



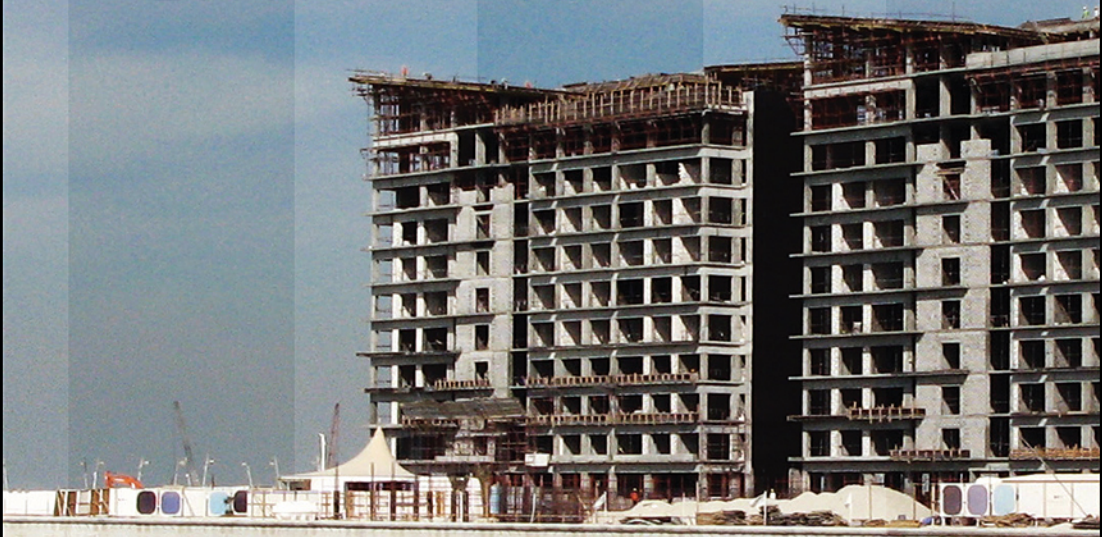
Spon Press

SPON'S

FIRST STAGE ESTIMATING HANDBOOK

3RD EDITION

BRYAN SPAIN



**Spon's First Stage
Estimating Handbook**

Other books by Bryan Spain also available from Spon Press

Spon's Estimating Costs Guide to Electrical Works (4th Edition)
978-0-415-46904-3

Spon's Estimating Costs Guide to Plumbing and Heating (4th Edition)
978-0-415-46905-0

*Spon's Estimating Costs Guide to Minor Works, Alterations and Repairs to Fire, Flood,
Gale and Theft Damage* (4th Edition)
978-0-415-46906-7

Spon's Estimating Costs Guide to Small Groundworks, Landscaping and Gardening (2nd
Edition)
978-0-415-43442-3

Spon's Estimating Costs Guide to Finishings (2nd Edition)
978-0-415-43443-0

Spon's House Improvement Price Book (4th Edition)
978-0-415-54716-1

Information and ordering details

For price, availability and ordering, visit our website: www.sponpress.com
Alternatively, our books are available from all good bookshops.

Spon's First Stage Estimating Handbook

Third edition

Bryan Spain



Spon Press
an imprint of Taylor & Francis

LONDON AND NEW YORK

First edition published 2000 by Spon Press

Second edition published 2006 by Taylor & Francis

This edition published 2010

by Spon Press

2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Simultaneously published in the USA and Canada

by Spon Press

270 Madison Avenue, New York, NY 10016 USA

This edition published in the Taylor & Francis e-Library, 2010.

To purchase your own copy of this or any of
Taylor & Francis or Routledge's collection of thousands of eBooks
please go to www.eBookstore.tandf.co.uk.

Spon Press is an imprint of the Taylor & Francis Group, an informa business

© 2010 Bryan Spain

Publisher's Note

This book has been prepared from camera-ready copy supplied by the author.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

This publication presents material of a broad scope and applicability. Despite stringent efforts by all concerned in the publishing process, some typographical or editorial errors may occur, and readers are encouraged to bring these to our attention where they represent errors of substance. The publisher and author disclaim any liability, in whole or in part, arising from information contained in this publication. The reader is urged to consult with an appropriate licensed professional prior to taking any action or making any interpretation that is within the realm of a licensed professional practice.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 0-203-87593-1 Master e-book ISBN

ISBN 10: 0-415-54715-6 (pbk)

ISBN 10: 0-203-87593-1 (ebk)

ISBN 13: 978-0-415-54715-4 (pbk)

ISBN 13: 978-0-203-87593-3 (ebk)

Contents

Preface	vi
Introduction	viii
Chapter 1: Costs per square metre	1
Building work	1
Chapter 2: Costs per unit	7
Chapter 3: Elemental costs	9
Building work	9
Chapter 4: Composite and principal rates	43
Building work	43
External works	55
Landscaping	84
Civil engineering work	94
Mechanical work	131
Electrical work	137
Alterations and repairs	144
Chapter 5: Indices and regional variations	157
Chapter 6: Property insurance	159
Chapter 7: Professional fees	161
Chapter 8: Useful addresses	167
Chapter 9: Estimating data	171
Index	191

Preface

The construction industry, particularly house building, is currently going through a difficult period. Both clients and contractors are experiencing difficulties in financial matters due to the recent upheaval in the banking system. Nevertheless, small and large construction projects are still being designed and planned and the need for the preparation of accurate financial assessments in the first stages of a project's life has never been greater.

Assessing the total cost of a construction project is a continuous process that commences when the client asks his professional advisors what it will cost. It ends when the cheque for the release of the last portion of the retention is paid and the final account is settled.

Whether a project is profitable or not can often depend on decisions taken at the first stages of its life. The people who carry out this assessment bear the responsibility of deciding whether the cost information available at the time warrants spending further time and money investigating the viability of a project that is usually still at the conceptual stage.

It is vital, therefore, that the most accurate methods of calculating the probable costs of construction are used and I hope that the information in this book will help clients, developers, architects, engineers and surveyors involved in this process.

Time spent on the appraisal of projects that do not proceed is not always wasted—lessons can be learnt that will help the next project. The greater waste lies in allowing jobs to proceed without the people making the key decisions having the best cost information available to them.

It is not possible to provide totally accurate cost data in the early stages of a job—only a historical analysis of the final account can do that. But guidelines can be set out that should allow the client commissioning the work to help make the right decision before becoming contractually committed to spending large sums of money on land purchase, professional fees and construction costs.

On a well-managed project, the cost plan will be monitored continuously as changes are made to the original design or for other reasons. If the first-stage budget is based on reliable cost data, the project will have a better chance of being completed within budget.

I have received a great deal of help in the preparation of this book and would like to thank those suppliers and contractors who gave me their time and support. The information in *Estimating Data on civil engineering outputs* is based on data in *Spon's Civil Engineering and Highways Price Book 2009* edited by Davis Langdon.

Although every effort has been made to ensure the accuracy of the information, neither the Publishers nor I can accept any type of liability resulting from the use of the contents.

On a more positive note, I would welcome constructive criticism of ways to make the contents of this book more relevant to the changing needs of the construction industry for future editions.

Bryan Spain
September 2009

Introduction

This is the third edition of Spon's First Stage Estimating Handbook and it is aimed at all those members of the construction team who are involved in assessing construction costs during the early stages of the development of a project. There are many factors that can affect the profitability of a job over which the construction team has little or no control.

It is important, therefore, that areas that can be influenced by good management skills should be given special attention. This applies particularly to the first stage estimating process when a solid base of the project's financial position can be established.

The contents have been laid out in the order that most projects are financially assessed. The quality of the cost information, however, is almost wholly dependent upon the quality of the specification and the design information that is available at that stage of the appraisal.

Chapter 1 lists square metre rates for building work for a wide variety of building types. The rates are expressed in a range based on historical costs and should provide a client with a broad indication of likely costs.

Chapter 2 fulfils the same function but the costs are given in unit costs, e.g. the cost per hospital bed or per pupil in a school. This method of assessment can be surprisingly accurate but should always be backed up by more detailed methods of cost appraisal.

Chapter 3 contains elemental cost analyses of 32 different types of buildings. These analyses provide data on the percentage and cost breakdown of 24 elements for each building and are a useful tool in identifying imbalances between the elements of different buildings.

Chapter 4 includes unit rates for building, landscaping, civil engineering, electrical and alteration work. Where possible, composite rates are displayed that combine several different descriptions to provide a single rate for separate but linked activities. For example, excavation, concrete and brickwork up to DPC level are combined to produce a single linear metre rate for strip foundations.

The use of composite rates can save valuable time in the preparation of the cost plan. Where item descriptions do not lend themselves to be combined with others they are listed as principal rates.

Chapter 5 provides indices reflecting historical costs of construction costs and tender prices.

Chapter 6 deals with property insurance and contains two examples of re-building costs for insurance purposes.

Chapter 7 sets out the cost of employing professional advisors whose fees are now negotiable and not mandatory.

Chapter 8 includes a list of useful addresses.

Chapter 9 contains estimating data that may be useful when preparing a first stage estimate.

At this stage of a project the information available is limited and, although the brief from a client can be minimal, an approximation of costs must still be prepared. Here is a simple example.

It is proposed to construct a single story distribution warehouse (shell only) size 6,000 square metres in the South West of England. An outline plan has been prepared showing parking areas and a road layout It is known that local contractors are operating at almost full capacity so tender levels are expected to be high. The work would commence in April 2010 with a nine month construction period.

Main building		£
6,000 m ² at £622 (Chapter 1)		3,732,000
External works (based on rough quantities and rates in Chapter 4)		
Car park	180,000	
Roads	135,000	
Fencing	46,000	
Drains	42,000	
Soft landscaping	15,000	
Lighting	<u>15,000</u>	<u>433,000</u>
	£	4,165,000
Extra for anticipated high tender levels say 6%		208,250
	£	4,373,250
Allow for inflation say 9 months @ 3%×£4,373,250		<u>98,398</u>
Carried forward	£	4,471,548
Brought forward		£4,471,648
Allow for regional variations (see Chapter 5) say South West, 91%×£4,471,648 Professional fees (see chapter 5)		4,069,199
say 12%×4,069,199	£	<u>488,303</u>
	£	<u>4,557,502</u>

Depending on the quality of the information on which the first stage estimate is based, a basement and ceiling band of between 5% and 10% should be applied and reported to the client:

5% say	£4,329,626 to £4,546,108
10% say	£4,091,497 to £5,013,252

These costs exclude land purchase and VAT and any special costs connected to the project. They also exclude any development grants or subsidies that may be available in the area involved.

1

Costs per square metre

BUILDING WORK

These square metre prices exclude the cost of external works, fittings, furniture, professional fees and VAT. They are expressed in a range and are intended to provide a broad indication of the cost of the work in the early stages of a project's financial appraisal.

£/m²

Public service buildings

Banks

local	1600–1850
city	2150–2750

Building societies

local	1450–1750
city	1650–2050

Fire stations

1400–1750

Courts

magistrates	1450–1700
county	1800–2150

Police stations

1350–1800

Prisons

1700–2300

Post offices

950–1250

Halls

town	1000–1300
village	900–1200

Ambulance stations

1250–1600

Vehicle repair

1350–1500

Car showroom

1100–1300

Car repairs and maintenance

1400–1650

Petrol stations

1500–1900

	£/m²
Industrial buildings	
Agricultural	
livestock	450–600
storage	550–750
Advance factories for letting	650–850
Purpose built factories	750–950
Factories, generally	
heavy industrial	750–950
extra for owner occupation	300–350
extra for office accommodation	350–400
High tech. laboratories	2800–3500
Warehouses/stores shell only	
up to 2000m ² floor area	450–550
over 2000m ² floor area	350–500
extra for owner occupation	250–300
Offices, business park	
high tech. unit	1000–1300
extra for air conditioning	150–200
extra for owner occupation	200–250
Offices, city centre	
3 to 5 floors	1100–1400
over 5 floors	1250–1650
extra for air conditioning	150–200
prestige building	2000–2800
extra for owner occupation	200–250
Health and welfare facilities	
Day surgeries	1250–1450
Group surgeries	1150–1400
Homes for the mentally handicapped	1100–1500
Health centres	1300–1500
Welfare centres	1400–1700
Dental surgeries	1200–1400
Children's homes	1100–1350
Geriatric units	1400–1700

	£/m²
Hospices	1500–1900
Hospitals, general	1300–1700
Laboratories	1550–1950
Pharmacies	1000–1500
Private hospitals	1400–1800
Hospital teaching centres	980–1400
Nursing homes	1250–1600
Leisure facilities	
Cinemas	1800–2150
Community centres	1100–1300
Concert halls	2300–3300
Exhibition buildings	1550–1850
Ice rinks	1350–1550
Golf club houses	1300–1800
Public houses	1200–1550
Restaurants	1450–1850
Sports centres	800–200
Sports pavilions	1150–1550
Squash courts	950–1250
Swimming pools	
school	1200–1450
local	1700–2200
international	2800–3750
fun	2600–3400
Youth clubs	1000–1300
Gymnasiums	1000–1300
Fitness clubs	
with pool	1400–1900
without pool	1000–1500
Exhibition centres	1500–2000
Social clubs	1200–1600
Visitors' centres	900–2600

	£/m²
Indoor tennis courts	400–800
Indoor bowling green	450–900
Theatres	
small	1650–2250
prestige	3400–3950
Religious buildings	
Churches, chapels	1200–1850
Church halls, meeting houses	950–1400
Convents	1300–1800
Crematoria	1500–2600
Temples, synagogues, mosques	1300–1900
Educational buildings	
Colleges	1200–2100
Libraries	
local	950–1750
city centre	1550–2200
Museums	
local	1400–2000
city centre	1700–2200
Research facilities	1600–2000
Schools	
nursery	1200–1500
primary	1100–1400
secondary	1050–1350
special	1050–1350
for physically handicapped	900–1600
sixth form colleges	1200–1900
Universities	1400–1750
Crèches	1200–1600
Computer buildings	1600–2600
Training colleges	1100–1500

£/m²**Residential buildings**

Hotels

3 star	1600–1950
5 star	2350–3000

Private housing

bungalows	900–1050
houses, detached	850–1100
houses, semi-detached	800–1050
flats, low rise	900–1100
flats, standard	850–950
flats, luxury	1750–2350

Public housing

bungalows	850–950
houses, semi-detached	800–1000
flats, low rise	850–1050
sheltered housing	900–1050

Sheltered housing

public	900–1350
private	1000–1700

Student accommodation

1000–1800

Youth hostels

900–1800

Nurses' residences

1100–1850

Hostels for the homeless

800–1000

Transport

Car parking

multi-storey	300–500
underground	500–600
surface	90–110

Coach and bus stations

950–1400

Bus garages

1100–1200

Car washes

700–1000

Retail

Retail warehouses

800–1100

Shops

	£/m²
small	700–900
medium	600–800
Department stores	650–850
Shops with offices over	900–1200
Shops with flats over	1000–1300
Supermarkets	
shell only	450–650
fitting out	900–1150
Fitting out	
retail warehouses	400–550
small shops	700–850
department stores	1000–1200
Shopping malls	3350–4500
Fitting out	
retail warehouses	400–550
small shops	700–850
department stores	1000–1200
Shopping malls	3350–4500

2

Costs per unit

The following represent the cost per unit of a range of types of buildings. This method of assessing construction costs is usually the first step in the process of the consideration of the viability of project.

	Unit	£
Health and welfare facilities		
Hospitals (general)	Bed	90,000–150,000
Hospitals (private)	Room	115,000–210,000
Nursing home		
old peoples'	Bed	30,000–75,000
children's	Bed	25,000–50,000
Leisure		
Theatres	Seat	25,000–35,000
Sports stadium, new stands		
single tier stand	Seat	1,100–1,350
multi-tier stands with hospitality boxes	Seat	3,000–4,000
Hotels		
3 star	Bedroom	35,000–55,000
5 star	Bedroom	85,000–180,000
Residential		
Local Authority housing	Bedroom	30,000–40,000
Local Authority flats	Bedroom	25,000–35,000
Sheltered housing	Bedroom	45,000–60,000
Private housing	Bedroom	55,000–90,000
Private flats	Bedroom	60,000–95,000
Student accommodation	Bedroom	40,000–55,000

	Unit	£
Transport		
Car parking		
multi storey	Car	5,000–10,000
underground	Car	15,000–25,000
surface	Car	1,200–1,750
Educational buildings		
Nursery schools	Pupil	5,000–10,000
Primary schools	Pupil	7,000–12,000
Secondary schools	Pupil	8,000–14,000

3

Elemental costs

This chapter contains elemental cost breakdowns for building and electrical work. The building work is comprised of 38 different types in 8 categories, each building broken down into 24 cost elements.

The cost data should be used with caution because imbalances can occur in the use of elemental costs in isolation. The figures are an amalgam of the costs for a range of buildings in each category and represent a broad indication of costs rather than an accurate statement of detail.

It should be remembered that the application of the information in this chapter is only one stage in the preparation of a budget estimate for a project. It is hoped that any major discrepancies will be highlighted by a comparison between the following detailed breakdowns and specific projects.

Nevertheless, the information provided should be an invaluable tool in assessing the relative values of elements in different buildings. The tables will be particularly useful in the early cost planning process and also in the evaluation of tenders.

The costs cover building work only and exclude the costs of drainage, external works, contingency sums, professional fees and VAT. Due to rounding off there may be some minor discrepancies in individual elemental costs and totals. The figures are based on costs prevailing in the first quarter of 2000. The following buildings are included.

BUILDING WORK

Public service buildings

- Ambulance station
- City bank
- County court
- Fire station
- Police station
- Village hall

Industrial buildings

- Factory, light industrial
- Factory, heavy industrial
- Livestock building
- High tech laboratory
- Nursery units

Warehouse shell
Warehouse complete

Health and welfare

Group surgery
Health centre
Old persons' nursing home
Welfare centre

Leisure

Golf club house
Public house
Restaurant
Sports hall

Education

Library
Primary school
Secondary school
Sixth form college
Special school
Teachers' training college

Residential

Local Authority low rise flats
Local Authority housing
Private flats
Luxury private flats

Transport

Multi-storey car park

Category: Public service

Type: Ambulance station

Floor area: 375m²

Total cost: £ 425,625

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	46,819	11	125
2 Substructure	38,306	9	102
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	55,331	13	148
6 Staircases	0	0	0
7 External walls	34,050	8	91
8 Windows and external doors	17,025	4	45
9 Partitions and internal walls	12,769	3	34
10 Internal doors	8,513	2	23
11 Wall finishes	8,513	2	23
12 Floor finishes	21,281	5	57
13 Ceiling finishes	4,256	1	11
14 Fittings and furnishings	29,794	7	79
15 Sanitary appliances/disposal installation	17,025	4	45
16 Hot and cold water services	8,513	2	23
17 Heating and air treatment installation	17,025	4	45
18 Ventilation installation	4,256	1	11
19 Gas services	4,256	1	11
20 Electric installation	34,050	8	91
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	8,513	2	23
23 Special installations/services equipment	17,025	4	45
24 Builders' work	38,306	9	102
	425,625	100	1,135

Category: Public service

Type: City bank

Floor area: 907m²

Total cost: £2,222,150

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	199,994	9	221
2 Substructure	155,551	7	172
3 Frame	222,215	10	245
4 Upper floors	88,886	4	98
5 Roof	133,329	6	147
6 Staircases	44,443	2	49
7 External walls	333,323	15	368
8 Windows and external doors	111,108	5	123
9 Partitions and internal walls	66,665	3	74
10 Internal doors	44,443	2	49
11 Wall finishes	44,443	2	49
12 Floor finishes	88,886	4	98
13 Ceiling finishes	66,665	3	74
14 Fittings and furnishings	66,665	3	74
15 Sanitary appliances/disposal installation	22,222	1	25
16 Hot and cold water services	44,443	2	49
17 Heating and air treatment installation	66,665	3	74
18 Ventilation installation	22,222	1	25
19 Gas services	0	0	0
20 Electric installation	111,108	5	123
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	66,665	3	74
23 Special installations/services equipment	66,665	3	74
24 Builders' work	155,551	7	172
	2,222,150	100	2,450

Category: Public service**Type: County court****Floor area: 948m²****Total cost: £1,872,300**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	187,230	10	198
2 Substructure	93,615	5	99
3 Frame	131,061	7	138
4 Upper floors	93,615	5	99
5 Roof	131,061	7	138
6 Staircases	56,169	3	59
7 External walls	168,507	9	178
8 Windows and external doors	93,615	5	99
9 Partitions and internal walls	56,169	3	59
10 Internal doors	74,892	4	79
11 Wall finishes	56,169	3	59
12 Floor finishes	74,892	4	79
13 Ceiling finishes	56,169	3	59
14 Fittings and furnishings	93,615	5	99
15 Sanitary appliances/disposal installation	37,446	2	40
16 Hot and cold water services	18,723	1	20
17 Heating and air treatment installation	37,446	2	40
18 Ventilation installation	18,723	1	20
19 Gas services	18,723	1	20
20 Electric installation	112,338	6	119
21 Lift and conveyor installation	37,446	2	40
22 Protective & communication installation	18,723	1	20
23 Special installations/services equipment	37,446	2	40
24 Builders' work	168,507	9	178
	1,872,300	100	1,975

Category: Public service**Type: Fire station****Floor area: 490m²****Total cost: £771,750**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	77,175	10	158
2 Substructure	46,305	6	95
3 Frame	578,813	5	1,181
4 Upper floors	23,153	3	47
5 Roof	61,740	8	126
6 Staircases	15,435	2	32
7 External walls	77,175	10	158
8 Windows and external doors	46,305	6	95
9 Partitions and internal walls	23,153	3	47
10 Internal doors	23,153	3	47
11 Wall finishes	23,153	3	47
12 Floor finishes	30,870	4	63
13 Ceiling finishes	7,718	1	16
14 Fittings and furnishings	15,435	2	32
15 Sanitary appliances/disposal installation	15,435	2	32
16 Hot and cold water services	23,153	3	47
17 Heating and air treatment installation	23,153	3	47
18 Ventilation installation	7,718	1	16
19 Gas services	7,718	1	16
20 Electric installation	77,175	10	158
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	15,435	2	32
23 Special installations/services equipment	23,153	3	47
24 Builders' work	69,458	9	142
	771,750	100	2,678

Category: Public service**Type: Police station****Floor area: 342m²****Total cost: £530,100**

	Elemental cost	% of cost	Cost per m²
	£		£
1 Preliminaries	58,311	11	171
2 Substructure	37,107	7	109
3 Frame	26,505	5	78
4 Upper floors	10,602	2	31
5 Roof	37,107	7	109
6 Staircases	15,903	3	47
7 External walls	58,311	11	171
8 Windows and external doors	37,107	7	109
9 Partitions and internal walls	21,204	4	62
10 Internal doors	15,903	3	47
11 Wall finishes	15,903	3	47
12 Floor finishes	21,204	4	62
13 Ceiling finishes	10,602	2	31
14 Fittings and furnishings	10,602	2	31
15 Sanitary appliances/disposal installation	10,602	2	31
16 Hot and cold water services	10,602	2	31
17 Heating and air treatment installation	10,602	2	31
18 Ventilation installation	5,301	1	16
19 Gas services	5,301	1	16
20 Electric installation	42,408	8	124
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	15,903	3	47
23 Special installations/services equipment	10,602	2	31
24 Builders' work	42,408	8	124
	530,100	100	1,550

Category: Public service

Type: Village hall

Floor area: 380m²

Total cost: £408,500

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	44,935	11	118
2 Substructure	40,850	10	108
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	36,765	9	97
6 Staircases	0	0	0
7 External walls	40,850	10	108
8 Windows and external doors	28,595	7	75
9 Partitions and internal walls	16,340	4	43
10 Internal doors	12,255	3	32
11 Wall finishes	12,255	3	32
12 Floor finishes	16,340	4	43
13 Ceiling finishes	8,170	2	22
14 Fittings and furnishings	20,425	5	54
15 Sanitary appliances/disposal installation	8,170	2	22
16 Hot and cold water services	4,085	1	11
17 Heating and air treatment installation	12,255	3	32
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	49,020	12	129
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	12,255	3	32
23 Special installations/services equipment	4,085	1	11
24 Builders' work	40,850	10	108
	408,500	100	1,075

Category: Industrial
Type: Factory, light industrial
Floor area: 380m²
Total cost: £2,375,000

	Elemental cost	% of cost	Cost per m²
	£		£
1 Preliminaries	166,250	7	44
2 Substructure	308,750	13	81
3 Frame	380,000	16	99
4 Upper floors	0	0	0
5 Roof	237,500	10	62
6 Staircases	0	0	0
7 External walls	237,500	10	62
8 Windows and external doors	95,000	4	25
9 Partitions and internal walls	71,250	3	19
10 Internal doors	23,750	1	6
11 Wall finishes	23,750	1	6
12 Floor finishes	47,500	2	12
13 Ceiling finishes	23,750	1	6
14 Fittings and furnishings	190,000	8	50
15 Sanitary appliances/disposal installation	23,750	1	6
16 Hot and cold water services	23,750	1	6
17 Heating and air treatment installation	95,000	4	25
18 Ventilation installation	23,750	1	6
19 Gas services	23,750	1	6
20 Electric installation	190,000	8	50
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	142,500	6	37
23 Special installations/services equipment	23,750	1	6
24 Builders' work	23,750	1	6
	2,375,000	100	622

Category: Industrial**Type: Factory, heavy industrial****Floor area: 10,500m²****Total cost: £8,925,000**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	803,250	9	77
2 Substructure	892,500	10	85
3 Frame	1,071,000	12	102
4 Upper floors	357,000	4	34
5 Roof	803,250	9	77
6 Staircases	89,250	1	9
7 External walls	714,000	8	68
8 Windows and external doors	267,750	3	26
9 Partitions and internal walls	178,500	2	17
10 Internal doors	89,250	1	9
11 Wall finishes	178,500	2	17
12 Floor finishes	178,500	2	17
13 Ceiling finishes	89,250	1	9
14 Fittings and furnishings	89,250	1	9
15 Sanitary appliances/disposal installation	178,500	2	17
16 Hot and cold water services	178,500	2	17
17 Heating and air treatment installation	357,000	4	34
18 Ventilation installation	357,000	4	34
19 Gas services	178,500	2	17
20 Electric installation	892,500	10	85
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	178,500	2	17
23 Special installations/services equipment	178,500	2	17
24 Builders' work	624,750	7	60
	8,925,000	100	850

