices for all situations. Regional price variations, qualities and quantities of materials and work, availability of skilled labour, location of sites and individual project requirements all have a bearing on prices for building work.

### Descriptions

Descriptions of work are generally based upon the *Sixth Edition of the Standard Method of Measurement for Building Works (SMM6)* but have been simplified for ease of understanding and to reflect the scale of work covered by this book.

### Value Added Tax

The prices throughout the book are **exclusive** of Value Added Tax.

**Covid-19 and Brexit**

The material supply prices, and plant hire charges used in BCIS cost data are based on the analysis of data collected during January 2022. In some circumstances, they will need to be adjusted in the short-term due to the ongoing impact of Covid-19 and Brexit.

Labour rates are based on current industry wages agreements and allowances. It does not include allowances for local labour market conditions or shortages. With the current economic climate and pressures currently being experienced by the industry, adjustment may be necessary to reflect changes in site productivity brought about by the Site Operating Procedures to comply with the required social distancing, personal protection requirements, safety regulations, cleaning routines etc., and reported labour shortages.

Supply of material to the UK construction industry is under pressure resulting in longer lead times, higher prices, and price volatility. Reports indicate that the industry is experiencing some materials shortages and prices are trending upwards.

Users should consider including an adjustment for the Covid-19 and Brexit impact for the estimates based on BCIS Schedule of rates and Price books unit rate data. Given the current uncertainty and volatility of prices, we will issue an in-year update to help users ensure their estimates are up to date with the latest Tender Price and Building Cost movements, and a guide to changes in input costs and regional factors.

**Material prices****Base date of prices**

The supply prices of materials, as shown in 'Basic prices of materials' were current during January 2022.

**Trade and quantity discounts**

The supply prices of materials generally are trade prices delivered to site unless otherwise stated. The prices generally are for part loads or small quantities.

**Waste factors**

Waste percentages added to the supply prices of materials are generally for handling wastage for such materials as cement, sand and lime. The percentages added to other materials are generally for waste in use and in order to simplify the computation of the material constants used in the calculations of the Net unit prices.

**Unloading costs**

Where materials are not supplied crated or palletised, the cost of site labour and plant in unloading materials has been calculated, where applicable, and added to the supply prices.

**Crates and pallets**

Surcharges for returnable crates and pallets have been excluded from the supply prices of the materials

**Plant costs**

Plant hire charges are applicable to January 2022 and are typical rates obtained from plant hire companies.

**Idle time**

Allowances have been made against the hire charges to allow for idle or standing time so that the hourly constants shown in the build-up of prices are for the actual working time of the plant.

**Operators**

Weekly hire charges for mechanical equipment are exclusive of operators. The costs of operators are shown separately and are calculated in accordance with the build-up of labour rates shown in this chapter. Daily or hourly hire charges for mechanical equipment are inclusive of operators where indicated.

**Fuel, etc.**

The hire charges for mechanical equipment exclude the provision of fuel but include maintenance and services charges. Unit rate build-ups include for fuel costs.

**Constants**

The constants, in the form of hours, against the items of plant have been rounded off to two decimal places after calculation.

**Labour costs****Generally**

Labour costs have been calculated in accordance with the recommendations of the *Code of Estimating Practice* published by the Chartered Institute of Building.

**Base date of pricing**

Labour costs are based upon the rates of wages and allowances payable to operatives from 21 June 2021.



The total cost per hour figures have been corrected to the nearest whole penny and are based on a 40.6 hour working week. However, the detailed calculations have been made using several places of decimals which may give rise to apparent 1p differences in some of the printed figures.

#### Plus rates

An enhanced 'plus rates' has been inserted in the calculation to suit the nature of small works contracts.

The hourly rates used for the calculations are as follows:

Advanced craft	BATJIC	£18.87 per hour
General operative	BATJIC	£14.32 per hour
General operative	BATJIC (skill rate A)	£14.98 per hour
General operative	BATJIC (skill rate B)	£15.35 per hour
General operative	BATJIC (skill rate C)	£15.73 per hour
General operative	BATJIC (semi-skilled A)	£16.60 per hour
General operative	BATJIC (semi-skilled B)	£17.00 per hour
General operative	BATJIC (semi-skilled C)	£17.41 per hour
Tehchnical plumber	JIBPMES	£27.38 per hour
Advanced plumber	JIBPMES	£24.69 per hour
Trained plumber	JIBPMES	£20.92 per hour
Apprentice plumber (3rd year)	JIBPMES	£12.70 per hour

**Note:** National Insurance rates have been based on those applicable from 6 April 2021

#### Travelling allowances

As travelling allowances vary with the distance of building sites from the builder's office they have been excluded from the calculation of the hourly labour costs. Allowances for travelling time and/or expenses should be made in Preliminaries.