Category: Industrial
Type: Livestock building
Floor area: 800m²
Total cost: £420,000

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	46,200	11	58
2 Substructure	29,400	7	37
3 Frame	29,400	7	37
4 Upper floors	0	0	0
5 Roof	33,600	8	42
6 Staircases	0	0	0
7 External walls	67,200	16	84
8 Windows and external doors	12,600	3	16
9 Partitions and internal walls	21,000	5	26
10 Internal doors	4,200	1	5
11 Wall finishes	0	0	0
12 Floor finishes	12,600	3	16
13 Ceiling finishes	0	0	0
14 Fittings and furnishings	0	0	0
15 Sanitary appliances/disposal installation	0	0	0
16 Hot and cold water services	8,400	2	11
17 Heating and air treatment installation	0	0	0
18 Ventilation installation	4,200	1	5
19 Gas services	0	0	0
20 Electric installation	67,200	16	84
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	8,400	2	11
23 Special installations/services equipment	29,400	7	37
24 Builders' work	46,200	11	58
	420,000	100	525

Category: Industrial**Type: Laboratory****Floor area: 940m²****Total cost: £2,961,000**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	266,490	9	284
2 Substructure	177,660	6	189
3 Frame	207,270	7	221
4 Upper floors	207,270	7	221
5 Roof	236,880	8	252
6 Staircases	59,220	2	63
7 External walls	177,660	6	189
8 Windows and external doors	148,050	5	158
9 Partitions and internal walls	118,440	4	126
10 Internal doors	88,830	3	95
11 Wall finishes	59,220	2	63
12 Floor finishes	88,830	3	95
13 Ceiling finishes	88,830	3	95
14 Fittings and furnishings	118,440	4	126
15 Sanitary appliances/disposal installation	29,610	1	32
16 Hot and cold water services	29,610	1	32
17 Heating and air treatment installation	29,610	1	32
18 Ventilation installation	29,610	1	32
19 Gas services	29,610	1	32
20 Electric installation	325,710	11	347
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	59,220	2	63
23 Special installations/services equipment	88,830	3	95
24 Builders' work	296,100	10	315
	2,961,000	100	3,150

Category: Industrial
Type: Nursery units
Floor area: 2,018m²
Total cost: £1,654,760

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	198,571	12	98
2 Substructure	165,476	10	82
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	264,762	16	131
6 Staircases	0	0	0
7 External walls	364,047	22	180
8 Windows and external doors	49,643	3	25
9 Partitions and internal walls	33,095	2	16
10 Internal doors	16,548	1	8
11 Wall finishes	16,548	1	8
12 Floor finishes	33,095	2	16
13 Ceiling finishes	16,548	1	8
14 Fittings and furnishings	0	0	0
15 Sanitary appliances/disposal installation	16,548	1	8
16 Hot and cold water services	16,548	1	8
17 Heating and air treatment installation	33,095	2	16
18 Ventilation installation	0	0	0
19 Gas services	16,548	1	8
20 Electric installation	182,024	11	90
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	33,095	2	16
23 Special installations/services equipment	0	0	0
24 Builders' work	198,571	12	98
	1,654,760	100	820

Category: Industrial
Type: Warehouse shell
Floor area: 2,864m²
Total cost: £1,217,200

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	121,720	10	43
2 Substructure	170,408	14	60
3 Frame	194,752	16	68
4 Upper floors	12,172	1	4
5 Roof	158,236	13	55
6 Staircases	12,172	1	4
7 External walls	158,236	13	55
8 Windows and external doors	60,860	5	21
9 Partitions and internal walls	24,344	2	9
10 Internal doors	24,344	2	9
11 Wall finishes	12,172	1	4
12 Floor finishes	36,516	3	13
13 Ceiling finishes	12,172	1	4
14 Fittings and furnishings	12,172	1	4
15 Sanitary appliances/disposal installation	12,172	1	4
16 Hot and cold water services	12,172	1	4
17 Heating and air treatment installation	24,344	2	9
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	85,204	7	30
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	12,172	1	4
23 Special installations/services equipment	12,172	1	4
24 Builders' work	48,688	4	17
	1,217,200	100	425

Category: Industrial
Type: Warehouse, complete
Floor area: 2,120m²
Total cost: £1,272,000

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	114,480	9	54
2 Substructure	139,920	11	66
3 Frame	165,360	13	78
4 Upper floors	12,720	1	6
5 Roof	165,360	13	78
6 Staircases	12,720	1	6
7 External walls	165,360	13	78
8 Windows and external doors	50,880	4	24
9 Partitions and internal walls	25,440	2	12
10 Internal doors	25,440	2	12
11 Wall finishes	25,440	2	12
12 Floor finishes	38,160	3	18
13 Ceiling finishes	25,440	2	12
14 Fittings and furnishings	25,440	2	12
15 Sanitary appliances/disposal installation	12,720	1	6
16 Hot and cold water services	12,720	1	6
17 Heating and air treatment installation	38,160	3	18
18 Ventilation installation	0	0	0
19 Gas services	12,720	1	6
20 Electric installation	89,040	7	42
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	38,160	3	18
23 Special installations/services equipment	12,720	1	6
24 Builders' work	63,600	5	30
	1,272,000	100	600

Category: Health and welfare**Type: Group surgery****Floor area: 395m²****Total cost: £582,625**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	69,915	12	177
2 Substructure	58,263	10	148
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	58,263	10	148
6 Staircases	0	0	0
7 External walls	69,915	12	177
8 Windows and external doors	34,958	6	89
9 Partitions and internal walls	34,958	6	89
10 Internal doors	17,479	3	44
11 Wall finishes	11,653	2	30
12 Floor finishes	17,479	3	44
13 Ceiling finishes	11,653	2	30
14 Fittings and furnishings	11,653	2	30
15 Sanitary appliances/disposal installation	11,653	2	30
16 Hot and cold water services	5,826	1	15
17 Heating and air treatment installation	5,826	1	15
18 Ventilation installation	5,826	1	15
19 Gas services	0	0	0
20 Electric installation	64,089	11	162
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	11,653	2	30
23 Special installations/services equipment	11,653	2	30
24 Builders' work	69,915	12	177
	582,625	100	1,475

Category: Health and welfare**Type: Health centre****Floor area: 510m²****Total cost: £714,000**

	Elemental cost	% of cost	Cost per m²
	£		£
1 Preliminaries	78,540	11	154
2 Substructure	71,400	10	140
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	78,540	11	154
6 Staircases	0	0	0
7 External walls	92,820	13	182
8 Windows and external doors	28,560	4	56
9 Partitions and internal walls	28,560	4	56
10 Internal doors	21,420	3	42
11 Wall finishes	14,280	2	28
12 Floor finishes	21,420	3	42
13 Ceiling finishes	14,280	2	28
14 Fittings and furnishings	28,560	4	56
15 Sanitary appliances/disposal installation	21,420	3	42
16 Hot and cold water services	7,140	1	14
17 Heating and air treatment installation	7,140	1	14
18 Ventilation installation	7,140	1	14
19 Gas services	0	0	0
20 Electric installation	49,980	12	98
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	21,420	2	42
23 Special installations/services equipment	7,140	2	14
24 Builders' work	35,700	11	70
	714,000	100	1,246

Category: Health and welfare**Type: Old persons' nursing home****Floor area: 1,672m²****Total cost: £2,382,600**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	262,086	11	157
2 Substructure	190,608	8	114
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	309,738	13	185
6 Staircases	0	0	0
7 External walls	142,956	6	86
8 Windows and external doors	166,782	7	100
9 Partitions and internal walls	95,304	4	57
10 Internal doors	119,130	5	71
11 Wall finishes	95,304	4	57
12 Floor finishes	95,304	4	57
13 Ceiling finishes	47,652	2	29
14 Fittings and furnishings	142,956	6	86
15 Sanitary appliances/disposal installation	71,478	3	43
16 Hot and cold water services	71,478	3	43
17 Heating and air treatment installation	166,782	7	100
18 Ventilation installation	23,826	1	14
19 Gas services	23,826	1	14
20 Electric installation	142,956	6	86
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	71,478	3	43
23 Special installations/services equipment	71,478	3	43
24 Builders' work	71,478	3	43
	2,382,600	100	1,425

Category: Health and welfare**Type: Welfare centre****Floor area: 612m²****Total cost: £976,140**

	Elemental cost	% of cost	Cost per m²
	£		£
1 Preliminaries	117,137	12	191
2 Substructure	126,898	13	207
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	107,375	11	175
6 Staircases	0	0	0
7 External walls	117,137	12	191
8 Windows and external doors	39,046	4	64
9 Partitions and internal walls	29,284	3	48
10 Internal doors	29,284	3	48
11 Wall finishes	29,284	3	48
12 Floor finishes	29,284	3	48
13 Ceiling finishes	19,523	2	32
14 Fittings and furnishings	48,807	5	80
15 Sanitary appliances/disposal installation	19,523	2	32
16 Hot and cold water services	9,761	1	16
17 Heating and air treatment installation	19,523	2	32
18 Ventilation installation	9,761	1	16
19 Gas services	0	0	0
20 Electric installation	107,375	11	175
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	19,523	2	32
23 Special installations/services equipment	9,761	1	16
24 Builders' work	87,853	9	144
	976,140	100	1,595

Category: Leisure
Type: Golf club house
Floor area: 675m²
Total cost: £875,500

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	87,550	10	130
2 Substructure	61,285	7	91
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	122,570	14	182
6 Staircases	0	0	0
7 External walls	96,305	11	143
8 Windows and external doors	35,020	4	52
9 Partitions and internal walls	26,265	3	39
10 Internal doors	26,265	3	39
11 Wall finishes	26,265	3	39
12 Floor finishes	17,510	2	26
13 Ceiling finishes	17,510	2	26
14 Fittings and furnishings	70,040	8	104
15 Sanitary appliances/disposal installation	17,510	2	26
16 Hot and cold water services	8,755	1	13
17 Heating and air treatment installation	8,755	1	13
18 Ventilation installation	0	0	0
19 Gas services	8,755	1	13
20 Electric installation	122,570	14	182
21 Lift and conveyor installation	0	0	0
22 Protective & communication Installation	17,510	2	26
23 Special installations/services equipment	8,755	1	13
24 Builders' work	96,305	11	143
	875,500	100	1,297

Category: Leisure
Type: Public house
Floor area: 780m²
Total cost: £1,072,500

	Elemental cost	% of cost	Cost per m²
	£		£
1 Preliminaries	96,525	9	124
2 Substructure	64,350	6	83
3 Frame	21,450	2	28
4 Upper floors	21,450	2	28
5 Roof	107,250	10	138
6 Staircases	32,175	3	41
7 External walls	64,350	6	83
8 Windows and external doors	42,900	4	55
9 Partitions and internal walls	32,175	3	41
10 Internal doors	42,900	4	55
11 Wall finishes	53,625	5	69
12 Floor finishes	53,625	5	69
13 Ceiling finishes	42,900	4	55
14 Fittings and furnishings	128,700	12	165
15 Sanitary appliances/disposal installation	32,175	3	41
16 Hot and cold water services	10,725	1	14
17 Heating and air treatment installation	42,900	4	55
18 Ventilation installation	10,725	1	14
19 Gas services	10,725	1	14
20 Electric installation	75,075	7	96
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	21,450	2	28
23 Special installations/services equipment	42,900	4	55
24 Builders' work	21,450	2	28
	1,072,500	100	1,375

Category: Leisure
Type: Restaurant
Floor area: 340m²
Total cost: £561,000

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	50,490	9	149
2 Substructure	44,880	8	132
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	61,710	11	182
6 Staircases	0	0	0
7 External walls	72,930	13	215
8 Windows and external doors	33,660	6	99
9 Partitions and internal walls	39,270	7	116
10 Internal doors	33,660	6	99
11 Wall finishes	22,440	4	66
12 Floor finishes	28,050	5	83
13 Ceiling finishes	16,830	3	50
14 Fittings and furnishings	39,270	7	116
15 Sanitary appliances/disposal installation	5,610	1	17
16 Hot and cold water services	5,610	1	17
17 Heating and air treatment installation	5,610	1	17
18 Ventilation installation	4,046	1	12
19 Gas services	5,610	1	17
20 Electric installation	78,540	10	231
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	11,220	2	33
23 Special installations/services equipment	5,610	1	17
24 Builders' work	61,710	3	182
	561,000	100	1,843

Category: Leisure
Type: Sports hall
Floor area: 2,016m²
Total cost: £2,016,000

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	120,960	6	60
2 Substructure	201,600	10	100
3 Frame	241,920	12	120
4 Upper floors	0	0	0
5 Roof	221,760	11	110
6 Staircases	0	0	0
7 External walls	141,120	7	70
8 Windows and external doors	60,480	3	30
9 Partitions and internal walls	60,480	3	30
10 Internal doors	40,320	2	20
11 Wall finishes	40,320	2	20
12 Floor finishes	141,120	7	70
13 Ceiling finishes	20,160	1	10
14 Fittings and furnishings	161,280	8	80
15 Sanitary appliances/disposal installation	80,640	4	40
16 Hot and cold water services	40,320	2	20
17 Heating and air treatment installation	80,640	4	40
18 Ventilation installation	20,160	1	10
19 Gas services	0	0	0
20 Electric installation	161,280	8	80
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	40,320	2	20
23 Special installations/services equipment	20,160	1	10
24 Builders' work	120,960	6	60
	2,016,000	100	1,000

Category: Education**Type: Library****Floor area: 616m²****Total cost: £831,600**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	99,792	12	162
2 Substructure	74,844	9	122
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	99,792	12	162
6 Staircases	0	0	0
7 External walls	116,424	14	189
8 Windows and external doors	58,212	7	95
9 Partitions and internal walls	16,632	2	27
10 Internal doors	16,632	2	27
11 Wall finishes	24,948	3	41
12 Floor finishes	24,948	3	41
13 Ceiling finishes	16,632	2	27
14 Fittings and furnishings	74,844	9	122
15 Sanitary appliances/disposal installation	8,316	1	14
16 Hot and cold water services	8,316	1	14
17 Heating and air treatment installation	16,632	2	27
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	66,528	8	108
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	16,632	2	27
23 Special installations/services equipment	8,316	1	14
24 Builders' work	83,160	10	135
	831,600	100	1.350

Category: Education
Type: Primary school
Floor area: 2,108m²
Total cost: £3,583,600

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	322,524	9	153
2 Substructure	250,852	7	119
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	358,360	10	170
6 Staircases	0	0	0
7 External walls	394,196	11	187
8 Windows and external doors	430,032	12	204
9 Partitions and internal walls	215,016	6	102
10 Internal doors	143,344	4	68
11 Wall finishes	107,508	3	51
12 Floor finishes	143,344	4	68
13 Ceiling finishes	71,672	2	34
14 Fittings and furnishings	215,016	6	102
15 Sanitary appliances/disposal installation	143,344	4	68
16 Hot and cold water services	35,836	1	17
17 Heating and air treatment installation	143,344	4	68
18 Ventilation installation	0	0	0
19 Gas services	35,836	1	17
20 Electric installation	286,688	8	136
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	71,672	2	34
23 Special installations/services equipment	35,836	1	17
24 Builders' work	179,180	5	85
	3,583,600	100	1,700

Category: Education**Type: Secondary school****Floor area: 2,450m²****Total cost: £3,123,750**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	281,138	9	115
2 Substructure	218,663	7	89
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	343,613	11	140
6 Staircases	0	0	0
7 External walls	312,375	10	128
8 Windows and external doors	281,138	9	115
9 Partitions and internal walls	156,188	5	64
10 Internal doors	124,950	4	51
11 Wall finishes	93,713	3	38
12 Floor finishes	124,950	4	51
13 Ceiling finishes	62,475	2	26
14 Fittings and furnishings	281,138	9	115
15 Sanitary appliances/disposal installation	62,475	2	26
16 Hot and cold water services	31,238	1	13
17 Heating and air treatment installation	93,713	3	38
18 Ventilation Installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	281,138	9	115
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	62,475	2	26
23 Special installations/services equipment	31,238	1	13
24 Builders' work	281,138	9	115
	3,123,750	100	1,275

Category: Education
Type: Sixth form college
Floor area: 1,828m²
Total cost: £3,016,200

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	301,620	10	165
2 Substructure	241,296	8	132
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	271,458	9	149
6 Staircases	0	0	0
7 External walls	361,944	12	198
8 Windows and external doors	241,296	8	132
9 Partitions and internal walls	150,810	5	83
10 Internal doors	120,648	4	66
11 Wall finishes	90,486	3	50
12 Floor finishes	90,486	3	50
13 Ceiling finishes	60,324	2	33
14 Fittings and furnishings	361,944	12	198
15 Sanitary appliances/disposal installation	30,162	1	17
16 Hot and cold water services	30,162	1	17
17 Heating and air treatment installation	90,486	3	50
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	241,296	8	132
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	60,324	2	33
23 Special installations/services equipment	30,162	1	17
24 Builders' work	241,296	8	132
	3,016,200	100	1,650

Category: Education**Type: Special school****Floor area: 1,710m²****Total cost: £2,308,500**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	253,935	11	149
2 Substructure	207,765	9	122
3 Frame	0	0	0
4 Upper floors	0	0	0
5 Roof	230,850	10	135
6 Staircases	0	0	0
7 External walls	253,935	11	149
8 Windows and external doors	161,595	7	95
9 Partitions and internal walls	115,425	5	68
10 Internal doors	69,255	3	41
11 Wall finishes	69,255	3	41
12 Floor finishes	69,255	3	41
13 Ceiling finishes	46,170	2	27
14 Fittings and furnishings	323,190	14	189
15 Sanitary appliances/disposal installation	46,170	2	27
16 Hot and cold water services	23,085	1	14
17 Heating and air treatment installation	69,255	3	41
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	184,680	8	108
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	46,170	2	27
23 Special installations/services equipment	46,170	2	27
24 Builders' work	92,340	4	54
	2,308,500	100	1,350

Category: Education
Type: Teachers' training college
Floor area: 2,620m²
Total cost: £3,209,500

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	320,950	10	123
2 Substructure	256,760	8	98
3 Frame	192,570	6	74
4 Upper floors	128,380	4	49
5 Roof	320,950	10	123
6 Staircases	96,285	3	37
7 External walls	288,855	9	110
8 Windows and external doors	192,570	6	74
9 Partitions and internal walls	128,380	4	49
10 Internal doors	128,380	4	49
11 Wall finishes	96,285	3	37
12 Floor finishes	96,285	3	37
13 Ceiling finishes	64,190	2	25
14 Fittings and furnishings	224,665	7	86
15 Sanitary appliances/disposal installation	64,190	2	25
16 Hot and cold water services	32,095	1	12
17 Heating and air treatment installation	64,190	2	25
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	256,760	8	98
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	64,190	2	25
23 Special installations/services equipment	32,095	1	12
24 Builders' work	160,475	5	61
	3,209,500	100	1,225

Category: Residential**Type: Local Authority low rise flats****Floor area: 2,349m²****Total cost: £2,231,550**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	223,155	10	95
2 Substructure	223,155	10	95
3 Frame	0	0	0
4 Upper floors	89,262	4	38
5 Roof	245,471	11	105
6 Staircases	44,631	2	19
7 External walls	267,786	12	114
8 Windows and external doors	178,524	8	76
9 Partitions and internal walls	111,578	5	48
10 Internal doors	89,262	4	38
11 Wall finishes	66,947	3	29
12 Floor finishes	66,947	3	29
13 Ceiling finishes	111,578	5	48
14 Fittings and furnishings	66,947	3	29
15 Sanitary appliances/disposal installation	44,631	2	19
16 Hot and cold water services	22,316	1	10
17 Heating and air treatment installation	133,893	6	57
18 Ventilation installation	22,316	1	10
19 Gas services	0	0	0
20 Electric installation	111,578	5	48
21 Lift and conveyer installation	0	0	0
22 Protective & communication installation	44,631	2	19
23 Special installations/services equipment	44,631	2	19
24 Builders' work	22,316	1	10
	2,231,550	100	950

Category: Residential
Type: Local Authority housing
Floor area: 3,988m²
Total cost: £3,589,200

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	323,028	9	81
2 Substructure	215,352	6	54
3 Frame	0	0	0
4 Upper floors	251,244	7	63
5 Roof	466,596	13	117
6 Staircases	107,676	3	27
7 External walls	358,920	10	90
8 Windows and external doors	215,352	6	54
9 Partitions and internal walls	143,568	4	36
10 Internal doors	107,676	3	27
11 Wall finishes	143,568	4	36
12 Floor finishes	71,784	2	18
13 Ceiling finishes	71,784	2	18
14 Fittings and furnishings	143,568	4	36
15 Sanitary appliances/disposal installation	71,784	2	18
16 Hot and cold water services	71,784	2	18
17 Heating and air treatment installation	107,676	3	27
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	502,488	14	126
21 Lift and conveyor installation	0	0	0
22 Protective & communication installation	0	0	0
23 Special installations/services equipment	0	0	0
24 Builders' work	215,352	6	54
	3,589,200	100	900

Category: Residential**Type: Private flats****Floor area: 1,260m²****Total cost: £1,134,000**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	68,040	6	54
2 Substructure	68,040	6	54
3 Frame	0	0	0
4 Upper floors	56,700	5	45
5 Roof	136,080	12	108
6 Staircases	34,020	3	27
7 External walls	124,740	11	99
8 Windows and external doors	68,040	6	54
9 Partitions and internal walls	34,020	3	27
10 Internal doors	45,360	4	36
11 Wall finishes	34,020	3	27
12 Floor finishes	34,020	3	27
13 Ceiling finishes	34,020	3	27
14 Fittings and furnishings	45,360	4	36
15 Sanitary appliances/disposal installation	11,340	1	9
16 Hot and cold water services	22,680	2	18
17 Heating and air treatment installation	34,020	3	27
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	124,740	11	99
21 Lift and conveyor installation	45,360	4	36
22 Protective & communication installation	34,020	3	27
23 Special installations/services equipment	11,340	1	9
24 Builders' work	68,040	6	54
	1,134,000	100	900

Category: Residential
Type: Luxury private flats
Floor area: 2,400m²
Total cost: £4,920,000

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	344,400	7	144
2 Substructure	295,200	6	123
3 Frame	0	0	0
4 Upper floors	344,400	7	144
5 Roof	442,800	9	185
6 Staircases	147,600	3	62
7 External walls	492,000	10	205
8 Windows and external doors	344,400	7	144
9 Partitions and internal walls	147,600	3	62
10 Internal doors	196,800	4	82
11 Wall finishes	147,600	3	62
12 Floor finishes	98,400	2	41
13 Ceiling finishes	98,400	2	41
14 Fittings and furnishings	295,200	6	123
15 Sanitary appliances/disposal installation	98,400	2	41
16 Hot and cold water services	98,400	2	41
17 Heating and air treatment installation	147,600	3	62
18 Ventilation installation	0	0	0
19 Gas services	0	0	0
20 Electric installation	492,000	10	205
21 Lift and conveyor installation	246,000	5	103
22 Protective & communication installation	147,600	3	62
23 Special installations/services equipment	49,200	1	21
24 Builders' work	246,000	5	103
	<u>4,920,000</u>	100	<u>2,050</u>

Category: Transport**Type: Multi-storey car park****Floor area: 9,600m²****Total cost: £3,072,000**

	Elemental cost	% of cost	Cost per m ²
	£		£
1 Preliminaries	337,920	11	35
2 Substructure	399,360	13	42
3 Frame	645,120	21	67
4 Upper floors	552,960	18	58
5 Roof	30,720	1	3
6 Staircases	153,600	5	16
7 External walls	122,880	4	13
8 Windows and external doors	30,720	1	3
9 Partitions and internal walls	30,720	1	3
10 Internal doors	30,720	1	3
11 Wall finishes	0	0	0
12 Floor finishes	0	0	0
13 Ceiling finishes	0	0	0
14 Fittings and furnishings	0	0	0
15 Sanitary appliances/disposal installation	0	0	0
16 Hot and cold water services	0	0	0
17 Heating and air treatment installation	0	0	0
18 Ventilation installation	0	2	0
19 Gas services	0	0	0
20 Electric installation	276,480	9	29
21 Lift and conveyor installation	215,040	7	22
22 Protective & communication installation	92,160	3	10
23 Special installations/services equipment	61,440	2	6
24 Builders' work	30,720	1	3
	3,072,000	100	314

4

Composite and principal rates

When the appraisal of a project moves beyond the square metre stage, it is likely that the client will commission a cost plan to be prepared. This entails taking off rough quantities and applying global rates to produce an approximate cost of the project. These rates are the result of combining various item descriptions and costs into what are called composite rates.

Not all items can be combined with others to provide composite rates so principal rates are also included if their value is significant to the cost plan. The following rates are presented under headings in the same order as the elements in Chapter 3.

BUILDING WORK

PRELIMINARIES

These will usually be assessed by referring to the needs of each particular project but a figure of 7.5 to 12.5% of the construction costs is normal depending upon the nature of the project.

SUBSTRUCTURES

Excavation		£
Excavate by machine to reduce levels and dispose of excavated material		
deposit on site in spoil heaps	m ³	7.00
spread and level on site	m ³	9.00
remove from site	m ³	22.00
Excavate by machine for basements and dispose of excavated material		
deposit on site in spoil heaps	m ³	8.00
spread and level on site	m ³	10.00
remove from site	m ³	23.00

		£
Excavate by machine for foundations and dispose of excavated material		
deposit on site in spoil heaps	m ³	8.00
spread and level on site	m ³	10.00
remove from site	m ³	23.00
Excavate by hand to reduce levels and dispose of excavated material		
deposit on site in spoil heaps	m ³	8.00
spread and level on site	m ³	10.00
remove from site	m ³	23.00
Excavate by hand for basements and dispose of excavated material		
deposit on site in spoil heaps	m ³	8.00
spread and level on site	m ³	10.00
remove from site	m ³	23.00
Excavate by hand for foundations and dispose of excavated material		
deposit on site in spoil heaps	m ³	8.00
spread and level on site	m ³	10.00
remove from site	m ³	23.00
Breaking out and disposal		
Extra over excavation for breaking out by machine		
rock	m ³	100.00
concrete	m ³	110.00
reinforced concrete	m ³	160.00
brickwork or blockwork	m ³	60.00
Extra over excavation for disposing of contaminated material to licensed tip	m ³	80.00
Filling		
Filling to make up levels including levelling and compacting		
excavated material	m ³	16.00
sand	m ³	48.00
hardcore	m ³	40.00
Foundation walling		
Excavate trench by machine, dispose of surplus excavated material off site, earthwork support, concrete foundations mix ST3, common bricks (£250/1000) and 100 mm blockwork in cavity wall, pitch polymer damp proof course, and concrete foundation size		
450×150mm		
wall height 750mm	m	110.00

£

wall height 1000mm	m	136.00
wall height 1250mm	m	166.00
wall height 1500mm	m	196.00
450×225mm		
wall height 750mm	m	115.00
wall height 1000mm	m	130.00
wall height 1250mm	m	140.00
wall height 1500mm	m	145.00
600×225mm		
wall height 750mm	m	125.00
wall height 1000mm	m	140.00
wall height 1250mm	m	150.00
wall height 1500mm	m	155.00
Excavate trench by hand, dispose of surplus excavated material off site, earthwork support, concrete foundations mix ST3, common bricks (£250/1000) and 100 mm blockwork in cavity wall, pitch polymer damp proof course, and concrete foundation size		
450×150mm		
wall height 750mm	m	124.00
wall height 1000mm	m	150.00
wall height 1250mm	m	180.00
wall height 1500mm	m	210.00
450×225mm		
wall height 750mm	m	130.00
wall height 1000mm	m	144.00
wall height 1250mm	m	154.00
wall height 1500mm	m	160.00
600×225mm		
wall height 750mm	m	140.00
wall height 1000mm	m	165.00
wall height 1250mm	m	175.00
wall height 1500mm	m	180.00

Bases, pile caps and ground beams

Reinforced concrete mix C15 in bases including excavation, earthwork support, formwork and reinforcement, size

600×600×300mm	nr	36.00
750×750×450mm	nr	75.00
1000×1000×450mm	nr	135.00
1200×1200×600mm	nr	258.00

Reinforced concrete mix C20 in pile caps including excavation, earthwork support, formwork and reinforcement, size

750×750×600mm	nr	40.00
900×900×1000mm	nr	80.00
1000×1000×1000mm	nr	140.00
2000×2000×1000mm	nr	266.00

Reinforced concrete mix C20 in ground beams including excavation, earthwork support, formwork and reinforcement, size

450×450mm	m	40.00
750×500mm	m	75.00
900×500mm	m	90.00
1000×1000mm	m	200.00

Slabs

Ground slab including excavation by machine disposal, hardcore bed blinded with sand, 1200 gauge polythene damp proof membrane, concrete mix C20

one layer of reinforcement A252

150mm thick	m ²	39.00
200mm thick	m ²	44.00
250mm thick	m ²	50.00
300mm thick	m ²	56.00

two layers of reinforcement A252

150mm thick	m ²	47.00
200mm thick	m ²	52.00
250mm thick	m ²	58.00
300mm thick	m ²	64.00

Ground slab including excavation by hand disposal, hardcore bed blinded with with sand, 1200 gauge polythene damp proof membrane, concrete mix C20

		£
one layer of reinforcement A252		
150mm thick	m ²	42.00
200mm thick	m ²	48.00
250mm thick	m ²	52.00
300mm thick	m ²	58.00
two layers of reinforcement A252		
150mm thick	m ²	50.00
200mm thick	m ²	56.00
250mm thick	m ²	60.00
300mm thick	m ²	66.00

FRAME

Reinforced concrete mix C25 Including reinforcement and formwork

columns, size

225×225mm	m	60.00
300×300mm	m	108.00
300×450mm	m	168.00
450×450mm	m	240.00
450×600mm	m	372.00
450×900mm	m	492.00

Reinforced concrete C30 Including reinforcement and formwork

beams, size

225×225mm	m	65.00
300×450mm	m	117.00
300×600mm	m	182.00
450×450mm	m	260.00
450×600mm	m	403.00
450×900mm	m	533.00
600×900mm	m	702.00
600×1200mm	m	936.00

Fabricated galvanised steelwork BS4360 grade 40 erected on site Including connections

columns	t	1,400.00
universal beams	t	1,400.00
roof bracing	t	1,650.00
purlins	t	1,350.00
trusses	t	1,450.00

£

UPPER FLOORS

Softwood flooring including 25mm thick tongued and grooved boarding on joists size

125×50mm	m ²	36.00
150×50mm	m ²	37.20
175×50mm	m ²	38.40
200×50mm	m ²	39.00
225×50mm	m ²	40.50
250×50mm	m ²	44.40

Chipboard flooring including 22mm thick flooring butt jointed on joists size

125×50mm	m ²	22.00
150×50mm	m ²	21.20
175×50mm	m ²	22.40
200×50mm	m ²	25.00
225×50mm	m ²	26.50
250×50mm	m ²	30.40

Hardwood mahogany flooring, 22mm thick or joists size

125×50mm	m ²	96.00
150×50mm	m ²	97.20
175×50mm	m ²	98.40
200×50mm	m ²	99.00
225×50mm	m	100.50
250×50mm	m ²	104.40

Reinforced concrete suspended slabs Including formwork

150mm thick	m ²	85.00
200mm thick	m ²	105.00

Precast concrete suspended slabs

150mm thick	m ²	95.00
200mm thick	m ²	110.00

ROOFS

The following items represent the costs of roofs measured on plan. The costs for roof coverings are given separately.

Flat roofs

Reinforced concrete suspended slabs including formwork

150mm thick	m ²	85.00
200mm thick	m ²	105.00

		£
Precast concrete suspended slabs		
150mm thick	m ²	95.00
200mm thick	m ²	110.00
Softwood flat roofing consisting of herringbone strutting, wall plates, joists and woodwool slabs		
woodwool slabs 50mm thick		
joists 150×50mm	m ²	46.00
joists 175×50mm	m ²	48.00
joists 200×50mm	m ²	50.00
joists 250×50mm	m ²	52.00
woodwool slabs 75mm thick		
joists 150×50mm	m ²	54.00
joists 175×50mm	m ²	56.00
joists 200×50mm	m ²	58.00
joists 250×50mm	m ²	60.00
woodwool slabs 100mm thick		
joists 150×50mm	m ²	64.00
joists 175×50mm	m ²	66.00
joists 200×50mm	m ²	68.00
joists 250×50mm	m ²	70.00
Flat roof decking		
Reinforced woodwool slab decking 50mm thick covered with		
two layer bituminous roofing	m ²	68.00
three layer bituminous roofing	m ²	76.00
Reinforced woodwool slab decking 75mm thick covered with		
two layer bituminous roofing	m ²	76.00
three layer bituminous roofing	m ²	84.00
Reinforced woodwool slab decking 100mm thick covered with		
two layer bituminous roofing	m ²	86.00
three layer bituminous roofing	m ²	94.00
Pitched roofs		
Softwood trusses at 600mm centres		
span 5m		
pitch 22.5 degrees	m ²	26.00
pitch 30 degrees	m ²	30.00

		£
	pitch 40 degrees	m ² 36.00
	pitch 45 degrees	m ² 40.00
span 8m		
	pitch 22.5 degrees	m ² 34.00
	pitch 30 degrees	m ² 38.00
	pitch 40 degrees	m ² 42.00
	pitch 45 degrees	m ² 48.00
span 10m		
	pitch 22.5 degrees	m ² 46.00
	pitch 30 degrees	m ² 54.00
	pitch 40 degrees	m ² 62.00
	pitch 45 degrees	m ² 70.00
Underlays		
Roofing felt		
	unreinforced	m ² 2.40
	reinforced	m ² 3.20
Building paper		
		m ² 3.00
External quality plywood		
	12mm thick	m ² 20.00
	15mm thick	m ² 22.00
	18mm thick	m ² 24.00
Chipboard		
	12mm thick	m ² 7.00
	15mm thick	m ² 8.00
	18mm thick	m ² 10.00
	22mm thick	m ² 12.00
Insulation quilt		
	100mm thick	m ² 8.00
	150mm thick	m ² 12.00
	200mm thick	m ² 16.00

Roof coverings

The following costs include for underfelt, roof battens and work to eaves, verges and ridges. The rates are based on sloping areas.

		£
Welsh blue slates size		
610×305mm	m ²	110.00
510×255mm	m ²	98.00
405×205mm	m ²	90.00
Westmoreland green slates size		
610×305mm	m ²	220.00
405×255mm	m ²	160.00
355×205mm	m ²	150.00
Reconstructed stone slates size		
457×305mm	m ²	60.00
457×457mm	m ²	55.00
Asbestos-free slates		
400×200mm	m ²	65.00
500×250mm	m ²	60.00
600×300mm	m ²	55.00
Concrete interlocking tiles		
400×330mm	m ²	28.00
380×230mm	m ²	32.00
325×330mm	m ²	30.00
420×220mm	m ²	30.00
430×380mm	m ²	24.00
Clay pantiles		
340×240mm	m ²	42.00.
470×280mm	m ²	38.00.
Eaves, fascias and verges		
Painted softwood fascia 250mm high and 16mm thick softwood soffit		
200mm wide	m	34.00
400mm wide	m	42.00
Painted softwood fascia 250mm high and 12mm thick plywood soffit		
200mm wide	m	30.00
400mm wide	m	38.00
Painted softwood barge board 250mm high to sloping roof with painted softwood soffit		
150mm wide	m	28.00
250mm wide	m	32.00

£

Rainwater goods

The following costs include for all fittings.

Rainwater pipes

cast iron

65mm	m	30.00
75mm	m	36.00
100mm	m	42.00

PVC-U

68mm	m	16.00
112mm	m	20.00

aluminium

63mm	m	28.00
76mm	m	32.00
102mm	m	44.00

Rainwater gutters

cast iron

100mm	m	30.00
115mm	m	32.00
125mm	m	34.00
150mm	m	38.00

PVC-U

76mm	m	16.00
112mm	m	20.00

aluminium

100mm	m	28.00
125mm	m	36.00

Sheet coverings

Lead sheeting

code5	m ²	102.00
code6	m ²	110.00

Lead flashings

code 5

150mm girth	m	18.00
200 mm girth	m	22.00
300 mm girth	m	30.00

		£
Lead valleys		
code 5		
400 mm girth	m	42.00
600 mm girth	m	50.00
Aluminium flashings		
0.60mm thick		
200mm girth	m	18.00
400mm girth	m	32.00
0.90mm girth		
200mm girth	m	24.00
400mm girth	m	38.00
Aluminium sheeting		
0.60mm thick	m ²	105.00
0.90mm thick	m ²	120.00
Copper sheeting		
0.55mm thick	m ²	150.00
0.60mm thick	m ²	160.00
Zinc sheeting		
0.65mm thick	m ²	80.00
0.80mm thick	m ²	85.00
Copper flashings		
0.55mm thick		
200mm girth	m	48.00
300mm girth	m	56.00
0.60mm thick		
200mm girth	m	50.00
300mm girth	m	58.00
Zinc flashings		
0.65mm thick		
200mm girth	m	32.00
300mm girth	m	42.00
0.80mm thick		
200mm girth	m	38.00
300mm girth	m	48.00

		£
Bituminous built up roofing		
two layer	m ²	18.00
three layer	m ²	26.00
Two coat asphalt		
13mm thick	m ²	20.00
20mm thick	m ²	30.00
30mm thick	m ²	45.00
Roof cladding		
Asbestos-free corrugated single skin cladding		
grey	m ²	48.00
coloured	m ²	52.00
Lightweight galvanised steel sheeting; 50mm thick sheeting; 50mm thick	m ²	38.00
Aluminium profiled cladding with pre-painted finish	m ²	48.00
STAIRCASES		
Reinforced concrete construction, 3250mm rise, granolithic finish including mild steel painted balustrade and handrails		
straight flight, width		
900mm	nr	3,500.00
1200mm	nr	3,950.00
dog-leg flight, width		
900mm	nr	3,800.00
1200mm	nr	4,250.00
Reinforced concrete construction, 3250mm rise, terrazzo finish including mild steel painted balustrade and handrails		
straight flight, width		
900mm	nr	3,750.00
1200mm	nr	4,300.00
dog-leg flight, width		
900mm	nr	4,200.00
1200mm	nr	4,600.00
Softwood construction, 2600mm rise		
straight flight 900mm wide, no balustrade	nr	700.00
two flights with quarter landing softwood balustrade	nr	1,000.00
two flights with half landing hardwood balustrade	nr	1,200.00

£

Mild steel construction, 3000mm rise (balustrades and handrails excluded)		
straight flight 900mm wide	nr	1,100.00
two flights with quarter landing	nr	1,350.00
two flights with half landing	nr	1,500.00
Spiral staircase in steel including powder-coated mild steel balustrades and handrail, 3500mm overall rise		
1500mm diameter	nr	2,650.00
2000mm diameter	nr	3,000.00

EXTERNAL WALLS

Common bricks £140 per 1000 in gauged mortar		
half brick thick	m ²	60.00
one brick thick	m ²	100.00
one and a half brick thick	m ²	130.00
Common bricks £200 per 1000 in gauged mortar		
half brick thick	m ²	65.00
one brick thick	m ²	120.00
one and a half brick thick	m ²	150.00
Common bricks £140 per 1000 in cement mortar		
half brick thick	m ²	64.00
one brick thick	m ²	106.00
one and a half brick thick	m ²	136.00
Common bricks £200 per 1000 in cement mortar		
half brick thick	m ²	70.00
one brick thick	m ²	126.00
one and a half brick thick	m ²	156.00
Facing bricks £250 per 1000 in gauged mortar		
half brick thick	m ²	70.00
one brick thick	m ²	120.00
Facing bricks £400 per 1000 in cement mortar		
half brick thick	m ²	80.00
one brick thick	m ²	145.00

		£
Class B engineering bricks £250 per 1000 in cement mortar		
half brick thick	m ²	75.00
one brick thick	m ²	135.00
one and a half brick thick	m ²	175.00
Class B engineering bricks £350 per 1000 in cement mortar		
half brick thick	m ²	85.00
one brick thick	m ²	150.00
one and a half brick thick	m ²	190.00
Lightweight concrete blocks in wall in gauged mortar		
100mm thick	m ²	30.00
140mm thick	m ²	40.00
Medium dens concrete blocks in walls in gauged mortar		
75mm thick	m ²	32.00
100mm thick	m ²	36.00
150mm thick	m ²	45.00
Dense concrete blocks in wall in gauged mortar		
100mm thick	m ²	34.00
140mm thick	m ²	42.00
Concrete walls		
Concrete (mix C20) in wall including reinforcement with		
sawn formwork		
100mm thick	m ²	130.00
150mm thick	m ²	135.00
200mm thick	m ²	140.00
250mm thick	m ²	145.00
300mm thick	m ²	150.00
wrought formwork		
100mm thick	m ²	140.00
150mm thick	m ²	145.00
200mm thick	m ²	150.00
250mm thick	m ²	155.00
300mm thick	m ²	160.00

£

Composite walls

Cavity wall formed with lightweight block inner skin 100mm thick, stainless steel wall ties, 50mm thick insulation and outer skin of

common brick 102mm thick (£140 per 1000) thick (£140 per 1000)	m ²	90.00
common brick 102mm thick (£200 per 1000) thick (£200 per 1000)	m ²	95.00
facing brickwork 102mm thick (£250 per 1000)	m ²	100.00
facing brickwork 102mm thick (£400 per 1000)	m ²	110.00
engineering brickwork 102mm thick (£250 per 1000) thick (£250 per 1000)	m ²	105.00
engineering brickwork 102mm thick (£350 per 1000) thick (£350 per 1000)	m ²	115.00
In situ concrete wall 100mm thick thick	m ²	160.00
in situ concrete wall 150mm thick thick	m ²	165.00
in situ concrete wall 200mm thick thick	m ²	170.00
in situ concrete wall 250mm thick thick	m ²	175.00
in situ concrete wall 300mm thick	m ²	180.00

Wall cladding

Precast concrete panels	m ²	270.00
Precast concrete panels with exposed aggregate finish	m ²	310.00
Precast concrete panels with reconstituted stone facing	m ²	480.00
Precast concrete panels with Portland stone natural facing	m ²	590.00
GRP panels including associated fixings, insulation and flashings		
single skin panels	m ²	240.00
double skin panels	m ²	280.00

Metal cladding systems

PVF2 coated profiled galvanised steel sheeting, 80mm thick insulation and coated inner lining	m ²	68.00
Insulated PVF2 coated silver finished metal sandwich panel system	m ²	180.00
Asbestos-free corrugated sheeting	m ²	25.00
Galvanised steel troughed sheeting	m ²	24.00
Galvanised steel profiled cladding	m ²	22.00
Steel coated composite panel cladding	m ²	46.00

Curtain walling

Single glazed powder coated aluminium framed curtain walling system	m ²	490.00
Double glazed powder coated aluminium framed curtain walling system	m ²	700.00

		£
External finishes		
Two coat render with painted finish	m ²	28.00
Two coated masonry paint	m ²	14.00
Clay tile hanging including battens and felt	m ²	48.00
Boarding in Western Red Cedar	m ²	110.00
WINDOWS AND EXTERNAL DOORS		
Windows		
Softwood painted windows		
single glazed	m ²	280.00
double glazed	m ²	320.00
Hardwood stained windows		
single glazed	m ²	480.00
double glazed	m ²	560.00
Steel painted windows		
single glazed	m ²	240.00
double glazed	m ²	270.00
Aluminium painted windows		
single glazed	m ²	260.00
double glazed	m ²	310.00
PVC-U windows		
double glazed	m ²	450.00
External doors (including frames and ironmongery)		
Softwood framed, ledged and braced door	nr	300.00
Softwood flush door	nr	390.00
Softwood panelled door	nr	500.00
Hardwood flush door	nr	750.00
Hardwood four panelled door	nr	900.00
Steel roller shutters and grilles		
Manual	m ²	300.00
Electric	m ²	420.00
PARTITIONS AND INTERNAL WALLS		
Common bricks £220 per 1000		
half brick thick	m ²	60.00
one brick thick	m ²	130.00

		£
Solid precast concrete blocks in wall		
75mm thick	m ²	32.00
100mm thick	m ²	36.00
150mm thick	m ²	44.00
Hollow precast concrete blocks in wall		
100mm thick	m ²	34.00
140mm thick	m ²	44.00
215mm thick	m ²	56.00
Thermalite blocks in wall		
100mm thick	m ²	32.00
140mm thick	m ²	38.00
200mm thick	m ²	46.00
Solid Lignacite blocks in wall		
75mm thick	m ²	32.00
100mm thick	m ²	38.00
150mm thick	m ²	46.00
Hollow Lignacite blocks in wall		
140mm thick	m ²	40.00
190mm thick	m ²	48.00
215mm thick	m ²	50.00
Concrete (21N/m 20mm aggregate) in wall including reinforcement		
sawn formwork		
100mm thick	m ²	136.00
150mm thick	m ²	148.00
wrought formwork		
100mm thick	m ²	146.00
150mm thick	m ²	158.00
Stud partition faced with		
gypsum plasterboard 9.5mm thick		
one side	m ²	40.00
two sides	m ²	48.00
gypsum plasterboard 12.5mm thick		
one side	m ²	44.00
two sides	m ²	52.00

		£
thermal board 22mm thick		
one side	m ²	54.00
two sides	m ²	80.00
thermal board 40mm thick		
one side	m ²	58.00
two sides	m ²	88.00
Extra for		
skim coat plaster		
one side	m ²	8.00
two sides	m ²	16.00
one mist and two coats of emulsion		
one side	m ²	8.00
two sides	m ²	16.00
Metal stud partition, faced both sides with plasterboard, one hour fire resistance		
170mm thick	m ²	76.00
200mm thick	m ²	88.00
Doors (including frames and ironmongery)		
Softwood flush door 40mm thick size 762×1981mm		
plywood faced	nr	310.00
sapele faced	nr	325.00
Softwood flush door 40mm thick size 826×2040mm		
plywood faced	nr	330.00
sapele faced	nr	345.00
Softwood flush door 40mm thick, half hour fire resistant, size 826×2040mm		
plywood faced	nr	340.00
sapele faced	nr	355.00
Four panel softwood door 44mm thick size		
762×1981mm	nr	445.00
Softwood door with one panel open for glass, size		
762×1981mm	nr	420.00
Purpose-made mahogany door with one panel open for glass, size		
762×1981×50mm	nr	420.00
838×1981×50mm	nr	450.00
762×1981×63mm	nr	460.00
838×1981×63mm	nr	490.00

£

Purpose-made mahogany door with two panels open for glass, size

762×1981×50mm	nr	440.00
838×1981×50mm	nr	470.00
762×1981×63mm	nr	480.00
838×1981×63mm	nr	510.00

Purpose made mahogany door with four panels open for glass, size

762×1981×50mm	nr	460.00
838×1981×50mm	nr	490.00
762×1981×63mm	nr	500.00
838×1981×63mm	nr	530.00

WALL FINISHES**In situ finishings**

One coat of plasterboard finish 3mm thick to plasterboard	m ²	8.00
Plasterwork to brick or block walls		
13mm thick	m ²	11.00
19mm thick	m ²	14.00
Cement rendering in two coats to brick or block walls		
13mm thick	m ²	12.00
19mm thick	m ²	15.00
Plasterboard 9.5mm thick and skim coat	m ²	20.00
Plasterboard 12.5mm thick and skim coat	m ²	22.00
One mist and two coats of emulsion	m ²	8.00
One coat undercoat and two coats gloss	m ²	20.00
Gypsum plaster cove		
100mm girth	m	6.00
127mm girth	m	7.00
Lining paper	m ²	5.00
Vinyl paper		
(PC £4.00/roll)	m ²	7.00
(PC £6.00/roll)	m ²	8.00
(PC £8.00/roll)	m ²	10.00

Board linings

Dry plasterboard lining to walls for direct decoration with emulsion paint finish

9.5mm wallboard	m ²	16.00
12.5mm wallboard	m ²	18.00

		£
Sheet linings on softwood battens plugged and screwed to walls		
plywood 4mm thick	m ²	18.00
plywood 6mm thick	m ²	20.00
hardboard 3.2mm thick	m ²	16.00
hardboard 4.8mm thick	m ²	18.00
hardboard 6.4mm thick	m ²	20.00
wallboard 9.5mm thick	m ²	24.00
wallboard 12.5mm thick	m ²	26.00
chipboard 12mm thick	m ²	17.00
chipboard 15mm thick	m ²	18.00
chipboard 18mm thick	m ²	19.00
chipboard 25mm thick	m ²	20.00
softwood boarding 13mm thick	m ²	28.00
softwood boarding 25mm thick	m ²	30.00

Tiling

Glazed ceramic wall tiling fixed with adhesive and grouted

108×108×4.5mm	m ²	50.00
152×152×5.5mm	m ²	40.00
200×200×6.5mm	m ²	36.00

FLOOR FINISHES**Timber flooring**

Softwood flooring, butt jointed

19mm thick	m ²	26.00
22mm thick	m ²	30.00
25mm thick	m ²	34.00

Softwood flooring, tongued and grooved

19mm thick	m ²	26.00
22mm thick	m ²	28.00
25mm thick	m ²	30.00

Hardwood strip flooring, tongued and grooved, 25mm thick

merbau	m ²	70.00
maple	m ²	90.00
iroko	m ²	80.00

		£
Chipboard flooring, butt jointed		
18mm thick	m ²	12.00
22mm thick	m ²	14.00
Chipboard flooring, tongued and grooved		
18mm thick	m ²	14.00
22mm thick	m ²	16.00
Plywood flooring, butt jointed		
12mm thick	m ²	16.00
15mm thick	m ²	20.00
18mm thick	m ²	26.00
Plywood flooring, tongued and grooved		
12mm thick	m ²	18.00
15mm thick	m ²	22.00
18mm thick	m ²	28.00
Screeds/in situ finishings		
Cement and sand (1:3) screed		
25mm thick	m ²	12.00
38mm thick	m ²	15.00
50mm thick	m ²	18.00
75mm thick 75m	m ²	22.00
Latex screed		
3mm thick	m ²	10.00
5mm thick 5mm thick	m ²	14.00
Granolithic screed		
25mm thick	m ²	16.00
32mm thick	m ²	18.00
38mm thick	m ²	20.00
50mm thick	m ²	22.00
Mastic asphalt flooring		
black		
20mm thick	m ²	22.00
25mm thick	m ²	25.00
red		
20mm thick	m ²	28.00
25mm thick	m ²	30.00

		£
Epoxy floor finish, 5mm thick	m ²	30.00
Tile flooring		
Quarry tiles		
150×150×12.5mm	m ²	54.00
194×194×25mm	m ²	76.00
Welsh slate floor tiles	m ²	56.00
Ceramic tiles		
100×100×8.5mm	m ²	40.00
150×150×8.5mm	m ²	46.00
200×200×12mm	m ²	50.00
Flexible flooring		
Rubber floor tiles, 3mm thick		
plain finish, black	m ²	54.00
studded finish, black	m ²	60.00
Linoleum sheeting		
2.5mm thick	m ²	26.00
3.2mm thick	m ²	28.00
Linoleum tiling 3.2mm thick	m ²	20.00
Thermoplastic tiling, 2mm thick	m ²	12.00
Vinyl sheeting		
2mm thick	m ²	18.00
2.5mm thick	m ²	22.00
3mm thick	m ²	24.00
Vinyl tiling, 2mm thick	m ²	18.00
Cork tiling		
3.2mm thick	m ²	22.00
4.8mm thick	m ²	26.00
6.3mm thick	m ²	30.00
8.00mm thick	m ²	36.00
Woodblock flooring herringbone pattern, sanded and wax polished		
American oak	m ²	78.00
European oak	m ²	90.00
merbau	m ²	64.00
iroko	m ²	70.00