#### Overtime

Allowance for overtime in the calculation of the hourly labour costs has been based on an average of five hours overtime per operative per week during British Summertime. The non-productive element in the overtime amounts to an average of 37 hours per operative per annum.

#### Training allowance

The CITB advise a levy of 0.175% of PAYE payroll and 0.625% of labour-only sub-contract costs.

#### Constants

The constants, in the form of hours, against each item in the price book have been rounded off to two decimal places after calculation.

#### Calculation of hours worked per annum: Advanced craft and General operative

	Hours	Hours	Hours
(a) Summertime working: 30 weeks of British Summertime at 40.6 hours per week Monday to Friday			
30 weeks at 40.6 hours		1218.0	
<b>Less</b> annual holidays (15 days)	121.8		
public holidays ( 6 days)	48.7	170.5	1047.5
(b) Winter working: 22 weeks at 40.5 hours per week			
22 weeks at 40.6 hours		893.2	
<b>Less</b> annual holidays ( 7 days)	56.8		
public holidays ( 3 days)	24.4		
sick leave (8 days )	65.0	146.2	747.0
Total number of paid working hours during year			1794.5
<b>Less</b> allowance for inclement weather (2%)			35.9
Total number of productive hours worked per annum			<u>1758.6</u>



Specification B 6 m <sup>2</sup> –15 m <sup>2</sup>			Ref B/2F 3 x 2 Size 3.00 x 2.00 m Area 6 m <sup>2</sup>			Ref B/2F 3 x 3 Size 3.00 x 3.00 m Area 9 m <sup>2</sup>			Ref B/2F 3 x 4 Size 3.00 x 4.00 m Area 12 m <sup>2</sup>			Ref B/2F 3 x 5 Size 3.00 x 5.00 m Area 15 m <sup>2</sup>		
			Qty	Total £	Element total £	Qty	Total £	Element total £	Qty	Total £	Element total £	Qty	Total £	Element total £
Two storey														
Flat roof														
Element	Unit	Unit rate £												
<b>Substructure</b>														
Strip footings	m	179.78	9m	1618.02		10m	1797.80		11m	1977.58		12m	2157.36	
Solid ground floor	m <sup>2</sup>	74.06	6m <sup>2</sup>	444.36	<b>2062.38</b>	9m <sup>2</sup>	666.54	<b>2464.34</b>	12m <sup>2</sup>	888.72	<b>2866.30</b>	15m <sup>2</sup>	1110.90	<b>3268.26</b>
<b>Upper floors</b>														
Timber floor construction 50 x 150 mm joists	m <sup>2</sup>	59.22	6m <sup>2</sup>	355.32	<b>355.32</b>									
Timber floor construction 50 x 200 mm joists	m <sup>2</sup>	65.34				9m <sup>2</sup>	588.06	<b>588.06</b>	12m <sup>2</sup>	784.08	<b>784.08</b>	15m <sup>2</sup>	980.10	<b>980.10</b>
<b>Roof</b>														
Flat roof construction 50 x 150 mm joists	m <sup>2</sup>	87.08	11m <sup>2</sup>	957.88		14m <sup>2</sup>	1219.12		18m <sup>2</sup>	1567.44		21m <sup>2</sup>	1828.68	
Work to top of external wall	m	31.97	9m	287.73		10m	319.70		11m	351.67		12m	383.64	
Three layer felt roofing	m <sup>2</sup>	48.95	11m <sup>2</sup>	538.45		14m <sup>2</sup>	685.30		18m <sup>2</sup>	881.10		21m <sup>2</sup>	1027.95	
Fascia and eaves soffit	m	56.57	10m	565.70		11m	622.27		12m	678.84		13m	735.41	
Gutters and fittings	m	24.24	3m	72.72		4m	96.96		5m	121.20		6m	145.44	
Flashings	m	31.94	3m	95.82		4m	127.76		5m	159.70		6m	191.64	
Abutment to existing wall	m	75.95	3m	227.85	<b>2746.15</b>	4m	303.80	<b>3374.91</b>	5m	379.75	<b>4139.70</b>	6m	455.70	<b>4768.46</b>
<b>External walls</b>														
Brick and block cavity wall	m <sup>2</sup>	167.35	37m <sup>2</sup>	6191.95	<b>6191.95</b>	42m <sup>2</sup>	7028.70	<b>7028.70</b>	47m <sup>2</sup>	7865.45	<b>7865.45</b>	52m <sup>2</sup>	8702.20	<b>8702.20</b>