£

Wood strip flooring herringbone pattern, sanded and wax polished

maple	m ²	68.00
oak	m ²	84.00
merbau	m ²	62.00
iroko	m ²	64.00

Underlay to carpets

rubber	m ²	8.00
felt	m ²	6.00

Fitted carpets

contract quality	m ²	14.00
medium duty	m ²	18.00
heavy duty	m ²	24.00

Carpet tiles

domestic	m ²	20.00
medium duty	m ²	30.00
heavy duty	m ²	40.00

Skirtings

Softwood painted skirtings	m	8.00
Hardwood stained skirtings	m	14.00
Vinyl coved skirtings		
100mm high	m	6.00
150mm high	m	8.00

CEILING FINISHES**In situ finishings**

Skim coat of plaster to ceilings	m ²	10.00
One mist and two coats of emulsion	m ²	8.00
One coat Artex sealer and one coat Artex finish		
plastered ceilings	m ²	6.00
plasterboard ceilings	m ²	7.00
Lining paper	m ²	5.00
Vinyl paper		
(PC £4.00/roll)	m ²	7.00
(PC £6.00/roll)	m ²	8.00
(PC £8.00/roll)	m ²	10.00

		£
Board finishes		
Plasterboard 9.5mm thick and skim coat	m ²	20.00
Plasterboard 12.5mm thick and skim coat	m ²	22.00
Suspended ceiling systems		
Gyproc M/F suspended ceiling system with 12.7mm thick wallboard	m ²	34.00
Suspended ceiling system with acoustic tiles		
300×300mm	m ²	30.00
600×600mm	m ²	34.00
SANITARY FITTINGS/DISPOSAL INSTALLATIONS		
Sanitary fittings (complete with water supply, taps and waste pipework)		
White		
lavatory basin	nr	210.00
WC	nr	280.00
urinal bowl	nr	200.00
shower cubicle	nr	800.00
sink	nr	280.00
bath, steel enamelled	nr	540.00
bath, acrylic	nr	400.00
Coloured		
lavatory basin	nr	300.00
WC	nr	350.00
bath, acrylic	nr	490.00
Pipework (including all fittings)		
Waste pipes		
copper		
35mm	m	30.00
42mm	m	36.00
54mm	m	42.00
PVC-U		
32mm	m	10.00
40mm	m	12.00
Overflow pipes		
copper		
22mm	m	16.00
28mm	m	22.00

			£
MuPVC			
19mm	m		8.00
Traps, polypropylene			
S trap 32mm	nr		16.00
S trap 40mm	nr		20.00
P trap 32mm	nr		14.00
P trap 40mm	nr		18.00
Soil pipes			
cast iron			
75mm	m		48.00
100mm	m		64.00
PVC-U			
82mm	m		26.00
110mm	m		30.00

HOT AND COLD WATER SERVICES

Pipework (including all fittings)

Copper pipes, capillary fittings

15mm	m		15.00
22mm	m		17.00
28mm	m		22.00
35mm	m		38.00
42mm	m		44.00
54mm	m		54.00

Copper pipes, compression fittings

15mm	m		20.00
22mm	m		22.00
28mm	m		26.00
35mm	m		44.00
42mm	m		50.00
54mm	m		62.00

Cisterns and cylinders (including all connections)

Polyethylene cold water cisterns, capacity

36 litres	nr		94.00
54 litres	nr		100.00

		£
68 litres	nr	110.00
86 litres	nr	120.00
114 litres	nr	132.00
154 litres	nr	180.00
227 litres	nr	240.00
Copper cylinders, indirect, capacity		
96 litres	nr	140.00
114 litres	nr	160.00
117 litres	nr	176.00
140 litres	nr	204.00

BUILDERS WORK IN CONNECTION WITH SPECIALIST SERVICES

Holes for pipes up to 55mm diameter through

half brick wall	nr	12.00
one brick wall	nr	16.00
one and a half brick wall	nr	20.00
blockwork 100mm thick	nr	10.00
blockwork 140mm thick	nr	12.00
blockwork 190mm thick	nr	14.00

Holes for pipes 55 to 110mm diameter through

half brick wall	nr	16.00
one brick wall	nr	24.00
one and a half brick wall	nr	28.00
blockwork 100mm thick	nr	14.00
blockwork 140mm thick	nr	18.00
blockwork 190mm thick	nr	22.00

Chases in walls for pipes up to 20mm diameter in existing

brickwork	m	12.00
blockwork	m	8.00

Chases in walls for pipes 40mm to 110mm diameter in existing

brickwork	m	14.00
blockwork	m	10.00

EXTERNAL WORKS**£****Excavation**

Excavate topsoil 150mm thick and deposit on site in spoil heaps

by machine	m ²	2.00
by hand	m ²	4.00

Excavate topsoil 150mm thick and spread and level on site

by machine	m ²	4.00
by hand	m ²	16.00

Excavate to reduce levels and deposit on site in spoil heaps

depth not exceeding 0.25m

by machine	m ³	6.00
by hand	m ³	18.00

depth not exceeding 1m

by machine	m ³	7.00
by hand	m ³	20.00

depth not exceeding 2m

by machine	m ³	8.00
by hand	m ³	22.00

depth not exceeding 4m

by machine	m ³	6.00
by hand	m ³	24.00

Excavate to reduce levels and spread and level on site

depth not exceeding 0.25m

by machine	m ³	7.00
by hand	m ³	20.00

depth not exceeding 1m

by machine	m ³	8.00
by hand	m ³	24.00

depth not exceeding 2m

by machine	m ³	9.00
by hand	m ³	26.00

depth not exceeding 4m

by machine	m ³	10.00
by hand	m ³	28.00

		£
Excavate to reduce levels and remove to tip off site		
depth not exceeding 0.25m		
by machine	m ³	20.00
by hand	m ³	26.00
depth not exceeding 1m		
by machine	m ³	22.00
by hand	m ³	28.00
depth not exceeding 2m		
by machine	m ³	24.00
by hand	m ³	30.00
depth not exceeding 4m		
by machine	m ³	26.00
by hand	m ³	32.00
Breaking up		
Excavate in soft rock		
by machine	m ³	45.00
by hand	m ³	65.00
Excavate in hard rock		
by machine	m ³	60.00
by hand	m ³	100.00
Excavate in concrete		
by machine	m ³	50.00
by hand	m ³	80.00
Excavate in masonry		
by machine	m ³	35.00
by hand	m ³	50.00
Excavate in pavings 150mm thick		
concrete		
by machine	m ²	4.00
by hand	m ²	5.00
macadam		
by machine	m ²	3.00
by hand	m ²	4.00

£

Filling

Imported filling material deposited on site in layers not exceeding 250mm thick, compacting with vibrating roller

excavated material

by machine m³ 12.00

by machine m³ 18.00

sand

by machine m³ 40.00

by hand m³ 55.00

hardcore

by machine m³ 35.00

by hand m³ 48.00

granular fill DfT Type 1

by machine m³ 34.00

by hand m³ 48.00

granular fill DfT Type 2

by machine m³ 36.00

by hand m³ 50.00

Surface treatments

Level and compact

excavation bottom m² 2.00

filling m² 3.00

Trim

sloping excavated surfaces m² 3.00

sloping rock m² 12.00

Beds to receive pavings

Hardcore in bed

75mm thick

by machine m² 3.00

by hand m² 5.00

100mm thick

by machine m² 3.50

by hand m² 6.00

150mm thick

by machine m² 4.50

by hand m² 7.00

		£
Sand in bed		
75mm thick		
by machine	m ²	3.50
by hand	m ²	5.50
100mm thick		
by machine	m ²	4.00
by hand	m ²	6.00
150mm thick		
by machine	m ²	4.50
by hand	m ²	7.00
Granular fill DfT Type 1 in bed by machine		
100mm thick	m ²	4.00
150mm thick	m ²	6.00
200mm thick	m ²	8.00
250mm thick	m ²	10.00
300mm thick	m ²	12.00
Pavings (laid on prepared bed)		
In situ concrete with trowelled finish		
100mm thick	m ²	12.50
125mm thick	m ²	16.00
150mm thick	m ²	18.00
Precast concrete paving flags 50mm thick		
600×450mm		
natural	m ²	22.00
coloured	m ²	24.00
600×600mm		
natural	m ²	20.00
coloured	m ²	22.00
600×750mm		
natural	m ²	18.00
coloured	m ²	20.00
600×900mm		
natural	m ²	16.00
coloured	m ²	18.00

		£
Concrete block pavers size 200×100×60mm thick, laid		
straight bond		
natural	m ²	26.00
coloured	m ²	28.00
herringbone pattern		
natural	m ²	28.00
coloured	m ²	30.00
Concrete block pavers size 200×100×80mm thick, laid		
straight bond		
natural	m ²	28.00
coloured	m ²	30.00
herringbone pattern		
natural	m ²	30.00
coloured	m ²	32.00
York stone paving flags		
size 600×600×50mm size 600×600;	m ²	140.00
size 600×900×50mm	m ²	145.00
Brick paving size 215×102.5×65mm (£300 per 1000)		
laid flat		
straight bond	m ²	45.00
herringbone pattern	m ²	48.00
laid on edge		
straight bond	m ²	48.00
herringbone pattern	m ²	52.00
Brick pavers size 215×102.5×65mm (£400 per 1000)		
laid flat		
straight bond	m ²	50.00
herringbone pattern	m ²	53.00
laid on edge		
straight bond	m ²	53.00
herringbone pattern	m ²	57.00
Granite setts size 200×100×100mm		
125mm thick	m ²	100.00
150mm thick	m ²	120.00
Cobble paving average size 75mm	m ²	94.00

		£
Grass concrete paving, soiled and seeded		
100mm thick	m ²	30.00
150mm thick 150mm	m ²	36.00
Gravel paving		
50m thick	m ²	8.00
75m thick	m ²	10.00
Reconstructed stone paving		
600×450mm	m ²	48.00
450×450mm	m ²	50.00
Fencing (including excavating for post holes, intermediate and end posts and concrete bases)		
Chestnut fencing to BS1722 Part 4		
1.00m high	m	14.00
1.25m high	m	16.00
1.50m high	m	18.00
1.80m high	m	20.00
Chainlink fencing to BS1722 Part 1 with galvanised wire mesh, height galvanised mild steel posts		
0.90m	m	24.00
1.20m	m	28.00
1.80m	m	32.00
concrete posts		
0.90m	m	20.00
1.20m	m	24.00
1.80m	m	28.00
Chainlink fencing to BS1722 Part 1 with plastic coated wire mesh, height galvanised mild steel posts		
0.90m	m	26.00
1.20m	m	30.00
1.80m	m	34.00
concrete posts		
0.90m	m	22.00
1.20m	m	26.00
1.80m	m	28.00

		£
Close boarded fencing to BS1772 Part 5		
on timber posts		
1.00m high	m	36.00
1.25m high	m	40.00
1.50m high	m	44.00
1.80m high	m	48.00
on concrete posts		
1.00m high	m	38.00
1.25m high	m	42.00
1.50m high	m	46.00
1.80m high	m	50.00
Panel fencing to BS1722 Part 11		
on timber posts		
0.90m high	m	24.00
1.20m high	m	26.00
1.50m high	m	28.00
1.80m high	m	30.00
on concrete posts		
0.90m high	m	28.00
1.20m high	m	30.00
1.50m high	m	32.00
1.80m high	m	34.00
Palisade fencing to BS1722 Part 6		
on timber posts		
0.90m high	m	30.00
1.20m high	m	32.00
1.50m high	m	34.00
1.80m high	m	36.00
on concrete posts		
0.90m high	m	34.00
1.20m high	m	36.00
1.50m high	m	38.00
1.80m high	m	40.00

		£
Post and rail fencing to BS1722 Part 7		
three rail morticed		
1.10m high	m	26.00
three rail nailed		
1.10m high	m	22.00
four rail morticed		
1.10m high	m	28.00
1.30m high	m	30.00
four rail nailed		
1.10m high	m	24.00
1.30m high	m	26.00
Drainage		
Excavate trench by machine, lay 100mm vitrified clay push fit flexible pipe with granular filling to bed and haunching		
depth 0.50m	m	30.00
depth 0.75m	m	36.00
depth 1.00m	m	44.00
depth 1.25m	m	50.00
depth 1.50m	m	56.00
depth 1.75m	m	64.00
depth 2.00m	m	72.00
depth 2.25m	m	84.00
depth 2.50m	m	92.00
depth 2.75m	m	100.00
depth 3.00m	m	108.00
granular filling to bed and surround		
depth 0.50m	m	38.00
depth 0.75m	m	44.00
depth 1.00m	m	52.00
depth 1.25m	m	58.00
depth 1.50m	m	64.00
depth 1.75m	m	72.00
depth 2.00m	m	80.00
depth 2.25m	m	92.00

£

depth 2.50m	m	100.00
depth 2.75m	m	108.00
depth 3.00m	m	116.00

concrete to bed and haunching

depth 0.50m	m	48.00
depth 0.75m	m	54.00
depth 1.00m	m	60.00
depth 1.25m	m	68.00
depth 1.50m	m	74.00
depth 1.75m	m	82.00
depth 2.00m	m	90.00
depth 2.25m	m	102.00
depth 2.50m	m	110.00
depth 2.75m	m	118.00
depth 3.00m	m	126.00

concrete to bed and surround

depth 0.50m	m	42.00
depth 0.75m	m	48.00
depth 1.00m	m	56.00
depth 1.25m	m	62.00
depth 1.50m	m	68.00
depth 1.75m	m	76.00
depth 2.00m	m	84.00
depth 2.25m	m	96.00
depth 2.50m	m	104.00
depth 2.75m	m	112.00
depth 3.00m	m	120.00

Excavate trench by machine, lay 150mm vitrified clay push fit flexible pipe with

granular filling to bed and haunching

depth 0.50m	m	38.00
depth 0.75m	m	44.00
depth 1.00m	m	52.00
depth 1.25m	m	58.00
depth 1.50m	m	64.00

		£
depth 1.75m	m	72.00
depth 2.00m	m	80.00
depth 2.25m	m	92.00
depth 2.50m	m	100.00
depth 2.75m	m	108.00
depth 3.00m	m	116.00
granular filling to bed and surround		
depth 0.50m	m	46.00
depth 0.75m	m	52.00
depth 1.00m	m	60.00
depth 1.25m	m	66.00
depth 1.50m	m	72.00
depth 1.75m	m	80.00
depth 2.00m	m	88.00
depth 2.25m	m	100.00
depth 2.50m	m	108.00
depth 2.75m	m	116.00
depth 3.00m	m	124.00
concrete to bed and haunching		
depth 0.50m	m	56.00
depth 0.75m	m	62.00
depth 1.00m	m	68.00
depth 1.25m	m	76.00
depth 1.50m	m	82.00
depth 1.75m	m	90.00
depth 2.00m	m	98.00
depth 2.25m	m	110.00
depth 2.50m	m	118.00
depth 2.75m	m	126.00
depth 3.00m	m	136.00
concrete to bed and surround		
depth 0.50m	m	54.00
depth 0.75m	m	60.00
depth 1.00m	m	68.00

		£
depth 1.25m	m	74.00
depth 1.50m	m	80.00
depth 1.75m	m	88.00
depth 2.00m	m	96.00
depth 2.25m	m	108.00
depth 2.50m	m	116.00
depth 2.75m	m	124.00
depth 3.00m	m	132.00
Excavate trench by hand, lay 100mm vitrified clay push fit flexible pipe with granular filling to bed and haunching		
depth 0.50m	m	40.00
depth 0.75m	m	58.00
depth 1.00m	m	60.00
depth 1.25m	m	90.00
depth 1.50m	m	106.00
depth 1.75m	m	120.00
depth 2.00m	m	136.00
depth 2.25m	m	174.00
depth 2.50m	m	190.00
depth 2.75m	m	210.00
depth 3.00m	m	226.00
granular filling to bed and surround		
depth 0.50m	m	48.00
depth 0.75m	m	66.00
depth 1.00m	m	68.00
depth 1.25m	m	98.00
depth 1.50m	m	114.00
depth 1.75m	m	128.00
depth 2.00m	m	144.00
depth 2.25m	m	182.00
depth 2.50m	m	198.00
depth 2.75m	m	218.00
depth 3.00m	m	234.00

£

concrete to bed and haunching

depth 0.50m	m	58.00
depth 0.75m	m	76.00
depth 1.00m	m	78.00
depth 1.25m	m	108.00
depth 1.50m	m	124.00
depth 1.75m	m	138.00
depth 2.00m	m	154.00
depth 2.25m	m	192.00
depth 2.50m	m	208.00
depth 2.75m	m	228.00
depth 3.00m	m	244.00

concrete to bed and surround

depth 0.50m	m	66.00
depth 0.75m	m	84.00
depth 1.00m	m	86.00
depth 1.25m	m	116.00
depth 1.50m	m	132.00
depth 1.75m	m	146.00
depth 2.00m	m	162.00
depth 2.25m	m	200.00
depth 2.50m	m	216.00
depth 2.75m	m	236.00
depth 3.00m	m	252.00

Excavate trench by hand, lay 150mm vitrified clay push fit flexible pipe with granular filling to bed and haunching

depth 0.50m	m	40.00
depth 0.75m	m	58.00
depth 1.00m	m	60.00
depth 1.25m	m	90.00
depth 1.50m	m	106.00
depth 1.75m	m	120.00

		£
depth 2.00m	m	136.00
depth 2.25m	m	174.00
depth 2.50m	m	190.00
depth 2.75m	m	210.00
depth 3.00m	m	226.00
granular filling to bed and surround		
depth 0.50m	m	48.00
depth 0.75m	m	66.00
depth 1.00m	m	68.00
depth 1.25m	m	98.00
depth 1.50m	m	114.00
depth 1.75m	m	128.00
depth 2.00m	m	144.00
depth 2.25m	m	182.00
depth 2.50m	m	198.00
depth 2.75m	m	218.00
depth 3.00m	m	234.00
concrete to bed and haunching		
depth 0.50m	m	58.00
depth 0.75m	m	76.00
depth 1.00m	m	78.00
depth 1.25m	m	108.00
depth 1.50m	m	124.00
depth 1.75m	m	138.00
depth 2.00m	m	154.00
depth 2.25m	m	192.00
depth 2.50m	m	208.00
depth 2.75m	m	228.00
depth 3.00m	m	244.00
concrete to bed and surround		
depth 0.50m	m	66.00
depth 0.75m	m	84.00
depth 1.00m	m	86.00
depth 1.25m	m	116.00
depth 1.50m	m	132.00

£

depth 1.75m	m	146.00
depth 2.00m	m	162.00
depth 2.25m	m	200.00
depth 2.50m	m	216.00
depth 2.75m	m	236.00
depth 3.00m	m	252.00

Manholes

Brick manholes including excavation, concrete base, engineering brick walls, main channel and bends, benching and cast iron inspection cover, internal size

600×450mm

depth 500mm	nr	500.00
depth 750mm	nr	600.00
depth 1000mm	nr	750.00
depth 1250mm	nr	900.00
depth 1500mm	nr	1,000.00

750×450mm

depth 500mm	nr	600.00
depth 750mm	nr	700.00
depth 1000mm	nr	850.00
depth 1250mm	nr	1,050.00
depth 1500mm	nr	1,200.00

900×600mm

depth 500mm	nr	650.00
depth 750mm	nr	800.00
depth 1000mm	nr	1,100.00
depth 1250mm	nr	1,200.00
depth 1500mm	nr	1,400.00
depth 1750mm	nr	1,600.00
depth 2000mm	nr	1,800.00
depth 2500mm	nr	2,000.00

Brick manholes including excavation, concrete base, engineering brick walls, main channel and bends, benching, concrete reducing slab and cast iron inspection cover, internal size

900×900mm

depth 1500mm	nr	1,600.00
depth 2000mm	nr	2,000.00

		£
depth 2500mm	nr	2,400.00
depth 3000mm	nr	2,600.00
depth 3500mm	nr	2,900.00
depth 4000mm	nr	3,200.00
1200×750mm		
depth 1500mm	nr	1,800.00
depth 2000mm	nr	2,200.00
depth 2500mm	nr	2,600.00
depth 3000mm	nr	2,800.00
depth 3500mm	nr	3,100.00
depth 4000mm	nr	3,400.00
900×1500mm		
depth 1500mm	nr	1,700.00
depth 2000mm	nr	1,950.00
depth 2500mm	nr	2,200.00
depth 3000mm	nr	3,000.00
depth 3500mm	nr	3,500.00
depth 4000mm	nr	4,000.00
1200×1800mm		
depth 1500mm	nr	2,400.00
depth 2000mm	nr	2,800.00
depth 2500mm	nr	3,200.00
depth 3000mm	nr	3,600.00
depth 3500mm	nr	4,000.00
depth 4000mm	nr	4,600.00

Precast concrete manholes including base slab 225mm thick, precast concrete rings, reducing slab and access shaft for all manholes over 3m deep, step irons, channels and cast iron heavy duty manhole covers, size

675mm diameter, depth

1000mm	nr	700.00
1500mm	nr	850.00
2000mm	nr	1,000.00
3000mm	nr	1,200.00

		£
900mm diameter, depth		
1000mm	nr	950.00
1500mm	nr	1,100.00
2000mm	nr	1,250.00
3000mm	nr	1,550.00
1200 diameter, depth		
1500mm	nr	1,600.00
2000mm	nr	2,000.00
3000mm	nr	2,500.00
4000mm	nr	3,000.00
1500 diameter, depth		
2000mm	nr	1,900.00
3000mm	nr	2,400.00
4000mm	nr	2,900.00

LANDSCAPING

Site clearance

Demolish existing buildings Including digging up foundations

brick		
small	m ³	12.00
medium	m ³	9.00
large	m ³	6.00
steel framed with cladded walls		
small	m ³	5.00
medium	m ³	4.00
large	m ³	3.00
timber framed with cladded walls		
small	m ³	3.00
medium	m ³	2.00
large	m ³	1.00
Temporary chestnut fencing 1.50m high	m	18.00
Clear away scrub vegetation, shrub and hedges	m ²	2.50

		£
Cut down trees, grub up stumps		
trees size less than 600mm girth	nr	70.00
trees size 600 to 900mm girth	nr	150.00
trees size 900 to 1200mm girth	nr	300.00
trees size 1200 to 1500mm girth	nr	350.00
trees size 1500 to 1800mm girth	nr	450.00
trees size 1800 to 2100mm girth	nr	550.00
trees size 2100 to 2400mm girth	nr	650.00
trees size 2400 to 2700mm girth	nr	750.00
trees size 2700 to 3000mm girth	nr	850.00
Backfill tree hole with excavated material		
trees size less than 600mm girth	nr	2.50
trees size 600 to 900mm girth	nr	4.00
trees size 900 to 1200mm girth	nr	5.00
trees size 1200 to 1500mm girth	nr	6.00
trees size 1500 to 1800mm girth	nr	8.00
trees size 1800 to 2100mm girth	nr	10.00
trees size 2100 to 2400mm girth	nr	12.00
trees size 2400 to 2700mm girth	nr	16.00
trees size 2700 to 3000mm girth	nr	20.00
Backfill tree hole with sand		
trees size less than 600mm girth	nr	12.00
trees size 600 to 900mm girth	nr	16.00
trees size 900 to 1200mm girth	nr	24.00
trees size 1200 to 1500mm girth	nr	36.00
trees size 1500 to 1800mm girth	nr	44.00
trees size 1800 to 2100mm girth	nr	50.00
trees size 2100 to 2400mm girth	nr	60.00
trees size 2400 to 2700mm girth	nr	70.00
trees size 2700 to 3000mm girth	nr	80.00
Backfill tree hole lean concrete		
trees size less than 600mm girth	nr	40.00
trees size 600 to 900mm girth	nr	70.00
trees size 900 to 1200mm girth	nr	100.00
trees size 1200 to 1500mm girth	nr	130.00

£

trees size 1500 to 1800mm girth	nr	160.00
trees size 1800 to 2100mm girth	nr	200.00
trees size 2100 to 2400mm girth	nr	230.00
trees size 2400 to 2700mm girth	nr	270.00
trees size 2700 to 3000mm girth	nr	310.00

Backfill tree hole with hardcore

trees size less than 600mm girth	nr	15.00
trees size 600 to 900mm girth	nr	25.00
trees size 900 to 1200mm girth	nr	35.00
trees size 1200 to 1500mm girth	nr	50.00
trees size 1500 to 1800mm girth	nr	70.00
trees size 1800 to 2100mm girth	nr	90.00
trees size 2100 to 2400mm girth	nr	115.00
trees size 2400 to 2700mm girth	nr	135.00
trees size 2700 to 3000mm girth	nr	160.00

Excavation and filling**Excavate topsoil 150mm thick and deposit on site in spoil heaps**

by machine	m ²	2.00
by hand	m ²	4.00

Excavate topsoil 150mm thick and spread and level on site

by machine	m ²	4.00
by hand	m ²	16.00

Imported filling material deposited on site in layers not exceeding 250mm thick, compacting with vibrating roller

excavated material

by machine	m ²	12.00
by hand	m ²	18.00

sand

by machine	m ²	40.00
by hand	m ²	55.00

hardcore

by machine	m ²	35.00
by hand	m ²	48.00

granular fill DfT Type 1

by machine	m ²	34.00
by hand	m ²	48.00

		£
granular fill DfT Type 2		
by machine	m ²	36.00
by hand	m ²	50.00
Surface treatments		
Break up existing ground with plough or rotovator, depth		
100mm	m ²	1.50
200mm	m ²	1.60
300mm	m ²	1.75
400mm	m ²	2.00
Roll cultivated ground with self-propelled roller with self-propelled roller	m ²	1.00
Level and compact		
excavation bottom	m ²	1.80
filling	m ²	2.20
Trim surfaces of		
sloping excavated surfaces	m ²	2.00
sloping rock	m ²	10.00
Soil stabilisation		
Tensar Polypropylene Geogrid geotextile		
SS 20 laid flat	m ²	4.00
SS 20 laid sloping	m ²	5.00
SS 30 laid flat	m ²	5.00
SS 30 laid sloping	m ²	6.00
SS 40 laid flat	m ²	8.00
SS 40 laid sloping	m ²	9.00
Terram 1000		
laid flat	m ²	3.00
laid sloping	m ²	4.00
Terram 2000		
laid flat	m ²	6.00
laid sloping	m ²	7.00
Grassblock precast concrete paving, laid on sand bed, filled in with topsoil and seeded		
83mm thick	m ²	26.00
103mm thick	m ²	28.00
125mm thick	m ²	32.00

	£
Retaining walls	
Excavate for and place in position wire mesh gabion cages filled with broken stone and rock, size	
zinc mesh	
2×1×0.5m	m ³ 160.00
2×1×1m	m ³ 120.00
PVC coated wire mesh	
2×1×0.5m	m ³ 164.00
2×1×1m	m ³ 124.00
Excavate for and place in position galvanised wire mesh gabion mattresses filled with broken stone and rock, size	
6×2×0.25m	m ³ 120.00
6×2×0.30m	m ³ 110.00
Excavate trench by machine, dispose of surplus excavated material off site, earthwork support, concrete foundations 10 N/mm ² –40mm aggregate (1:3:6), engineering bricks (£250/1000) in retaining wall	
one brick thick wall	
height 1500mm	m 204.00
height 2000mm	m 264.00
height 3000mm	m 384.00
one and a half brick thick wall	
240 wall height 1500mm	m 234.00
320 wall height 2000mm	m 304.00
400 wall height 3000mm	m 444.00
Roads	
Excavate for and lay road base, tarmacadam sub-base and wearing course, precast concrete kerbs both sides, road width	
5m	m 575.00
6m	m 690.00
7m	m 805.00
Paths	
Excavate for hardcore base, blinded with sand, covered in bark chippings laid between softwood edging boards	
width, 1.5m	m 28.00
width, 2.0m	m 36.00

		£
width, 2.5m	m	45.00
width, 3.0m	m	54.00
Excavate for hardcore base, blinded with sand, lay precast concrete blocks as fire path infilled with top soil and seeded		
width, 3.0m	m	90.00
width, 4.0m	m	120.00
width, 5.0m	m	150.00
Precast concrete flags size 600×600×50mm laid separately as stepping stones including excavation and sand bed	nr	8.00
Car parks		
Excavate and lay sub-base to receive		
tarmacadam 65mm thick		
general area	m ²	40.00
parking bay	nr	800.00
concrete blocks 65mm thick		
general area	m ²	36.00
parking bay	nr	720.00
cellular precast concrete paving, filled in with topsoil and seeded		
83mm thick		
general area	m ²	36.00
parking bay	nr	780.00
103mm thick		
general area	m ²	38.00
parking bay	nr	840.00
125mm thick		
general area	m ²	42.00
parking bay	nr	960.00
Sports grounds		
Trim and grade prepared ground and apply weedkiller, fertiliser, grass seed including harrowing, rolling and one cut		
general areas	m ²	0.35
football pitch	nr	3,633.00
rugby pitch	nr	2,415.00
hockey pitch	nr	1,751.00
tennis court	nr	235.00

Soiling, seeding and turfing

Imported topsoil filling spread and levelled, average thickness

by machine

100mm	m ²	3.00
150mm	m ²	4.50
200mm	m ²	6.00
250mm	m ²	7.50

by hand

100mm	m ²	4.80
150mm	m ²	7.20
200mm	m ²	9.60
250mm	m ²	12.00

Topsoil filling from spoil heaps on site, spread and levelled, average thickness

by machine

100mm	m ²	0.60
150mm	m ²	0.90
200mm	m ²	1.20
250mm	m ²	1.50

by hand

100mm	m ²	2.00
150mm	m ²	3.00
200mm	m ²	4.00
250mm	m ²	5.00

Plough and harrow topsoil to fine tilth, remove stones apply weed killer m² 0.30

Apply pesticide and weedkiller to prepared topsoil, sow grass seed (£80 per 25kg), harrow, roll and one cut

by hand

10g/m ²	m ²	0.25
15g/m ²	m ²	0.27
20g/m ²	m ²	0.28
25g/m ²	m ²	0.30
30g/m ²	m ²	0.40
35g/m ²	m ²	0.46
40g/m ²	m ²	0.65
50g/m ²	m ²	0.70

		£
by machine		
10g/m ²	m ²	0.15
15g/m ²	m ²	0.16
20g/m ²	m ²	0.17
25g/m ²	m ²	0.18
30g/m ²	m ²	0.20
35g/m ²	m ²	0.22
40g/m ²	m ²	0.23
50g/m ²	m ²	0.25
Imported turf size 4000×2000×19mm on prepared bed		
general sports use	m ²	6.00
special sports use	m ²	8.00
domestic	m ²	5.00
Treat turf with wooden paddle beater	m ²	0.30
Treat turf with light roller	m ²	0.50
First cut to turf 20mm high with man-operated power driven cylinder mower including boxing cuttings	m ²	0.25
Planting		
Excavate for and plant transplants or seedlings, backfill and water, plant cost		
£0.50	nr	1.25
£1.00	nr	1.75
£1.50	nr	2.25
£2.00	nr	2.75
£2.50	nr	3.25
£3.00	nr	1.75
Excavate tree pit, fork bottom, plant tree, backfill, water, surround with peat (1 stake and 2 ties per tree), tree cost		
£5.00	nr	35.00
£10.00	nr	45.00
£15.00	nr	65.00
£20.00	nr	70.00
£50.00	nr	100.00
£75.50	nr	125.00
£100.00	nr	150.00

		£
Form planting hole in cultivated area, plant shrub, backfill, water, surround with peat, shrub cost		
£5.00	nr	35.00
£10.00	nr	45.00
Tree stake 100mm diameter and 2 ties		
length, 2m	nr	10.00
length, 2.5m	nr	11.00
length, 3m	nr	12.00
Galvanised wire tree guards, 300mm diameter		
height, 1m	nr	25.00
height, 1.5m	nr	28.00
height, 2m	nr	32.00
Cast iron tree grille, size		
two part		
1000×1000mm	nr	215.00
1200×1200mm	nr	230.00
1200mm diameter	nr	220.00
four part		
1000×1000mm	nr	240.00
1200×1200mm	nr	320.00
1200mm diameter	nr	300.00
Field drains		
Excavate by hand vee-sided ditch, width at bottom		
300mm, depth		
750mm	m	14.00
1000mm	m	16.00
500mm, depth		
750mm	m	20.00
1000mm	m	24.00
1250mm	m	28.00
1500mm	m	32.00
Excavate trench by machine and lay agricultural clay pipes, backfill with gravel rejects		
75mm diameter		
depth, 400mm	m	23.00
depth, 500mm	m	26.75

		£
depth, 600mm	m	31.50
depth, 700mm	m	34.25
depth, 800mm	m	38.00
depth, 900mm	m	41.75
depth, 1000mm	m	45.50
100mm diameter		
depth, 400mm	m	26.00
depth, 500mm	m	29.75
depth, 600mm	m	34.50
depth, 700mm	m	37.25
depth, 800mm	m	41.00
depth, 900mm	m	44.75
depth, 1000mm	m	48.50
150mm diameter		
depth, 400mm	m	41.00
depth, 500mm	m	44.75
depth, 600mm	m	49.50
depth, 700mm	m	52.25
depth, 800mm	m	56.00
depth, 900mm	m	59.75
depth, 1000mm	m	63.50
Excavate trench by hand and lay agricultural clay pipes, backfill with gravel rejects		
75mm diameter		
depth, 400mm	m	24.60
depth, 500mm	m	29.00
depth, 600mm	m	32.20
depth, 700mm	m	37.40
depth, 800mm	m	41.60
depth, 900mm	m	45.80
depth, 1000mm	m	50.00
100mm diameter		
depth, 400mm	m	27.60
depth, 500mm	m	32.00
depth, 600mm	m	35.20

		£
depth, 700mm	m	40.40
depth, 800mm	m	44.60
depth, 900mm	m	48.80
depth, 1000mm	m	53.00
150mm diameter		
depth, 400mm	m	42.60
depth, 500mm	m	47.00
depth, 600mm	m	50.20
depth, 700mm	m	55.40
depth, 800mm	m	59.60
depth, 900mm	m	63.80
depth, 1000mm	m	68.00

CIVIL ENGINEERING WORK

Individual rates in civil engineering work cannot be compared to those in building because the value of the General Items can be as high as 50% compared to about 10% in building work. This is mainly due to the freedom of civil engineering estimators to prepare bids to reflect their view of the timing and sequence of the works that is usually not available to their building counterparts.

So when preparing first stage estimates in civil engineering, it is important that the level of the General Items is assessed first so that the level of pricing of the individual rates can be adjusted accordingly.

CLASS A: GENERAL ITEMS

The items listed below are based on a civil contract worth approximately £10m and a contract period of 78 weeks.

Contractual requirements	£	£
Performance bond		
1 % for construction period		
×£10m	150,000	
0.75% for maintenance period		
×£10m	<u>75,000</u>	225,000

	£	£
Insurance of the Works		
1.5%×£10m		150,000
Insurance of the plant		
included in hire charges		nil
Insurance against damage to persons and property		
included in head office overheads		nil
Specified requirements		
Offices for Engineer's staff		
erect	1,000	
Carried forward	1,000	375,000
Brought forward	1,000	375,000
maintain and operate		
(100 weeks×£100)	10,000	
remove	<u>1,000</u>	12,000
Laboratory for the Engineer's staff		
erect	750	
maintain and operate		
(50 weeks×£100)	5,000	
remove	<u>750</u>	6,500
Cabins for the Engineer's staff		
erect	1,000	
maintain and operate		
(100 weeks×£100)	10,000	
remove	<u>1,000</u>	12,000
Services for the Engineer		
1,750cc car		
(100 weeks×£400)	40,000	
Land Rover		
(78 weeks×£400)	31,200	
telephone installation	500	
maintain and operate		
(100 weeks×£70)	<u>7,000</u>	78,700

	£	£
Equipment for the Engineer		
office equipment desks, computer, tables, chairs, filing cabinets, sundries (100 weeks×£200)	20,000	
laboratory equipment (50 weeks×£150)	10,000	
surveying equipment (78 weeks×£100)	<u>11,700</u>	41,700
Carried forward		525,900
Brought forward		525,900
Attendance on the Engineer		
driver (50 weeks×£450)	22,500	
chainman (50 weeks×£350)	17,500	
laboratory assistant (30 weeks×£450)	<u>13,500</u>	52,500
Testing of materials (included)		nil
Testing of the Works (included)		nil
Temporary works		
traffic signals (30 weeks×£50)	1,500	
cleaning roads (40 weeks×£400)	16,000	
progress photography temporary lighting (40 weeks×£70)	2,800	
temporary water supply connection pipework (200m×£12)	2,400	
supply (2m litres×£0.70 per k/l)	1,400	
hardstanding (lay 200m2×£15)	3,000	
remove	<u>1,000</u>	31,100
Method related charges		
Offices for contractor		
erect	1,000	

	£	£
maintain and operate (100 weeks×£100)	10,000	
remove	<u>1,000</u>	<u>12,000</u>
Carried forward		621,500
Brought forward		621,500
Cabins for contractor		
erect	1,000	
maintain and operate (78 weeks×£80)	6,240	
remove	<u>1,000</u>	8,240
Stores for contractor		
erect	1,000	
maintain and operate (100weeks×£80)	8,000	
remove	<u>1,000</u>	10,000
Canteen and messroom for contractor		
erect	1,000	
maintain and operate (78 weeks×£100)	7,800	
remove	<u>1,000</u>	9,800
Electricity		
install	1,000	
maintain and operate (100 weeks×£70)	<u>7,000</u>	8,000
Supervision/administration		
agent (90 weeks×£1,300)	117,000	
sub agents (2) (156 weeks×£700)	109,200	
inspectors (2) (156 weeks×£600)	93,600	
setting out engineer (30 weeks×£700)	21,000	
quantity surveyor (110 weeks×£850)	93,500	

	£	£
section foremen (4) (312 weeks×£700)	218,400	
timekeeper/wages clerk (78 weeks×£500)	<u>39,000</u>	<u>652,700</u>
Carried forward		1,310,240
Brought forward		1,310,240
storekeeper (78 weeks×£400)	31,200	
watchman (100 weeks×£350)	35,000	
teaboy (78 weeks×£300)	23,400	
offloading and cleaning gang (2) (140 weeks×£400)	<u>56,000</u>	<u>145,600</u>
Total		<u>1,455,840</u>

This total represents 14.56% for General Items on a contract value of £10m

CLASS B: GROUND INVESTIGATION

Trial pits

Trial pits size 1×2m, not in rock, maximum depth

not exceeding 1m	nr	26.00
1–2m	nr	48.00
2–3m	nr	58.00
3–5m	nr	70.00

Trial pits size 1×2m, 50% in rock, maximum depth

not exceeding 1m	nr	70.00
1–2m	nr	140.00
2–3m	nr	210.00
3–5m	nr	350.00

Trial pits size 1×2m, in rock, maximum depth

not exceeding 1m	nr	140.00
1–2m	nr	280.00
2–3m	nr	420.00
3–5m	nr	700.00

£

An allowance of say, £3,000 should be made for the establishment and removal of plant and equipment to carry out the following work

Light percussion boreholes, 150mm diameter

depth, not exceeding 5m	m	30.00
depth, 5–10m	m	40.00
depth, 10–20	m	50.00
depth, 20–30m	m	80.00
depth, 30–40m	m	100.00

Rotary drilled boreholes, 150mm diameter without core recovery

depth, not exceeding 5m	m	36.00
depth, 5–10m	m	38.00
depth, 10–20	m	40.00
depth, 20–30m	m	46.00
depth, 30–40m	m	54.00

Rotary drilled boreholes, 150mm diameter with core recovery

depth, not exceeding 5m	m	98.00
depth, 5–10m	m	102.00
depth, 10–20	m	106.00
depth, 20–30m	m	110.00
depth, 30–40m	m	114.00

CLASS C: GEOTECHNICAL AND OTHER SPECIAL PROCESSES

Drilling

An allowance of £5,000 should be made for the establishment and removal of plant and equipment to carry out the following work

Drilling for grout holes through materials other than rock or artificial hard materials vertically downwards

depth, not exceeding 5m	m	36.00
depth, 5–10m	m	38.00
depth, 10–20	m	40.00
depth, 20–30m	m	42.00

downwards at an angle of 0–45
degrees to the vertical

depth, not exceeding 5m	m	36.00
depth, 5–10m	m	38.00
depth, 10–20	m	40.00
depth, 20–30m	m	42.00

horizontally or downwards at an angle of 0–45 degrees to the horizontal

depth, not exceeding 5m	m	36.00
depth, 5–10m	m	38.00
depth, 10–20	m	40.00
depth, 20–30m	m	42.00

upwards at an angle of 0–45 degrees to the horizontal

depth, not exceeding 5m	m	40.00
depth, 5–10m	m	42.00
depth, 10–20	m	44.00
depth, 20–30m	m	46.00

upwards at an angle of 0–45
degrees to the vertical

depth, not exceeding 5m	m	40.00
depth, 5–10m	m	42.00
depth, 10–20	m	44.00
depth, 20–30m	m	46.00

Drilling for grout holes through rock

vertically downwards

depth, not exceeding 5m	m	38.00
depth, 5–10m	m	40.00
depth, 10–20	m	42.00
depth, 20–30m	m	44.00

downwards at an angle of 0–45
degrees to the vertical

depth, not exceeding 5m	m	38.00
depth, 5–10m	m	40.00
depth, 10–20	m	42.00
depth, 20–30m	m	44.00

		£
horizontally or downwards at an angle of 0–45 degrees to the horizontal		
depth, not exceeding 5m	m	38.00
depth, 5–10m	m	40.00
depth, 10–20	m	42.00
depth, 20–30m	m	44.00
upwards at an angle of 0–45 degrees to the horizontal		
depth, not exceeding 5m	m	42.00
depth, 5–10m	m	44.00
depth, 10–20	m	46.00
depth, 20–30m	m	48.00
upwards at an angle of 0–45 degrees to the vertical		
depth, not exceeding 5m	m	42.00
depth, 5–10m	m	44.00
depth, 10–20m	m	46.00
depth, 20–30m	m	48.00

Grout materials and injections

An allowance of £5,000 should be made for the establishment and renewal of plant and equipment to carry out grouting operations

Materials

Cement bentonite (2:1)	t	160.00
Cement PFA	t	86.00
Sand	t	22.00
Pea gravel	t	22.00
Bentonite	t	200.00

Diaphragm walls

It is assumed in the following rates that a minimum of 3,000³ m of excavation is required. An allowance of £60,000 should be made for the establishment and removal of plant and equipment to carry out the work

Excavation in material other than rock or artificial hard material

maximum depth not exceeding 5m	m ³	480.00
maximum depth 5–10m	m ³	500.00

		£
maximum depth 10–15m	m ³	520.00
maximum depth 15–20m	m ³	540.00
Concrete designed mix to BS5328; grade 20, ordinary Portland cement to BS12, 20mm aggregate to BS882, walls 1000mm thick	m ³	180.00
High yield bar reinforcement To BS4449		
nominal size 12mm	t	1,400.00
nominal size 16mm	t	1,300.00
nominal size 20mm	t	1,100.00
nominal size 25mm	t	1,000.00
Concrete guide wall at the side of excavation, 1000mm wide×500mm deep	m	380.00
Ground anchorages		
It is assumed in the following rates that a minimum of 75 anchors are to be installed and an allowance of £6,000 should be made for the establishment and removal of plant and equipment		
Ground anchorages, in material other than rock to a maximum 10m depth; load 50 tonne		
temporary	nr	120.00
temporary with single corrosion protection	nr	140.00
temporary with double corrosion protection	nr	160.00
permanent	nr	140.00
permanent with single corrosion protection	nr	160.00
permanent with double corrosion protection	nr	180.00
Total length of tendon in material other than rock		
temporary	nr	100.00
temporary with single corrosion protection	nr	110.00
temporary with double corrosion protection	nr	115.00
permanent	nr	120.00
permanent with single corrosion protection	nr	125.00
permanent with double corrosion protection	nr	130.00

		£
Ground anchorages, in material including rock to a maximum 10m depth; load 50 tonne		
temporary	nr	130.00
temporary with single corrosion protection	nr	150.00
temporary with double corrosion protection	nr	170.00
permanent	nr	150.00
permanent with single corrosion protection	nr	170.00
permanent with double corrosion protection	nr	190.00
Total length of tendon in material including rock		
temporary	nr	110.00
temporary with single corrosion protection	nr	120.00
temporary with double corrosion protection	nr	125.00
permanent	nr	130.00
permanent with single corrosion protection	nr	135.00
permanent with double corrosion protection	nr	140.00

Sand, band and wick drains

It is assumed in the following rates that a minimum of 100 vertical drains are to be installed and an allowance of £7,500 should be made for the establishment and removal of plant and equipment

Number of drains	70 nr	
Pre-drilled holes	70 nr	
Drains of maximum depth not exceeding 10m		
cross section		
100–200mm	m	10.00
200–300mm	m	11.00
300–400mm	m	12.00

Drains of maximum depth not exceeding 10–15m

cross section

100–200mm	m	11.00
200–300mm	m	12.00
300–400mm	m	13.00

Drains of maximum depth not exceeding 10–15m

cross section

100–200mm	m	12.00
200–300mm	m	13.00
300–400mm	m	14.00

CLASS D: DEMOLITION AND SITE CLEARANCE**General clearance**

General site clearance of areas

free from major obstructions	ha	900.00
woods, small trees and shrubs	ha	1,800.00

Demolish existing buildings including digging up foundations

brick

small	m ³	12.00
medium	m ³	9.00
large	m ³	6.00

steel framed with cladded walls

small	m ³	5.00
medium	m ³	4.00
large	m ³	3.00

timber framed with cladded walls

small	m ³	3.00
medium	m ³	2.00
large	m ³	1.00

Pull down trees (stumps measured separately) girth

500mm–1 m	nr	60.00
1–2m	nr	100.00
2–3	nr	400.00
3–5m	nr	900.00

		£
Grub up stumps and backfill with displaced topsoil, stump diameter		
150–500mm	nr	30.00
500mm–1	nr	60.00
1–2m	nr	80.00
Dig out and remove drains depth 1.5m including granular bed and surround	m	10.00
Dig out and remove drains depth 2m including concrete bed and surround	m	13.00

CLASS E: EARTHWORKS

Dredging

It is difficult to provide accurate cost information on dredging. Various methods can be used including cutter-suction dredger, barge-mounted excavator or grab hopper. The depth of water, disposal arrangements and tidal conditions are all key factors affecting costs

The cost per cubic metre of dredging solid material should be in the range of £6 to £8 per cubic metre but specialist advice should be obtained in the early stages of preparing the budget estimate

General excavation

Excavate to reduce levels

depth not exceeding 0.25m

topsoil	m ³	2.00
normal ground	m ³	2.00
stiff clay	m ³	3.50
chalk	m ³	20.00

depth 0.25 to 0.50m

normal ground	m ³	2.00
stiff clay	m ³	3.50
chalk	m ³	20.00
rock	m ³	30.00

depth 0.25 to 1m

normal ground	m ³	3.00
stiff clay	m ³	4.50
chalk	m ³	25.00
rock	m ³	40.00

		£
depth 1m to 2m		
normal ground	m ³	4.00
stiff clay	m ³	5.50
chalk	m ³	30.00
rock	m ³	50.00
depth 2 to 5m		
normal ground	m ³	7.00
stiff clay	m ³	9.00
chalk	m ³	35.00
rock	m ³	60.00
Disposal		
Excavated material		
deposited on site		
100m distance	m ³	4.00
deposited on site		
300m distance	m ³	5.00
deposited off site		
1km distance including		
tipping fees	m ³	9.00
deposited off site		
5km distance including		
tipping fees	m ³	18.00
Filling		
Filling to make up levels including levelling and compacting		
excavated material	m ³	16.00
sand	m ³	48.00
hardcore	m ³	40.00
DfT Type 1	m ³	38.00
DfT Type 2	m ³	36.00
CLASS F: IN SITU CONCRETE		
Provision of concrete		
Standard mix		
ST1		
ordinary Portland cement	m ³	85.00
sulphate resisting cement	m ³	95.00

		£
ST2		
ordinary Portland cement	m ³	87.00
sulphate resisting cement	m ³	97.00
ST3		
ordinary Portland cement	m ³	89.00
sulphate resisting cement	m ³	99.00
ST4		
ordinary Portland cement	m ³	90.00
sulphate resisting cement	m ³	100.00
ST5		
ordinary Portland cement	m ³	92.00
sulphate resisting cement	m ³	102.00
Designed mix, ordinary Portland cement		
grade C20		
10mm aggregate	m ³	89.00
20mm aggregate	m ³	86.00
40mm aggregate	m ³	87.00
grade C25		
10mm aggregate	m ³	92.00
20mm aggregate	m ³	89.00
40mm aggregate	m ³	90.00
grade C30		
10mm aggregate	m ³	93.00
20mm aggregate	m ³	90.00
40mm aggregate	m ³	91.00
Designed mix, sulphate resisting cement		
grade C20		
10mm aggregate	m ³	99.00
20mm aggregate	m ³	96.00
40mm aggregate	m ³	97.00
grade C25		
10mm aggregate	m ³	102.00
20mm aggregate	m ³	99.00
40mm aggregate	m ³	100.00

		£
grade C30		
10mm aggregate	m ³	103.00
20mm aggregate	m ³	100.00
40mm aggregate	m ³	101.00
Placing of concrete		
Mass concrete in		
blinding, thickness		
not exceeding 150mm	m ³	18.00
150–300mm	m ³	16.00
300–500mm	m ³	15.00
Exceeding 500mm	m ³	14.00
bases, footings, pile caps and ground slabs		
not exceeding 150mm	m ³	25.00
150–300mm	m ³	22.00
300–500mm	m ³	20.00
exceeding 500mm	m ³	19.00
walls		
not exceeding 150mm	m ³	28.00
150–300mm	m ³	20.00
300–500mm	m ³	18.00
exceeding 500mm	m ³	16.00
Reinforced concrete in		
bases, footings, pile caps and ground slabs		
not exceeding 150mm	m ³	26.00
150–300mm	m ³	23.00
300–500mm	m ³	21.00
exceeding 500mm	m ³	20.00
walls		
not exceeding 150mm	m ³	29.00
150–300mm	m ³	21.00
300–500mm	m ³	19.00
exceeding 500mm	m ³	17.00

		£
suspended slabs		
not exceeding 150mm	m ³	38.00
150–300mm	m ³	30.00
300–500mm	m ³	26.00
exceeding 500mm	m ³	24.00
columns and piers		
not exceeding 150mm	m ³	68.00
150–300mm	m ³	58.00
300–500mm	m ³	50.00
exceeding 500mm	m ³	48.00

CLASS G: CONCRETE ANCILLARIES

Formwork

Rough finish, width

plane horizontal

not exceeding 0.1m	m	12.00
0.1–0.2m	m	18.00
0.2–0.4m	m ²	48.00
0.4–1.22m	m ²	58.00
exceeding 1.22m	m ²	64.00

plane sloping

not exceeding 0.1m	m	14.00
0.1–0.2m	m	20.00
0.2–0.4m	m ²	50.00
0.4–1.22m	m ²	66.00
exceeding 1.22m	m ²	66.00

plane battered

not exceeding 0.1m	m	16.00
0.1–0.2m	m	22.00
0.2–0.4m	m ²	52.00
0.4 exceeding 1.22m	m ²	68.00

plane vertical

not exceeding 0.1m	m	16.00
0.1–0.2m	m	22.00

		£
0.2- 0.4m	m ²	52.00
0.4-1.22m	m ²	62.00
exceeding 1.22m	m ²	68.00
curved to one radius in one plane		
not exceeding 0.1m	m	20.00
0.1-0.2m	m	28.00
0.2-0.4m	m ²	84.00
0.4-1.22m	m ²	74.00
exceeding 1.22m	m ²	64.00
Fair finish, width		
plane horizontal		
not exceeding 0.1m	m	14.00
0.1-0.2m	m	20.00
0.2-0.4m	m ²	52.00
0.4-1.22m	m ²	62.00
exceeding 1.22m	m ²	70.00
plane sloping		
not exceeding 0.1m	m	16.00
0.1-0.2m	m	20.00
0.2-0.4m	m ²	54.00
0.4-1.22m	m ²	64.00
exceeding 1.22m	m ²	70.00
plane battered		
not exceeding 0.1m	m	18.00
0.1-0.2m	m	24.00
0.2-0.4m	m ²	56.00
0.4-1.22m	m ²	66.00
exceeding 1.22m	m ²	72.00
plane vertical		
not exceeding 0.1m	m	18.00
0.1-0.2m	m	24.00
0.2-0.4m	m ²	56.00
0.4-1.22m	m ²	66.00
exceeding 1.22m	m ²	72.00

£

curved to one radius in one plane

not exceeding 0.1m	m	22.00
0.1–0.2m	m	30.00
0.2–0.4m	m ²	88.00
0.4–1.22m	m ²	78.00
exceeding 1.22m	m ²	68.00

Reinforcement

Mild steel bars, in straight lengths, diameter

6mm	t	1,700.00
8mm	t	1,500.00
10mm	t	1,450.00
12mm	t	1,400.00
16mm	t	1,350.00
20mm	t	1,300.00
25mm	t	1,250.00
32mm	t	1,200.00
40mm	t	1,150.00

High yield steel bars, in straight lengths, diameter

6mm		1,750.00
8mm		1,550.00
10mm		1,500.00
12mm		1,450.00
16mm		1,400.00
20mm		1,350.00
25mm		1,300.00
32mm		1,250.00
40mm		1,200.00

Mild steel bars, in bent lengths, diameter

6mm		1,750.00
8mm		1,550.00
10mm		1,500.00
12mm		1,450.00

		£
16mm		1,400.00
20mm		1,350.00
25mm		1,300.00
32mm		1,250.00
40mm		1,200.00
High yield steel bars, in bent lengths, diameter		
6mm	t	1,800.00
8mm	t	1,600.00
10mm	t	1,550.00
12mm	t	1,500.00
16mm	t	1,450.00
20mm	t	1,400.00
25mm	t	1,350.00
32mm	t	1,300.00
40mm	t	1,250.00
Steel fabric, weight		
not exceeding 2k/m ²	m ²	5.00
2–3g/m ²	m ²	6.00
3–4g/m ²	m ²	8.00
4–5g/m ²	m ²	10.00
5–6g/m ²	m ²	13.00
6–7g/m ²	m ²	15.00
7–8g/m ²	m ²	18.00
exceeding 2k/m ²	m ²	20.00
Joints		
Open surface plain with joint filler, width 0.5–1m, thickness		
10mm	m ²	8.00
20mm	m ²	12.00
25mm	m ²	14.00
Formed surface plain with cork filler, width 0.5–1m, thickness		
10mm	m ²	40.00
20mm	m ²	44.00
25mm	m ²	48.00

£

CLASS H: PRECAST CONCRETE

Copings, sills and weir blocks, weathered and throated, size

150×75mm	m	26.00
200×75mm	m	28.00
300×75mm	m	30.00

CLASS I: PIPEWORK—PIPES**CLASS J: PIPEWORK—FITTINGS AND VALVES****CLASS K: PIPEWORK—MANHOLES AND PIPEWORK ANCILLARIES****CLASS L: PIPEWORK—SUPPORTS AND PROTECTION**

The items under this heading depart from the requirements of the Civil Engineering Method of Measurement (CESMM3) in that the trench excavation, pipework and pipe supports are presented separately. This will enable the reader to prepare budget estimates for this type of work more easily

Trench excavation

Excavating trenches for pipe diameter 225mm, backfilling and removing surplus from site

trench depth

0.5m	m	6.00
1m	m	12.00
1.5m	m	20.00
2m	m	24.00
2.5m	m	40.00
3.m	m	48.00
3.5m	m	56.00
4.m	m	70.00
4.5m	m	90.00
5.m	m	110.00

Excavating trenches for pipe diameter 300mm, backfilling and removing surplus from site

trench depth

0.5m	m	10.00
1m	m	16.00
1.5m	m	26.00
2m	m	32.00
2.5m	m	48.00
3.m	m	58.00
3.5m	m	70.00

		£
4.m	m	86.00
4.5m	m	110.00
5.m	m	130.00
Excavating trenches for pipe diameter 400mm, backfilling and removing surplus from site		
trench depth		
1.5m	m	34.00
2m	m	42.00
2.5m	m	58.00
3.m	m	70.00
3.5m	m	84.00
4.m	m	100.00
4.5m	m	130.00
5.m	m	160.00
Excavating trenches for pipe diameter 525mm, backfilling and removing surplus from site		
trench depth		
1.5m	m	42.00
2m	m	52.00
2.5m	m	74.00
3.m	m	88.00
3.5m	m	160.00
4.m	m	125.00
4.5m	m	160.00
5.m	m	200.00
Excavating trenches for pipe diameter 900mm, backfilling and removing surplus from site		
trench depth		
1.5m	m	74.00
2m	m	92.00
2.5m	m	114.00
3.m	m	158.00
3.5m	m	176.00
4.m	m	210.00

		£
4.5m	m	280.00
5.m	m	350.00
Beds, haunches and surrounds		
Bed of sand 150mm thick to pipe diameter		
225mm	m	8.00
300mm	m	10.00
400mm	m	12.00
525mm	m	16.00
900mm	m	22.00
Bed of granular material 150mm thick to pipe diameter		
225mm	m	8.00
300mm	m	10.00
400mm	m	12.00
525mm	m	16.00
900mm	m	22.00
Bed of concrete 150mm thick to pipe diameter		
225mm	m	12.00
300mm	m	16.00
400mm	m	20.00
525mm	m	26.00
900mm	m	40.00
Bed and haunching of concrete to pipe diameter		
225mm	m	16.00
300mm	m	22.00
400mm	m	28.00
525mm	m	36.00
900mm	m	70.00
Bed and surround of sand to pipe diameter		
225mm	m	26.00
300mm	m	36.00
400mm	m	44.00
525mm	m	64.00
900mm	m	120.00

		£
Bed and surround of granular material to pipe diameter		
225mm	m	34.00
300mm	m	38.00
400mm	m	64.00
525mm	m	120.00
900mm	m	154.00
Bed and surround of concrete to pipe diameter		
225mm	m	46.00
300mm	m	80.00
400mm	m	106.00
525mm	m	208.00
900mm	m	280.00
Pipes laid in prepared trenches		
Vitrified clay to BS65, spigot and socket joints with sealing ring, nominal bore		
225mm	m	44.00
300mm	m	64.00
400mm	m	116.00
450mm	m	148.00
Vitrified clay to BS65, plain ended with sleeve joints, nominal bore		
225mm	m	52.00
300mm	m	70.00
Concrete pipes Class L with rebated flexible plain ended joints, nominal bore		
225mm	m	28.00
300mm	m	36.00
450mm	m	48.00
525mm	m	58.00
750mm	m	76.00
900mm	m	108.00
1200mm	m	166.00
1500mm	m	348.00
1800mm	m	462.00
Ductile spun iron pipes with spigot and socket Tyton joints, nominal bore		
100mm	m	44.00
150mm	m	52.00

		£
250mm	m	84.00
400mm	m	148.00
600mm	m	282.00
Unplasticised PVC pipes with ring seal joints, nominal bore		
82mm	m	12.00
110mm	m	15.00
160mm	m	25.00
Manholes		
Precast concrete manholes complete including excavation, concrete surround, base and cover slab, channels, step irons and inspection cover		
675mm internal diameter		
depth, 1m	nr	750.00
depth, 1.5m	nr	850.00
depth, 2m	nr	950.00
depth, 2.5m	nr	1100.00
depth, 3m	nr	1200.00
depth, 3.5m	nr	1300.00
depth, 4m	nr	1400.00
900mm internal diameter		
depth, 1.5m	nr	1100.00
depth, 2m	nr	1250.00
depth, 2.5m	nr	1400.00
depth, 3m	nr	1550.00
depth, 3.5m	nr	1700.00
depth, 4m	nr	1850.00
depth, 4.5m	nr	2000.00
depth, 5m	nr	2200.00
1200mm internal diameter		
depth, 1.5m	nr	1600.00
depth, 2m	nr	2000.00
depth, 2.5m	nr	2250.00
depth, 3m	nr	2250.00
depth, 3.5m	nr	2700.00
depth, 4m	nr	2950.00
depth, 4.5m	nr	3150.00
depth, 5m	nr	3400.00

		£
1500mm internal diameter		
depth, 2m	nr	1900.00
depth, 2.5m	nr	2130.00
depth, 3m	nr	2400.00
depth, 3.5m	nr	2650.00
depth, 4m	nr	2900.00
depth, 4.5m	nr	3200.00
depth, 5m	nr	3500.00
1800mm internal diameter		
depth, 2m	nr	2200.00
depth, 2.5m	nr	2450.00
depth, 3m	nr	2700.00
depth, 3.5m	nr	2950.00
depth, 4m	nr	3500.00
depth, 4.5m	nr	3600.00
depth, 5m	nr	4200.00
Gullies		
Vitrified clay road gully, 450mm diameter×900mm deep, including excavation, concrete surround, engineering brick seating and cast iron grating	nr	390.00
Precast concrete road gully, 450mm diameter×900mm deep, including excavation, concrete surround, Class B engineering brick seating and cast iron grating	nr	280.00
CLASS M: STRUCTURAL METALWORK		
Fabrication of members for frames, straight-on-plan		
columns	t	1400.00
beams	t	1400.00
portal frames	t	1700.00
trusses and built up girders	t	1750.00
bracings, purlins and cladding rails	t	1500.00
Permanent erection of members for frames	t	280.00
Site bolts		
black	t	3250.00
HSFG general grade	t	3250.00
HSFG higher grade	t	3600.00
HSFG load indicating or load limit	t	4250.00

	£
Offsite surface treatment	
blast cleaning	m ² 5.00
wire brushing	m ² 3.00
one coat chromate primer	m ² 4.50
galvanizing	m ² 17.50
CLASS N: MISCELLANEOUS METALWORK	
Stairways and landings	t 4250.00
Walkways and platforms	t 4000.00
Cat ladder in galvanized steel rungs at 300mm centres, strings extended to form handrail, 450mm wide, length	
3m	nr 900.00
4m	nr 1200.00
5m	nr 1500.00
6m	nr 1800.00
7m	nr 2100.00
8m	nr 2400.00
9m	nr 2700.00
10m	nr 3000.00
Guard cage to cat ladder	m 100.00
Galvanised steel staircase 900mm wide with chequer plate treads, balustrade one side, supported on universal columns	
5500mm going, 3000mm rise, 16 treads and one landing	nr 3000.00
10000mm going, 5000mm rise, 16 treads and one landings	nr 3500.00
Steel spiral staircase, 2000m diameter, height	
2500mm	nr 4000.00
3000mm	nr 4500.00
4000mm	nr 5000.00
Steel balustrades 1100mm high	
horizontal	m 300.00
sloping	m 350.00
Steel door and frame	
1000×2100mm	nr 800.00
1100×2100mm	nr 1000.00

£

Galvanised tubular handrail, 1050mm high, standards at 2000mm centres, with middle rail	m	140.00
---	---	--------

Galvanised flat section handrail and members, standards at 1000mm centres, infilled with square vertical bars at 100mm centres	m	160.00
--	---	--------

Security fencing

Galvanised steel security fencing, height

1800mm	m	56.00
2000mm	m	64.00
2250mm	m	70.00
2500mm	m	78.00
2750mm	m	84.00
3000mm	m	92.00

Miscellaneous framing

Angle section

150×75×10mm	m	25.00
100×100×10mm	m	28.00
150×150×12mm	m	32.00

Channel section

150×75×10mm	m	30.00
250×75×16mm	m	40.00

Flooring

Galvanized mild steel 'Durbar' pattern plate 8mm thick	m ²	120.00
--	----------------	--------

Galvanized open grid flooring 50mm thick	m ²	60.00
--	----------------	-------

Tubular section

100×100×10mm	m	50.00
200×200×15mm	m	145.00

CLASS O: TIMBER

Greenheart timber in marine works

100×75mm	m	22.00
150×75mm	m	24.00
200×200mm	m	70.00
200×300mm	m	98.00
300×300mm	m	120.00
600×600mm	m	320.00

		£
Wrought softwood in marine work		
100×75mm	m	15.00
150×75mm	m	18.00
200×200mm	m	40.00
200×300mm	m	65.00
300×300mm	m	75.00
600×600mm	m	220.00
Hardwood decking, thickness		
50mm	m	115.00
75mm	m	140.00
100mm	m	175.00
Softwood decking, thickness		
50mm	m	60.00
75mm	m	70.00
100mm	m	100.00
Metalwork		
Coach screws, 10mm diameter, length		
75mm	nr	3.00
100mm	nr	6.00
150mm	nr	9.00
Blackbolts, nuts and washers, M12, length		
100mm	nr	3.00
140mm	nr	4.00
200mm	nr	5.00

CLASS P: PILING**CLASS Q: PILING ANCILLARIES****Bored cast-in-place concrete piles**

Allow £6,000 and £10,000 for the cost of setting up and removing from site for 50 piles and 100 piles respectively.

Reinforced in situ concrete piles 300mm diameter

concrete	m	20.00
depth bored, 10m	m	50.00
depth bored, 15m	m	55.00
depth bored, 20m	m	60.00
depth bored, 25m	m	65.00

£

Reinforced in situ concrete piles 450mm diameter

concrete	m	35.00
depth bored, 10m	m	90.00
depth bored, 15m	m	100.00
depth bored, 20m	m	110.00
depth bored, 25m	m	120.00

Reinforced in situ concrete piles 600mm diameter

concrete	m	50.00
depth bored, 10m	m	170.00
depth bored, 15m	m	180.00
depth bored, 20m	m	190.00
depth bored, 25m	m	210.00

Driven cast-in-place concrete piles

Allow £3,500 and £7,000 for the cost of setting up and removing from site for 50 piles and 100 piles respectively.

Driven concrete piles 300mm diameter

concrete	m	20.00
depth driven, 10m	m	70.00
depth driven, 15m	m	110.00
depth driven, 20m	m	140.00
depth driven, 25m	m	175.00

Driven concrete piles 450mm diameter

concrete	m	35.00
depth driven, 10m	m	90.00
depth driven, 15m	m	135.00
depth driven, 20m	m	180.00
depth driven, 25m	m	225.00

Driven concrete piles 600mm diameter

concrete	m	50.00
depth driven, 10m	m	150.00
depth driven, 15m	m	225.00
depth driven, 20m	m	300.00
depth driven, 25m	m	375.00

£

Isolated steel piles

Steel EN piles, grade S275

mass 50kg/m, length

10m nr 550.00

15m nr 750.00

20m nr 900.00

mass 100kg/m, length

10m nr 1000.00

15m nr 1400.00

20m nr 1700.00

mass 150kg/m, length

10m nr 1300.00

15m nr 1750.00

20m nr 2250.00

CLASS R: ROADS AND PAVINGS**Sub-bases flexible road bases and surfacing**Hardcore road base m³ 22.00depth, 100mm m² 3.00depth, 150mm m² 4.00depth, 200mm m² 4.00depth, 250mm m² 6.00Granular material, DfT type 1 m³ 34.00depth, 100mm m² 4.00depth, 150mm m² 5.00depth, 200mm m² 8.00depth, 250mm m² 9.00Granular material, DfT type 1 m³ 34.00depth, 100mm m² 4.00depth, 150mm m² 5.00depth, 200mm m² 8.00depth, 250mm m² 9.00Granular material, DfT type 2 m³ 36.00depth, 100mm m² 5.00depth, 150mm m² 6.00

		£
depth, 200mm	m ²	8.00
depth, 250mm	m ²	10.00
Dense bitumen macadam, DfT clause 908, 14mm aggregate, base course, depth		
30mm	m ²	6.00
70mm	m ²	10.00
Dense bitumen macadam, DfT clause 913, wearing course, depth		
30mm	m ²	6.00
50mm	m ²	10.00
Concrete pavements		
Carriageway slabs, concrete grade C30, depth		
150mm	m ²	18.00
200mm	m ²	22.00
250mm	m ²	30.00
300mm	m ²	34.00
Steel fabric reinforcement to BS4483		
reference A142 2.22 kgs/m ²	m ²	7.00
reference B503 5.93 kgs/m ²	m ²	12.00
Waterproof membranes below concrete pavements, plastic sheeting, 500 microns	m ²	3.00
Joints in concrete pavements		
Longitudinal joints, 10mm diameter×750mm long mild steel dowels at 750mm centres, sealed with polysulphide, depth		
150mm	m	22.00
220mm	m	28.00
250mm	m	30.00
Kerbs, channels and edgings		
Precast concrete kerbs to BS340 straight or curved to radius exceeding 12m		
150×305mm	m	15.00
125×255mm	m	12.00
Concrete in bed to kerbs		
200×150mm	m	4.20
300×150mm	m	6.00
400×150mm	m	8.00
150×150mm haunching	m	1.50

		£
Drop kerbs		
125×255mm	nr	12.00
150×305mm	nr	14.00
Precast concrete channels straight or curved to radius exceeding 12m		
255×125mm	m	14.00
Precast concrete edging straight or curved to radius exceeding 12m		
150×50mm	m	9.00
Road markings		
Reflectorised white		
continuous lines		
150mm wide	m	1.00
200mm wide	m	1.40
broken lines		
100mm wide, 1m line 3m gap	m	1.00
100mm wide, 2m line 5m gap	m	1.10
100mm wide, 4m line 2m gap	m	1.20
arrow		
4m length, straight	nr	30.00
4m length, turned	nr	30.00
6m length, straight	nr	34.00
6m length, turned letters	nr	34.00
1.6m high	nr	10.00
2.0m high	nr	14.00
3.0m high	nr	18.00
140×250mm reflecting studs with cats' eye reflection	nr	16.00
CLASS S: RAIL TRACK		
Track foundation		
Bottom ballast granite, crushed graded 50–25mm	m ³	60.00
Top ballast granite, crushed graded 50–25mm	m ³	70.00
Taking up track and turnouts, dismantle and stack		
Bullhead or flat bottom rail		
plain track, timber sleepers, fishplate joints	m	10.00
turnouts, timber sleepers, fishplate joints	nr	520.00
plain track, concrete sleepers, fishplate joints	m	15.00
turnouts, concrete sleepers, fishplate joints	nr	540.00

£

Lifting packing and slewing

Bullhead rail track, maximum slew 300mm, maximum lift 100mm, track length 10m		
timber sleepers	nr	22.00
concrete sleepers	nr	24.00

Supplying only plain line material

Bullhead rails; for jointed or welded track		
mass 40–50 kg/m, section reference 95R	t	1100.00
Sleepers, softwood timber, 250×125×2600mm long	nr	60.00
Sleepers, hardwood timber, 250×125×2600mm long	nr	65.00
Sleepers, concrete type 'F27' with 2 nr cast iron 'Pandrol' fittings cast in	nr	40.00

Fittings

Chairs, cast iron 'CC' pattern	nr	70.00
Fish plates, standard set	nr	70.00
Fish plates, insulated set	nr	175.00
Buffer stops, 2–2.5 tonnes	nr	2750.00

Laying only plain line material

Bullhead rails		
plain track, fishplates, timber sleepers	m	40.00
plain track, fishplates, concrete sleepers	m	35.00
plain track, welded joints, timber sleepers	m	55.00
plain track, welded joints, timber sleepers	m	45.00
buffer stop, single rake	nr	250.00

CLASS T: TUNNELS

There are many different methods of boring and constructing tunnels so the following rates should be treated with caution. For costs on specific projects the advice of a tunnelling contractor should be sought

Excavation

Tunnels in rock, straight, diameter		
1.8m	m ³	500.00
3.0m	m ³	350.00
Tunnels in clay, straight, diameter		
1.8m	m ³	300.00
3.0m	m ³	180.00
Shafts in rock, vertical, diameter		
3.0m	m ³	240.00
4.5m	m ³	180.00

		£
Shafts in clay, vertical, diameter		
3.0m	m ³	140.00
4.5m	m ³	110.00
In situ lining to tunnels, vertical		
Cast concrete grade C20, diameter		
2m	m ³	275.00
3m	m ³	250.00
In situ lining to shafts, vertical		
Cast concrete grade C20, diameter		
2m	m ³	275.00
3m	m ³	250.00
Formwork, rough finish, diameter		
2m	m ² n	90.00
3m	m ²	60.00
Formwork, smooth finish, diameter		
2m	m ²	100.00
3m	m ²	70.00
Pre-formed segmental linings to tunnels		
Precast concrete bolted flanged rings, depth 450mm, diameter		
2m	nr	600.00
3m	nr	1000.00
Pre-formed segmental linings to shafts		
Precast concrete bolted flanged rings, depth 450mm, diameter		
3m	nr	900.00
4.5m	nr	1200.00
CLASS U: BRICKWORK, BLOCKWORK AND MASONRY		
Common brickwork		
Brickwork (£140 per 1000) in cement mortar (1:3)		
vertical walls		
102.5mm thick	m ²	60.00
215mm thick	m ²	100.00
327mm thick	m ²	130.00
440mm thick	m ²	160.00

		£
In columns and piers		
215×215mm	m	30.00
327×327mm	m	35.00
440×440mm	m	40.00
Facing brickwork		
Brickwork (£400 per 1000) in gauged mortar (1:1:6)		
vertical walls		
102.5mm thick	m ²	80.00
215mm thick	m ²	145.00
Engineering brickwork (£200 per 1000) in cement mortar (1:3)		
vertical walls		
215mm thick	m ²	70.00
327mm thick	m ²	126.00
440mm thick	m ²	156.00
Engineering brickwork (£350 per 1000) in cement mortar (1:3)		
facing to vertical walls		
102.5mm thick	m ²	85.00
215mm thick	m ²	150.00
440mm thick	m ²	190.00
Lightweight blockwork		
Blockwork in gauged mortar in vertical straight walls		
100mm thick	m ²	30.00
140mm thick	m ²	40.00
Medium concrete blockwork		
Blockwork in cement mortar (1:3) in vertical straight walls		
100mm thick	m ²	32.00
140mm thick	m ²	36.00
190mm thick	m ²	45.00
Dense concrete blockwork		
100mm thick	m ²	34.00
140mm thick	m ²	42.00
Masonry		
Random rubble walling in gauged mortar, thickness		
300mm thick	m ²	480.00
450mm thick	m ²	750.00
600mm thick	m ²	920.00

£

CLASS V: PAINTING

(Rates inclusive of all inclinations)

One coat primer on general surfaces exceeding 300mm

metal	m ²	3.00
timber	m ²	3.00

Two coats emulsion paint on general surfaces exceeding 300mm

smooth concrete	m ²	7.00
blockwork and brickwork	m ²	8.00

Two coats of masonry paint

smooth concrete	m ²	7.00
blockwork and brickwork	m ²	8.00
rough cast surfaces	m ²	9.00

Two undercoats and one coat gloss on primed

smooth concrete	m ²	6.00
steel sections	m ²	12.00
pipe work	m	4.00
timber	m ²	11.00

CLASS W: WATERPROOFING**Damp proofing**

Waterproof sheeting 250 microns, to

horizontal surfaces	m	3.00
width not exceeding 300mm	m	1.40
width 300mm–1m	m	2.10

Tanking

Two coats asphalt work 13mm thick on concrete surfaces

upper surface inclined at an angle not exceeding 30 degrees to the horizontal	m ²	32.00
width not exceeding 300mm	m	12.00
width 300mm–1m	m	22.00

Roofing

Asphalt to BS908, two coat work, 13mm thick on concrete surfaces	m	32.00
Built up felt roofing to BS747, three layer coverings	m	26.00
Protective layers, one layer 1000 gauge polythene sheet, fixed with adhesive	m	3.00
Cement and sand (1:3) screed with waterproof additive	m	15.00
Sprayed or brushed waterproofing two coats of 'Synthaprufe' to concrete surfaces	m	6.00

CLASS X: MISCELLANEOUS WORK

See Landscaping section

CLASS Y: SEWER RENOVATION AND ANCILLARY WORKS**Preparation of existing sewer**

Cleaning sewer, diameter

1000mm	m	16.00
1500mm	m	20.00
2000mm	m	26.00

Removing intrusions

brickwork	m ³	90.00
concrete	m ³	140.00

Plugging laterals with concrete

bore not exceeding 300mm	nr	90.00
bore 500mm	nr	140.00

Local internal repairs

area 0.1–25m ²	nr	50.00
area 5m ²	nr	200.00

Stabilisation of existing sewersPointing with cement mortar (1:3) m² 40.00**Renovation of existing sewers**

Segmental lining in GRP, diameter

1000mm	m	320.00
1500mm	m	420.00
2000mm	m	510.00

Laterals to renovated sewers

Jointing

bore not exceeding 150mm	nr	70.00
bore 150–300mm	nr	110.00
bore 450mm	nr	160.00

Interruptions

Preparation of existing sewers

cleaning	hour	400.00
----------	------	--------

	£
Stabilisation pointing	hour 90.00
Renovation linings	hour 100.00

CLASS Z: SIMPLE BUILDING WORKS INCIDENTAL TO CIVIL ENGINEERING WORKS

See Building work

MECHANICAL WORK

Pipework

Mild steel pipes, heavy, black, malleable iron, including standard supports and fittings

screwed fittings, pipe size

20mm	m	30.00
25mm	m	34.00
32mm	m	38.00
40mm	m	42.00
50mm	m	50.00
65mm	m	60.00
80mm	m	72.00
110mm	m	98.00
125mm	m	120.00
150mm	m	148.00

welded fittings, pipe size

20mm	m	28.00
25mm	m	32.00
32mm	m	36.00
40mm	m	40.00
50mm	m	46.00
65mm	m	54.00
80mm	m	64.00
110mm	m	90.00
125mm	m	110.00
150mm	m	138.00

£

Mild steel pipes, medium, black, malleable iron, including standard supports and fittings

screwed fittings, pipe size

20mm	m	28.00
25mm	m	32.00
32mm	m	36.00
40mm	m	40.00
50mm	m	48.00
65mm	m	58.00
80mm	m	70.00
110mm	m	96.00
125mm	m	118.00
150mm	m	146.00

welded fittings, pipe size

20mm	m	26.00
25mm	m	30.00
32mm	m	34.00
40mm	m	38.00
50mm	m	46.00
65mm	m	52.00
80mm	m	62.00
110mm	m	88.00
125mm	m	108.00
150mm	m	136.00

Copper pipes: B2871 part 1 table X, including standard supports and fittings

capillary fittings, pipe size

15mm	m	14.00
22mm	m	16.00
28mm	m	20.00
35mm	m	32.00
42mm	m	40.00
54mm	m	48.00

compression fittings, pipe size

15mm	m	17.00
22mm	m	21.00
28mm	m	27.00

		£
35mm	m	42.00
42mm	m	54.00
54mm	m	60.00
Carbon steel pipes to BS3601, including standard supports and fittings		
welded fittings, pipe size		
200mm	m	126.00
250mm	m	156.00
300mm	m	180.00
350mm	m	254.00
400mm	m	394.00
Ductwork		
Rectangular galvanised sheet steel ductwork, including supports, doors, stiffeners and joints		
girth of 2 sides		
250mm	m	90.00
500mm	m	96.00
750mm	m	102.00
1000mm	m	110.00
1250mm	m	114.00
1500mm	m	144.00
1750mm	m	170.00
2000mm	m	208.00
2250mm	m	220.00
2500mm	m	274.00
2750mm	m	312.00
3000mm	m	390.00
Circular galvanised steel spirally wound ductwork including supports, and doors stiffeners and joints, diameter		
100mm	m	40.00
160mm	m	42.00
200mm	m	45.00
250mm	m	60.00
315mm	m	68.00
355mm	m	72.00

	£
400mm	m 74.00
450mm	m 80.00
500mm	m 92.00
630mm	m 102.00
710mm	m 104.00
800mm	m 120.00
900mm	m 132.00
1000mm	m 156.00

Thermal insulation

Rigid mineral wool sections bright class 'O' foil covered, secured with aluminium bands at 300mm centres, including for fixing around joints, flanges, valves and the like

Insulation thickness 25mm, pipe size

15mm	m 8.00
20mm	m 8.50
25mm	m 9.00
32mm	m 9.50
40mm	m 10.00
50mm	m 11.00
65mm	m 12.00
80mm	m 14.00
100mm	m 16.00

Insulation thickness 40mm, pipe size

15mm	m 10.00
20mm	m 10.50
25mm	m 11.00
32mm	m 11.50
40mm	m 12.00
50mm	m 13.00
65mm	m 14.00
80mm	m 16.00
100mm	m 18.00

Insulation thickness 50mm, pipe size

15mm	m 12.00
20mm	m 12.50
25mm	m 13.00

		£
32mm	m	13.50
40mm	m	14.00
50mm	m	15.00
65mm	m	16.00
80mm	m	18.00
100mm	m	22.00
Boilers		
Domestic gas fired central heating boilers, floor mounted, balanced flue		
9–12kW	nr	1000.00
12–15kW	nr	1050.00
15–18kW	nr	1250.00
18–21kW	nr	1350.00
21–23kW	nr	1500.00
23–29kW	nr	1800.00
29–37kW	nr	3200.00
37–41 kW	nr	3450.00
Domestic gas fired central heating boilers, wall mounted, balanced flue		
6–9kW	nr	900.00
19–12kW	nr	950.00
12–15kW	nr	1050.00
15–18kW	nr	1200.00
18–22kW	nr	1300.00
Commercial packaged sectional floor mounted gas fired boiler, pressure jet burner connected to conventional flue complete		
16–26kW	nr	2500.00
23–33kW	nr	2600.00
33–40kW	nr	2750.00
35–50kW	nr	3150.00
50–65kW	nr	3350.00
65–80kW	nr	3550.00
80–100kW	nr	4100.00
100–120kW	nr	5300.00
120–140kW	nr	6000.00
140–180kW	nr	6750.00
180–230kW	nr	7450.00
230–280kW	nr	7800.00
280–330kW	nr	8300.00

£

Commercial packaged floor mounted oil fired hot water boiler, connected to conventional flue complete

130–190kW	nr	7300.00
200–250kW	nr	7500.00
280–360kW	nr	8900.00
375–500kW	nr	9950.00
580–730kW	nr	12750.00
655–820kW	nr	12700.00
830–1040kW	nr	13200.00
1070–1400kW	nr	17500.00
1420–1850kW	nr	22500.00
1850–2350kW	nr	25600.00
2300–3000kW	nr	29500.00
2800–3500kW	nr	37400.00

Radiators

Pressed steel single panel radiator 450mm high complete with valves, length

500mm	m	130.00
600mm	m	140.00
800mm	m	150.00
1000mm	m	156.00
1200mm	m	175.00
1400mm	m	190.00
1600mm	m	200.00
1800mm	m	240.00
2000mm	m	310.00

Pressed steel single panel radiator 750mm high complete with valves, length

500mm	m	150.00
600mm	m	170.00
800mm	m	180.00
1000mm	m	186.00
1200mm	m	225.00
1600mm	m	340.00
1800mm	m	370.00
2000mm	m	400.00

£

Pressed steel double panel radiator 450mm high complete with valves, length

500mm	m	160.00
600mm	m	170.00
800mm	m	180.00
1000mm	m	190.00
1200mm	m	230.00
1600mm	m	240.00
1800mm	m	300.00
2000mm	m	390.00

Pressed steel double panel radiator 750mm high complete with valves, length

500mm	m	170.00
600mm	m	180.00
800mm	m	190.00
1000mm	m	200.00
1200mm	m	260.00
1400mm	m	320.00
1600mm	m	390.00
1800mm	m	430.00
2000mm	m	470.00

ELECTRICAL WORK

Transformers

Transformer, 11kV/415 volt, 50 Hz three phase, air cooled, oil filled, skid mounted, cable boxes, fixing to backgrounds

500kVA	nr	8,500.00
800kVA	nr	9,500.00
1000kVA	nr	10,500.00
1250kVA	nr	14,000.00
1500kVA	nr	15,000.00
2000kVA	nr	20,000.00

Transformer, 11 kV/415 volt, 50 Hz three phase, hermetically, sealed, sili cone, impregnated, skid mounted, cable boxes, fixing to backgrounds

500kVA	nr	12,000.00
800kVA	nr	14,000.00

£

1000kVA	nr	16,000.00
1250kVA	nr	17,000.00
1500kVA	nr	19,000.00
2000kVA	nr	22,000.00

Extra for

fluid temperature indicator	nr	400.00
plain roller	nr	300.00
pressure relief device	nr	550.00

Distribution boards

Mild steel MCB distribution board, steel casting, 125/25amp incomers, fixed to backgrounds

SP&N

4 way	nr	50.00
7 way	nr	60.00
10 way	nr	80.00
16way	nr	120.00

TP&N

4 way	nr	280.00
6 way	nr	300.00
8 way	nr	340.00
12 way	nr	380.00

Trunking

Galvanised steel trunking

single compartment size

50×50mm	m	18.00
75×75mm	m	26.00
100×100mm	m	32.00
150×150mm	m	50.00

two compartment size

50×50mm	m	24.00
75×75mm	m	30.00
100×100mm	m	38.00
150×150mm	m	60.00

three compartment size

50×50mm	m	40.00
75×75mm	m	44.00

		£	
	100×100mm	m	50.00
	150×150mm	m	56.00
PVC heavy duty trunking			
single compartment size			
	50×50mm	m	18.00
	50×75mm	m	26.00
	50×100mm	m	30.00
	50×150mm	m	44.00
	75×75mm	m	28.00
	100×100mm	m	40.00
	150×150mm	m	80.00
two compartment size			
	50×50mm	m	24.00
	75×75mm	m	30.00
	100×100mm	m	38.00
	150×150mm	m	60.00
three compartment size			
	50×50mm	m	40.00
	75×75mm	m	44.00
	100×100mm	m	50.00
	150×150mm	m	56.00
PVC extra super high impact grade mini trunking			
single compartment size			
	16×10mm	m	5.00
	16×16mm	m	5.50
	16×25mm	m	6.00
	16×38mm	m	6.00
	25×38mm	m	6.50
	50×25mm	m	8.00
	38×38mm	m	22.00

£

Busbar trunking

Rising mains busbar, insulated supports, earth continuity bar, fixed to backgrounds

200 Amp TP&N	m	240.00
end cap	nr	36.00
end feed unit	nr	390.00
top feed unit	nr	390.00
flat tee	nr	240.00
315Amp TP&N	m	260.00
end cap	nr	40.00
end feed unit	nr	400.00
top feed unit	nr	400.00
flat tee	nr	260.00
400 Amp TP&N	m	280.00
end cap	nr	44.00
end feed unit	nr	430.00
top feed unit	nr	430.00
flat tee	nr	360.00
630 Amp TP&N	m	320.00
end cap	nr	50.00
end feed unit	nr	460.00
top feed unit	nr	460.00
flat tee	nr	480.00
800 Amp TP&N	m	440.00
end cap	nr	100.00
end feed unit	nr	510.00
top feed unit	nr	510.00
flat tee	nr	530.00

Trunking including fittings

Galvanised steel trunkings complete with fittings fixed to backgrounds

single compartment		
50×50mm	m	28.00
75×50mm	m	30.00
75×75mm	m	32.00
100×50mm	m	32.00
100×75mm	m	34.00

		£
100×100mm	m	34.00
150×50mm	m	34.00
150×75mm	m	38.00
150×100mm	m	40.00
150×150mm	m	42.00
225×150mm	m	48.00
225×225mm	m	56.00
300×225mm	m	66.00
300×300mm	m	74.00
twin compartment		
50×50mm	m	32.00
75×50mm	m	34.00
75×75mm	m	36.00
100×50mm	m	38.00
100×75mm	m	40.00
100×100mm	m	42.00
150×50mm	m	42.00
150×75mm	m	44.00
150×100mm	m	44.00
150×150mm	m	52.00
triple compartment		
50×50mm	m	36.00
75×50mm	m	38.00
75×75mm	m	40.00
100×50mm	m	42.00
100×75mm	m	46.00
100×100mm	m	46.00
150×50mm	m	48.00
150×75mm	m	50.00
150×100mm	m	60.00

Circuit breakers

Residual current circuit breakers for distribution boards including connection

SP&N

10mA 6Amp	nr	110.00
10mA 10–32Amp	nr	110.00
10mA 6Amp 45Amp	nr	110.00
30mA 6Amp	nr	120.00
30mA 10–40Amp	nr	120.00
30mA 50–63Amp	nr	120.00
100mA 6Amp	nr	160.00
100mA 10–40Amp	nr	160.00
100mA 50–63Amp	nr	160.00

Cables and wiring

600/1000 volt grade XLPE insulated SWA cable

2 core cable (6942)

1.5mm ²	m	3.50
2.5mm ²	m	4.00
4.0mm ²	m	5.00
6.0mm ²	m	6.00
10.0mm ²	m	8.00
16.0mm ²	m	9.00
25.0mm ²	m	12.00
35.0mm ²	m	13.00

3 core cable (6943)

1.5mm ²	m	4.00
2.5mm ²	m	4.50
4.0mm ²	m	6.00
6.0mm ²	m	7.00
10.0mm ²	m	10.00
16.0mm ²	m	10.50

£

25.0mm ²	m	14.00
35.0mm ²	m	16.00
4 core cable (6944)		
1.5mm ²	m	4.50
2.5mm ²	m	5.00
4.0mm ²	m	7.50
6.0mm ²	m	8.50
10.0mm ²	m	12.00
16.0mm ²	m	13.00
25.0mm ²	m	18.00
35.0mm ²	m	20.00

Cable trays

Galvanised steel, slotted pattern perforated cable trays including supports, fixings, bends, tees and reducers

50mm wide	m	10.00
75mm wide	m	12.00
100mm wide	m	15.00
150mm wide	m	18.00
225mm wide	m	36.00
300mm wide	m	44.00

Conduits

Steel conduit including all fittings and supports

galvanised

20mm	m	12.00
25mm	m	14.00
32mm	m	24.00
38mm	m	28.00
50mm	m	36.00

black enamelled

20mm	m	10.00
25mm	m	12.00
32mm	m	22.00
38mm	m	24.00
50mm	m	30.00

£

PVC conduit including all fittings and supports

white light gauge, super high impact

16mm diameter	m	4.00
20mm diameter	m	4.00
25mm diameter	m	9.00
32mm diameter	m	12.00

white heavy gauge, super high impact

16mm diameter	m	6.00
20mm diameter	m	6.50
25mm diameter	m	10.00
32mm diameter	m	16.00
38mm diameter	m	18.00
50mm diameter	m	21.00

Luminaires

Surface-mounted fluorescent luminaire, single tube, switch start, fixing to backgrounds

1253×184mm 36watt	nr	110.00
1553×184mm 58watt	nr	115.00
1817×184mm 70watt	nr	136.00

Surface-mounted fluorescent luminaire, twin tube, switch start, fixing to backgrounds

1253×280mm 36watt	nr	120.00
1553×280mm 58watt	nr	140.00
1817×280mm 70watt	nr	160.00

ALTERATIONS AND REPAIRS**Taking down**

Take down walls and remove rubble from site

external walls

half brick wall	m ²	10.00
one brick wall	m ²	14.00
one brick and a half wall	m ²	20.00
two brick wall	m ²	34.00
blockwork 140mm wall	m ²	8.00
blockwork 190mm wall	m ²	16.00
blockwork 215mm wall	m ²	22.00

£

internal walls

half brick wall	m ²	20.00
one brick wall	m ²	28.00
blockwork 90mm wall	m ²	10.00
blockwork 100mm wall	m ²	11.00
blockwork 115mm wall	m ²	13.00
blockwork 125mm wall	m ²	15.00
blockwork 140mm wall	m ²	18.00

Take down and remove chimney stack to below roof slop, size

750×750×1200mm above roof	nr	260.00
1030×1030×1000mm above roof	nr	380.00

Take down chimney breast from roof to ground level (2 storey)

nr 1800.00

Forming openings

Form openings for windows or doors In existing in walls

in gauged mortar

75mm blockwork	m ²	36.00
100mm blockwork	m ²	40.00
140mm blockwork	m ²	46.00
215mm blockwork	m ²	50.00
half brick wall	m ²	42.00
one brick wall	m ²	50.00
one and a half brick wall	m ²	70.00
two brick wall	m ²	88.00

in cement mortar

75mm blockwork	m ²	38.00
100mm blockwork	m ²	44.00
140mm blockwork	m ²	50.00
215mm blockwork	m ²	56.00
half brick wall	m ²	46.00
one brick wall	m ²	56.00
one and a half brick wall	m ²	76.00
two brick wall	m ²	94.00

Cut opening in internal wall 900×2100mm suitable for new single door including squaring up jambs and head, inserting lintel over, making good to surrounding plasterwork

		£
half brick wall	nr	260.00
one brick wall	nr	800.00
one and half brick wall	nr	1060.00
75mm blockwork	nr	140.00
100mm blockwork	nr	160.00
140mm blockwork	nr	200.00
215mm blockwork	nr	320.00
Cut opening in existing wall size 1200×1200mm for new window including squaring up head, jambs and cill, inserting lintel over and making good to surrounding plasterwork		
one brick wall	nr	1100.00
one and half brick wall	nr	1300.00
140mm blockwork	nr	850.00
215mm blockwork	nr	1000.00
Cut opening in existing wall size 2000×1200mm for new window including squaring up head, jambs and cill, inserting lintel over and making good to surrounding plasterwork		
one brick wall	nr	1400.00
one and half brick wall	nr	1600.00
140mm blockwork	nr	1150.00
215mm blockwork	nr	1300.00
Form opening in reinforced concrete floor slab and make good to all edges, slab thickness		
100mm	m ²	110.00
150mm	m ²	130.00
200mm	m ²	150.00
250mm	m ²	170.00
300mm	m ²	190.00
Form opening in reinforced concrete suspended slab and make good to all edges, slab thickness		
100mm	m ²	130.00
150mm	m ²	150.00
200mm	m ²	180.00
250mm	m ²	200.00
300mm	m ²	220.00

		£
Form opening in reinforced concrete wall and make good to all edges, slab thickness		
100mm	m ²	130.00
150mm	m ²	150.00
200mm	m ²	180.00
250mm	m ²	200.00
300mm	m ²	220.00
Filling openings		
Fill openings in common brickwork in gauged mortar, including plastering one side		
one brick wall	m ²	180.00
brick/block cavity wall	m ²	220.00
Fill openings in blockwork in gauged mortar, including plastering one side		
100mm thick blockwork wall	m ²	70.00
215mm thick blockwork wall	m ²	80.00
Fill openings in concrete floor slab with concrete		
100mm thick	m ²	14.00
150mm thick	m ²	21.00
200mm thick	m ²	28.00
250mm thick	m ²	35.00
300mm thick	m ²	50.00
Fill openings in suspended concrete floor slab with concrete including formwork to soffit		
100mm thick	m ²	54.00
150mm thick	m ²	60.00
200mm thick	m ²	70.00
250mm thick	m ²	75.00
300mm thick	m ²	85.00
Brickwork and blockwork		
Cut out defective facing bricks in one brick wall and renew		
£350 per thousand		
single brick	nr	6.00
areas less than 1m ²	m ²	122.00
areas over 1m ²	m ²	116.00
£500 per thousand		
single brick	nr	8.00
areas less than 1m ²	m ²	140.00
areas over 1m ²	m ²	130.00

		£
Cut out raking crack in brickwork, stitch in new facing brickwork (PC £350 per thousand) pointing one side to match existing		
half brick thick wall	m	56.00
one brick thick wall	m	88.00
Cut out raking crack in brickwork, stitch in new facing brickwork (PC £500 per thousand) pointing one side to match existing		
half brick thick wall	m	56.00
one brick thick wall	m	88.00
Renew concrete lintel 1500mm long including one course of brickwork, inserting new concrete lintel and making good	nr	140.00
Cut out defective terracotta air brick and replace		
215×65mm	nr	10.00
215×140mm	nr	15.00
215×215mm	nr	20.00
Rake out joints and point up in gauged mortar	m ²	15.00
Rake out joints in gauged mortar, re-fix loose flashing and point up on completion		
horizontal	m	10.00
stepped	m	14.00
Cut out one course of half brick wall, insert hessian-based damp course 112mm wise and replace with new bricks in gauged mortar		
commons	m	36.00
facings	m	38.00
Cut out one course of one brick wall, insert hessian-based damp course 112mm wise and replace with new bricks in gauged mortar		
commons	m ²	62.00
facings	m ²	64.00
Rake out joints of random rubble wall and point up in cement mortar		
flush pointing	m ²	10.00
flush pointing	m ²	11.00
Roofing		
Take up roof coverings from pitched roof and remove		
tiles	m ²	10.00
slates	m ²	10.00
timber boarding	m ²	14.00
metal sheeting	m ²	8.00
corrugated sheeting	m ²	8.00
underfelt	m ²	4.00

		£
Take up roof coverings from flat roof and remove		
bituminous felt	m ²	4.00
metal sheeting	m ²	6.00
woodwool slabs	m ²	6.00
firings	m ²	3.00
Take up roof coverings from pitched roof and carefully lay aside		
tiles	m ²	14.00
slates	m ²	14.00
metal sheeting	m ²	12.00
corrugated sheeting	m ²	12.00
Take up roof coverings from flat roof and carefully lay aside		
metal sheeting	m ²	10.00
woodwool slabs	m ²	10.00
Inspect existing roof battens, replace with new, size 38×25mm		
25% of area		
250mm centres	m ²	4.00
450mm centres	m ²	3.50
600mm centres	m ²	3.00
Inspect existing roof battens, replace with new, size 38×25mm (cont'd)		
50% of area		
250mm centres	m ²	6.00
450mm centres	m ²	5.00
600mm centres	m ²	4.00
75% of area		
250mm centres	m ²	8.00
450mm centres	m ²	7.00
600mm centres	m ²	6.00
100% of area		
250mm centres	m ²	10.00
450mm centres	m ²	8.50
600mm centres	m ²	7.00
Take off single slipped slate and re-fix	nr	6.00
Take off single broken slate and renew with new Welsh Blue slate, size		

		£
405×205mm	nr	8.00
510×255mm	nr	10.00
610×305mm	nr	12.00
Take off broken slates in area approximately 1m ² and renew with new Welsh Blue slates, size		
405×205mm	nr	110.00
510×255mm	nr	120.00
610×305mm	nr	115.00
Take off double eaves course and renew with new Welsh Blue slates, size		
405×205mm	nr	48.00
510×255mm	nr	60.00
610×305mm	nr	55.00
Take off single slipped tile and re-fix	nr	4.00
Take off single broken tile and renew		
Marley Plain	nr	8.00
Marley Ludlow	nr	8.00
Marley Bold Roll	nr	8.00
Marley Ludlow Plus	nr	8.00
Take off broken tiles in area approximately 1 m ² and renew		
Marley Plain	nr	66.00
Marley Ludlow	nr	24.00
Marley Bold Roll	nr	24.00
Marley Ludlow Plus	nr	34.00
Take off defective ridge capping and re-fix		
half round	m	22.00
angular	m	24.00
Carpentry and joinery		
Take down or cut out existing timbers and load into skips		
structural timbers		
50×100mm	m	1.10
50×150mm	m	1.50
75×100mm	m	1.80
75×150mm	m	2.00
100×150mm	m	2.40
100×200mm	m	2.80

		£
roof boarding	m ²	4.00
floor boarding	m ²	3.00
stud partition	m ²	5.00
skirting and grounds		
100mm high	m	1.10
150mm high	m	1.30
200mm high	m	1.80
rails		
50mm high	m	0.30
75mm high	m	0.40
100mm high	m	1.50
fittings		
wall cupboards	nr	3.00
floor units	nr	3.50
sink units	nr	4.00
staircases		
straight flight	nr	38.00
landing	nr	26.00
doors, frames and linings		
single, internal	nr	10.00
single, external	nr	12.00
double, internal	nr	16.00
double, external	nr	20.00
windows and frames		
casement, 1200×900mm	nr	10.00
casement, 1800×900mm	nr	12.00
sash, 900×1500mm	nr	16.00
sash, 900×1800mm	nr	18.00
ironmongery to softwood including piecing out		
bolt	nr	4.00
deadlock	nr	6.00
mortice lock	nr	6.00
cylinder lock	nr	8.00
door closer	nr	8.00
casement stay	nr	2.00

		£
casement fastener	nr	2.00
shelf brackets	nr	2.00
butts hinges		
75mm	nr	4.00
100mm	nr	4.50
125mm	nr	5.00
ironmongery to hardwood including piecing out		
bolt	nr	5.00
deadlock	nr	7.00
mortice lock	nr	7.00
cylinder lock	nr	9.00
door closer	nr	9.00
casement stay	nr	3.00
casement fastener	nr	3.00
shelf brackets	nr	4.00
butts hinges		
75mm	nr	5.00
100mm	nr	5.50
125mm	nr	6.00
Take off and lay aside for reuse		
single doors	nr	18.00
double doors	nr	22.00
Take off and lay aside for reuse including frames and linings complete		
single doors	nr	24.00
double doors	nr	28.00
Softwood windows including frames complete		
casement, 1200×900mm	nr	14.00
casement, 1800×900mm	nr	16.00
sash, 900×1500mm	nr	20.00
sash, 900×1800mm	nr	22.00
Fittings		
wall cupboards	nr	8.00
floor units	nr	10.00
sink units	nr	14.00

		£
Cut out decayed structural softwood timber member and renew		
floors		
50×150mm	m	10.00
50×175mm	m	12.00
50×200mm	m	14.00
roofs		
50×150mm	m	12.00
50×175mm	m	14.00
50×200mm	m	16.00
Cut out and renew decayed		
picture rails		
50mm high	m	12.00
75mm high	m	14.00
dado rails		
50mm high	m	12.00
75mm high	m	14.00
stair risers		
19×210mm	m	15.00
25×210mm	m	24.00
stair treads		
25×275mm	m	38.00
32×275mm	m	42.00
stair balusters, 1000mm high		
25mm diameter	nr	12.00
32mm diameter	nr	14.00
stair handrails		
38mm diameter	m	20.00
Ease and adjust locks and hinges on		
single doors	nr	5.00
double doors	nr	8.00
sash windows	nr	12.00
casement windows	nr	8.00
Renew sash cord		
sash windows	nr	18.00

£

Metalwork

Take down and load into skips

metal doors

single	nr	20.00
double	nr	35.00
single garage	nr	30.00
double	nr	45.00

metal windows

1200×1200mm	nr	18.00
1200×1800mm	nr	26.00
1200×2400mm	nr	34.00

metal staircase

straight flight	nr	48.00
landing	nr	34.00

Take down and lay aside for reuse

metal doors

single	nr	22.00
double	nr	37.00
single garage	nr	32.00
double	nr	47.00

metal windows

1200×1200mm	nr	20.00
1200×1800mm	nr	28.00
1200×2400mm	nr	36.00

metal staircase

straight flight	nr	50.00
landing	nr	36.00

Plumbing

Take down and load into skips

rainwater pipes and fittings	m	1.00
rainwater gutters and fittings	m	1.00
baths	nr	8.00
WC suites	nr	8.00
wash basins	nr	6.00
shower cubicles	nr	8.00

		£
soil and vent pipe	m	2.00
domestic hot and cold water system	nr	90.00
domestic central heating system	nr	120.00
Take down and renew rainwater goods including fittings		
PVC pipes, 68mm diameter	m	26.00
PVC pipes, 68mm square	m	28.00
cast iron pipes, 75mm diameter	m	40.00
cast iron pipes, 100mm diameter	m	50.00
PVC gutters, 76mm	m	26.00
PVC gutters, 112mm	m	30.00
cast iron gutters, 100mm	m	30.00
cast iron gutters, 150mm	m	50.00
cast iron baths	m	500.00
acrylic baths	m	400.00
wash basins	m	250.00
acrylic baths	m	400.00
stainless steel sink	m	250.00
single urinals	m	800.00
Finishings		
Hack off and load into skips		
wall plaster	m ²	10.00
ceiling plaster	m ²	8.00
quarry floor tiles	m ²	16.00
cement and sand screed	m ²	12.00
granolithic	m ²	14.00
Two coat plaster work		
13mm thick to		
walls	m ²	18.00
10mm thick to		
walls	m ²	12.00
ceilings	m ²	18.00
Cement and sand screed		
12mm thick to walls	m ²	14.00
18mm thick to walls	m ²	18.00
Granolithic paving 25mm thick to floors	m ²	17.00

		£
Quarry floor tiling		
150×150mm	m ²	60.00
200×200mm	m ²	56.00
Wallboard 9.5mm thick and two coat plasterwork to		
walls	m ²	12.00
ceilings	m ²	18.00
Clean existing painted timber framing and prepare to receive new finish	m ²	3.00
Burn off paint from timber framing, rub down and prepare for new finish	m ²	6.00

5

Indices and regional variations

Indices

Indices have been used for many years in the construction industry as a tool in the comparison of costs and tender prices between different periods of time. They are essential when projecting cash flow forecasts on projects that may over run or for planning medium- to long-term projects where trends from historical cost databases can be identified and projected forwards.

There are several indices available and the most appropriate must be selected to suit the project under consideration. The main set of indices in the building industry is produced by the Building Cost Information Services (BCIS) and is published by the RICS. The civil engineering industry sometimes use a price adjustment formula (usually called the Baxter formula after its originator) on contracts with a long construction period. The formula is based on fewer headings than the BCIS and covers eleven categories.

Construction indices usually present data under two headings; construction costs and tender prices. Construction costs represent the amounts paid by contractors for labour, materials, plant and other costs incurred in running a business. Tender prices are the sums accepted by clients for the erection of projects and include profit and overheads.

Tender prices tend to increase when there is a large volume of work available and decrease during lean periods. In difficult times, contractors may submit tenders at cost (or even below cost) in order to obtain work to keep the work force together and keep the plant occupied.

Tender prices are compiled from accepted tenders based on statistics produced in quarterly periods and consolidated into annual figures. The following table lists the construction costs and tender prices between 1984 and 2009—the figures for 2008 and 2009 are estimated.

Year	Construction costs	Tender prices
1984	236	210
1985	248	218
1986	262	229
1987	276	258
1988	293	309
1989	314	340
1990	337	309
1991	355	262

Year	Construction costs	Tender prices
1992	365	243
1993	372	235
1994	382	252
1995	401	265
1996	411	267
1997	421	283
1998	439	313
1999	460	332
2000	489	359
2001	507	384
2002	535	412
2003	568	429
2004	600	442
2005	641	465
2006	682	491
2007	718	525
2008	752*	556*
2009	789*	584*

*Estimated

Regional variations

Construction costs vary in different parts of the UK and the following adjustments should be made to first stage estimates. The costs in this book are set at 100.

England

East Anglia	91
East Midlands	87
Inner London	106
North	90
North West	87

England

Outer London	100
South East	95
South West	91
Yorkshire and Humberside	90

Northern Ireland	72
Scotland	94
Wales	90

6

Property insurance

When preparing first stage estimates, it is important that the fullest possible financial picture is presented to the client to enable him to make a decision on whether to proceed with the project or not.

A calculation must be done for insurance purposes to assess the rebuilding costs if the building was damaged by fire or some other cause.

The easiest way to achieve this is by using the square metre prices in Chapter 1 as a base. The appropriate rate should be multiplied by the area of the building to be insured. The resultant figure must then be adjusted by both the indices and regional variation factors in Chapter 5.

The insurance cover must also include for the demolition of the damaged building (not just clearing away debris but grubbing up existing foundations and basements) and professional fees to plan and supervise the work of reconstruction. Here is an example of how the calculation should be made.

Example 1

Day Surgery in the East Anglia region constructed in 1982 where the original cost is unknown.

	£
Present day cost (Chapter 1) 600 m ²	
@ say £1.350	810,000
Demolition of old building including site clearance (Chapter 4)	<u>21,600</u>
	<u>831,600</u>
Regional variation (Chapter 5) for East Anglia	
×91%×£831.600	756,756
Inflation during the demolition and rebuilding period based on a 18 month construction period and an initial 12 month pre-building period for the preparation of contract documents	
say 3%×2.5 years	<u>56,756</u>
Carried forward £	813,512
Brought forward £	813,512
Fees (Chapter 7)	
Professional fees say 12%	97,621
Planning and building regulations say	<u>25,000</u> <u>122,621</u>

	936,133
VAT @ 17.5%*	<u>163,823</u>
	£ <u>1,099,956</u>

The building should be insured for £1,100,000

* Due to change from 15% to 17.5% on 1 January 2010

Example 2

Heavy industrial factory in Scotland constructed in 1988 where the original cost is unknown.

	£
Present day cost (Chapter 1) 2,400 m ² @ say £900	2,160,000
Demolition of old building including site clearance (Chapter 4)	<u>50,400</u>
	<u>2,210,400</u>
Regional variation (Chapter 5) for Scotland	
×94%×£2,210,400	2,077,776
Inflation during the demolition and rebuilding period based on a 18 month construction period and an initial 12 month pre-building period for the preparation of contract documents	
say 3%×2.5 years	<u>155,833</u>
Carried forward £	2,233,609
Brought forward £	2,233,609
Fees (Chapter 7)	
Professional fees say 12%	268,033
Planning and building regulations say	<u>25,000</u>
	<u>293,033</u>
	2,526,642
VAT@ 17.5%*	<u>442,162</u>
	£ <u>2,968,804</u>

The building should be insured for £3,000,000

* Due to change from 15% to 17.5% on 1 January 2010

7

Professional fees

The use of fee scales used to be mandatory but now clients are able to negotiate the level of fees with their professional advisers. In the preparation of first stage estimates, the cost of fees must be included on either an all-in fee basis for the professional team or separate fees for each discipline. This chapter contains information for either method.

An allowance should be made for expenses incurred in connection with the contract and VAT on professional fees should also be included. The following categories of fees are included:

- architects
- quantity surveyors
- consulting engineers
- landscape architects
- planning
- building regulations.

Architects' fees

Details of Architects' fees are set out in 'Engaging an Architect' and a copy can be obtained from RIBA Publications (0207 608 2375) The fees are based upon three classifications of buildings:

- simple—car parks, warehouses, factories etc
- average—offices, retail outlets, housing, schools etc
- complex—specialist buildings, hospitals, laboratories etc

The work stages are set out below

	Stages	Proportion of fee
C	Outline proposals	10%–15%
D	Detailed proposals	15%–20%
E	Final proposals	20%
F	Production information	20%
G-L	Tender and construction	25%–35%

The fees are assessed by applying the classification of the project to its value on a fee scale graph. Extra fees may be due if the work is carried out in Stage A (Appraisal) and Stage B (Strategic Brief) or alteration work. These fees would normally be charged on a time basis at an agreed rate. Here are some typical examples of fees for new work.

Value of contract £	Fee as percentage of contract value %
100,000	8.5–11.0
500,000	5.8–8.5
1,000,000	4.5–7.8
2,000,000	4.0–7.3
3,000,000	3.8–7.0

Quantity Surveyors' fees

The following examples of fees are set out in Professional Charges for Quantity Surveying Services obtainable from Surveyors Publications (01203 694757). Although Scale 36 (inclusive fees for quantity surveying services) has been abolished it is included here for general guidance.

Scales 36 and 37—Building work

There are three basic categories of works:

Category A	complex with little repetition
Category B	less complex with some repetition
Category C	simple.

For each category there are two types of fees:

Scale 36	inclusive scale for complete services
Scale 37	itemised scale divided into pre- and post-contract services.

Here are some examples of percentages and fees for varying sized projects.

Scale 36—Inclusive services

Value of work £	Category £	A %	Category £	B %	Category £	C %
150,000	9,380	6.25	9,060	6.04	7,650	5.10
250,000	14,380	5.75	13,760	5.50	11,750	4.70
350,000	19,030	5.44	18,060	5.16	15,450	4.41
450,000	23,330	5.18	21,960	4.88	18,750	4.17
750,000	34,880	4.65	32,010	4.27	27,450	3.66
1,250,000	51,880	4.15	46,010	3.68	39,950	3.20
2,500,000	90,380	3.62	79,010	3.16	68,200	2.73
4,000,000	133,880	3.33	116,010	2.90	99,200	2.48

Scale 37—Pre-contract services

Value of work £	Category £	A %	Category £	B %	Category £	C %
150,000	4,730	3.15	4,410	2.94	3,930	2.62
250,000	7,030	2.81	6,410	2.56	5,730	2.29
350,000	9,080	2.59	8,160	2.33	7,230	2.27
450,000	10,880	2.42	9,660	2.15	8,430	4.17
750,000	15,830	2.11	13,560	1.81	11,580	1.54
1,250,000	23,330	1.87	19,060	1.52	16,080	1.29
2,500,000	39,080	1.56	31,810	1.27	26,330	1.05
4,000,000	56,380	1.40	45,810	1.15	37,330	0.93

Scale 37—Post-contract services (Alternative 1)

Value of work £	Category £	A %	Category £	B %	Category £	C %
150,000	3,150	2.10	3,150	2.10	2,520	1.68
250,000	4,850	1.94	4,850	1.94	4,020	1.61
350,000	6,500	1.84	6,450	1.84	5,470	1.56
450,000	8,100	1.80	7,950	1.77	6,870	1.53
750,000	12,450	1.66	11,850	1.58	10,620	1.42
1,250,000	18,950	1.52	17,350	1.52	16,120	1.29
2,500,000	34,200	1.37	30,100	1.20	27,870	1.11
4,000,000	51,200	1.28	44,100	1.10	40,370	1.01

For negotiating and agreeing prices with a contractor:

Value of work	Fee	
£	£	%
150,000	750	0.50
250,000	1,050	0.42
350,000	1,350	0.39
450,000	1,650	0.37
750,000	2,400	0.32
1,250,000	3,350	0.27
2,500,000	4,600	0.18
4,000,000	6,100	0.15

Scale 38—Civil Engineering work

Category 1	Runways, roads, railways and earthworks and dredging and monolithic walls.
Category 2	Piled quay walls, suspended jetties, bridges, sewers, storage and treatment tanks, turbine halls, reactor blocks.

Pre-contract services

Value of work £	Category 1		Category 2	
	Fee £	%	Fee £	%
500,000	1,960	0.65	3,650	0.73
1,500,000	5,040	0.34	8,850	0.50
2,500,000	7,540	0.30	12,850	0.51
5,000,000	12,790	0.26	21,850	0.44
7,000,000	16,790	0.24	28,850	0.41
12,000,000	25,790	0.21	45,350	0.38
15,000,000	30,290	0.20	54,350	0.36
25,000,000	44,790	0.18	83,350	0.33

Post-contract services

Value of work £	Category 1		Category 2	
	Fee £	%	Fee £	%
500,000	5,950	1.19	10,750	2.15
750,000	8,250	1.10	15,000	2.00
1,500,000	14,250	0.95	26,250	1.75
2,500,000	20,750	0.83	38,250	1.53
5,000,000	34,000	0.68	65,250	1.31
7,000,000	44,000	0.63	86,250	1.23
12,000,000	68,000	0.57	135,750	1.13
15,000,000	81,500	0.54	162,750	1.09
25,000,000	125,000	0.50	249,750	1.00

Consulting Engineers' fees

Engineers' fees are published by The Association for Consultancy and Engineering, Alliance House, 12, Caxton House, London, SW1H 0QL (tel. 0207 222 6557) and copies can be obtained from them.

Landscape Consultants' fees

The fees for work over the value of £10,000 are calculated in two parts. Part 1 is assessed from a graph which indicates the fee percentage from 6% to 14% according to the value of the contract. Part 2 is a coefficient ranging from 1.0 where the consultant has overall responsibility to his client for a job with a normal balance of hard and soft works.

This may increase to 1.2 when the soft works element exceeds 50% of the landscape contract or for private contracts. The coefficient may be decreased to 0.8 for other types of jobs such as golf courses and road landscaping. Here is an example.

Assume a project has a contract value of £100,000 including both hard and soft works in a new business park. The fee graph shows that the percentage norm is 7.5%. The coefficient is 1.2 because the soft work element exceeds 50%. The job coefficient is 1.0 so the compounded coefficient is 1.0×1.2 . The total percentage fee will be $7.5\% \times 1.2 = 9.0\%$.

The scale of fees allows for other methods of remuneration such as lump sum fees, using a ceiling figure in conjunction with a time basis, or having a retainer that can be reviewed after a period and paid according to the value of the actual work carried out.

Similarly, when only occasional work is required this can be charged on a time basis. Site surveys would normally be paid on a lump sum basis of estimated time involved.

Professional team all-in fees

Assessing the fees for professional teams working on a development project can be complicated due to the different methods of fee calculation adopted by the various professional bodies. Worked examples of these are shown in this chapter relating to a range of contract values.

Sometimes, the client will prefer to deal with only one discipline and a lead professional will be appointed. This firm will negotiate an overall fee for the whole team and the table below shows the effect of this arrangement. The figures have been rounded off to the nearest £1,000.

Project costs (£000)	8% £000	9% £000	10% £000	11% £000	12% £000	13% £000	14% £000	15% £000
200	16	18	20	22	24	26	28	30
300	24	27	30	33	36	39	42	45
400	32	36	40	44	48	52	56	60
500	40	45	50	55	60	65	70	75
600	48	54	60	66	72	78	84	90
700	56	63	70	77	84	91	98	105
800	64	72	80	88	96	104	112	120
900	72	81	90	99	108	117	126	135
1,000	80	90	100	110	120	130	140	150
1,200	96	108	120	132	144	156	168	180
1,400	112	126	140	154	168	182	196	210

Project costs (£000)	8% £000	9% £000	10% £000	11% £000	12% £000	13% £000	14% £000	15% £000
1,600	128	144	160	176	192	208	224	240
1,800	144	162	180	198	216	234	252	270
2,000	160	180	200	220	240	260	280	300
2,250	180	202	225	247	270	292	315	337
2,500	200	225	250	275	300	325	350	375
2,750	220	247	275	302	330	357	385	412
3,000	240	270	300	330	360	390	420	450
3,250	260	292	325	357	390	422	455	487
3,500	280	315	350	385	420	455	490	525
3,750	300	337	375	412	450	487	525	562
4,000	320	360	400	440	480	520	560	600
5,500	440	495	550	605	660	715	770	825
6,000	480	540	600	660	720	780	840	900
7,000	560	630	700	770	840	910	980	1050
8,000	640	720	800	880	960	1040	1120	1200
9,000	720	810	900	990	1080	1170	1260	1350
10,000	800	900	1000	1100	1200	1300	1400	1500

8

Useful addresses

Association of Consulting Engineers

Alliance House
12 Caxton Street
London SW1 OQL
(0207 222 6557)

British Association of Landscape Industries

Landscape House
National Agricultural Centre
Stoneleigh Park
Warwickshire CV8 2LG
(0247 669 0333)

British Board of Agreement

PO Box 195, Bucknall's Lane
Garston, Watford
Herts WD2 7NG
(01923 665300)

British Decorators Association

32 Coton Road
Nuneaton
Warwickshire CV11 5TW
(0247 635 3776)

British Flat Roofing Council

186 Beardall Street
Hucknall
Nottingham NG15 7JU
(01159566666)

British Property Federation

1 Warwick Row
7th Floor
London SW1E 5ER
(0207 828 0111)

British Standards Institution

389 Chiswick High Street
London W4 4AL
(0208 996 9000)

British Woodworking Federation

55 Tufton Street

London SW1 3QL
(0870 458 6939)

Building Centre Group

26 Store Street
London WC1E 7BT
(0207 692 4000)

Building Cost Information Service

RICS
12 Great George Street
Parliament Square
London SW1P 3AD
(0207 222 7000)

Building Employers Confederation

56–64 Leonard Street
London EC2A 4JX
(0207 608 5000)

Building Research Establishment

Bucknall's Lane
Garston, Watford
WD2 7JR (01923 664000)

Chartered Institute of Arbitrators

12 Bloomsbury Square
London WC1A 2LP
(0207 421 7444)

Chartered Institute of Building

Englemere, Kings's Ride
Ascot, Berkshire SL5 7BJ
(01344 630700)

Concrete Society

Century House
Telford Avenue
Crowthorne
Berkshire RG45 6YS
(01344466007)

Confederation of British Industry

Centre Point
103 New Oxford Street
London WC1A 1DU
(0207 379 7400)

Electrical Contractors Association

ESCA House
34 Palace Court
Bayswater
London W2 4HY
(0207 313 4800)

Federation of Master Builders

14–15 Great James Street
London WC1N 3DP
(0207 242 7583)

Glass and Glazing Federation

44–48 Borough High Street
London SE1 1XB
(0207 403 7177)

Heating and Ventilation Contractors' Association

ESCA House
34 Palace Court
London W2 4JG
(0207 313 4900)

Housing Corporation HQ

149 Tottenham Court Road
London W1P 0BN
(0207 393 2000)

Institute of Mechanical Engineers

1 Birdcage Walk
London SW1H 9JJ
(0207 222 7894)

Institute of Plumbing

64 Station Lane
Hornchurch
Essex RN12 6NB
(017108 472791)

Institution of Civil Engineers

1–7 Great George Street
London SW1P 3AA
(0207 222 7722)

Institution of Civil Engineering Surveyors

Dominion House
Sibson Road
Sale
Cheshire M33 7PP
(0161 9723100)

Institution of Electrical Engineers

Savoy Place
London WC2R 0BL
(0207 240 1871)

Institution of Structural Engineers

11 Upper Belgrave Street
London SW1X 8BH
(0207 235 4535)

Joint Contracts Tribunal

66 Portland Place
London W1N 4AD
(0207 580 5533)

Royal Institute of British Architects

66 Portland Place
London W1N 4AD
(0207 580 5533)

Royal Institute of Chartered Surveyors

12 Great George Street
London SW1P 3AD
(0207 222 7000)

Royal Town Planning Institute

41 Botolph Lane
London ER3R 8DL
(0207 929 9494)

Timber Research and Development Association

Stocking Lane
Hughenden Valley
High Wycombe
Buckinghamshire
HP14 4ND
(01494 569 600)

Town and Country Planning Association

17 Carlton House Terrace
London SW1Y 5AS
(0207 930 8903)

Water Services Association

1 Queen Ann's Gate
London SW1H 9BT
(0207 957 4567)

Welsh Development Agency

Treforest Industrial Estate
Pontypridd
Glamorgan CS37 5UT
(01345 775577)

Zinc Development Association

6 Wren's Court
56 Victoria Road
Sutton Coldfield
West Midlands
B72 1SY
(0121 3558386)

9

Estimating data

When preparing first stage estimates, it is often necessary to take a broad view because of lack of time or information. The data in this chapter are intended to help in this process.

LABOUR

The rates in this book have been calculated based on the following labour hourly values:

General operatives	£13
Craftsmen	£17
Plumbers	£18
Electricians	£19

The following hourly gang rates have also been used where applicable.

Building

Groundwork gang	£70
Concreting gang	£60
Steel fixing gang	£60
Formwork gang	£90
Bricklaying gang	£50
Lightweight blockwork gang	£50
Dense blockwork gang	£50
Carpentry gang	£60
Drain laying gang	£35

Civil engineering

Concreting gang	£90
Shuttering gang	£75
Pipe laying (small bore) gang	£80
Pipe laying (large bore) gang	£90
Sub base laying gang	£75
Concrete paving gang	£90

The metric system

Linear

1 centimetre (cm)	=	10 millimetres (mm)
1 decimetre (dm)	=	10 centimetres (cm)
1 metre (m)	=	10 decimetres (dm)
1 kilometre (km)	=	1000 metres (m)

Area

100 sq millimetres	=	1 sq centimetre
100 sq centimetres	=	1 sq decimetre
100 sq decimetres	=	1 sq metre
1000 sq metres	=	1 hectare

Capacity

1 millilitre (ml)	=	1 cubic centimetre (cm ³)
1 centilitre (cl)	=	10 millilitres (ml)
1 decilitre (dl)	=	10 centilitres (cl)
1 litre (l)	=	10 decilitres (dl)

Weight

1 centigram (cg)	=	10 milligrams (mg)
1 decigram (dg)	=	10 centigrams (cg)
1 gram (g)	=	10 decigrams (dg)
1 decagram (dag)	=	10 grams (g)
1 hectogram (hg)	=	10 decagrams (dag)

Conversion equivalents (imperial/metric)

Length

inch	=	25.4 mm
1 foot	=	304.8 mm
1 yard	=	914.4 mm
1 yard	=	0.9144m
1 mile	=	1609.34m

Area

1 sq inch	=	645.16 sq mm
1 sq ft	=	0.092903 sq m
1 sq yard	=	0.8361 sq m
1 acre	=	4840 sq yards

1 acre = 2.471 hectares

Liquid

1 lb water = 0.454 litres

1 pint = 0.568 litres

1 gallon = 4.546 litres

Horse-power

1 hp = 746 watts

1 hp = 0.746 kW

1 hp = 33,000 ft.lb/min

Weight

1 lb = 0.4536 kg

1 cwt = 50.8 kg

1 ton = 1016.1 kg

Conversion equivalents (metric/imperial)

Length

1 mm = 0.03937 inches

1 centimetre = 0.3937 inches

1 metre = 1.094 yards

1 metre = 3.282 ft

1 kilometre = 0.621373 miles

Area

1 sq millimetre = 0.00155 sq in

1 sq metre = 10.764 sq ft

1 sq metre = 1.196 sq yards

1 acre = 4046.86 sq m

1 hectare = 0.404686 acres

Liquid

1 litre = 2.202 lbs

1 litre = 1.76 pints

1 litre = 0.22 gallons

Horse-power

1 watt = 0.00134 hp

1 kw = 134 hp

1 hp = 0759 kg m/s

Weight

1 kg	=	2.205 lbs
1 kg	=	0.01968 cwt
1 kg	=	0.000984 ton

Temperature equivalents

To convert Fahrenheit to Celsius deduct 32 and multiply by 5/9.

To convert Celsius to Fahrenheit multiply by 9/5 and add 32.

Fahrenheit	Celsius
230	110.0
220	104.4
210	98.9
200	93.3
190	87.8
180	82.2
170	76.7
160	71.1
150	65.6
140	60.0
130	54.4
120	48.9
110	43.3
100	37.8
90	32.2
80	26.7
70	21.1
60	15.6
50	10.0
40	4.4
30	-1.1
20	-6.7
10	-2.2
0	-17.8

Areas and volumes

Figure	Area	Perimeter
Rectangle	Length×breadth	Sum of sides
Triangle	Base×half of perpendicular height	Sum of sides
Quadrilateral	Sum of areas of contained triangles	Sum of sides
Trapezoidal	Sum of areas of contained triangles	Sum of sides
Trapezium	Half of sum of parallel sides×perpendicular height	Sum of sides
Parallelogram	Base×perpendicular height	Sum of sides
Regular polygon	Half sum of sides×half internal diameter	Sum of sides
Circle	$\pi \times \text{radius}^2$	$\pi \times \text{diameter}$ or $\pi \times 2 \times \text{radius}$

Figure	Surface area	Volume
Cylinder	$\pi \times 2 \times \text{radius}^2 \times \text{length}$ (curved surface only)	$\pi \times \text{radius}^2 \times \text{length}$
Sphere	$\pi \times \text{diameter}^2$	$\text{Diameter}^3 \times 0.5236$

Weights of materials	kg/m³	kg/m²	kg/m
Aggregate, coarse	1,500		
Ashes	800		
Ballast	600		
Blockboard, standard	940–1000		
Blockboard, tempered	940–1060		
Blocks, natural aggregate			
75mm		160.00	
100mm		215.00	
140mm		300.00	
Blocks, lightweight aggregate			
75mm		60.00	
100mm		80.00	
140mm		112.00	
Bricks, Fletton		1,820.00	
Bricks, engineering		2,250.00	
Bricks, concrete		1,850.00	
Brickwork, 112.5mm		220.00	

Weights of materials	kg/m³	kg/m²	kg/m
Brickwork, 215mm		465.00	
Brickwork, 327.5mm		710.00	
Cement	1,440		
Chalk	2,240		
Chipboard, standard	650–750		
Chipboard, flooring	680–800		
Clay	1,800		
Concrete	2,450		
Copper pipes, table X			
6mm			0.091
8mm			0.125
10mm			0.158
12mm			0.191
15mm			0.280
18mm			0.385
22mm			0.531
28mm			0.681
35mm			1.133
42mm			1.368
54mm			1.769
Copper pipes, table Y			
6mm			0.117
8mm			0.162
10mm			0.206
12mm			0.251
15mm			0.392
18mm			0.476
22mm			0.697
28mm			0.899
35mm			1.409
42mm			1.700
54mm			2.905
Copper pipes, table Z			
6mm			0.077
8mm			0.105
10mm			0.133
12mm			0.161

Weights of materials	kg/m³	kg/m²	kg/m
15mm			0.203
18mm			0.292
22mm			0.359
28mm			0.459
35mm			0.670
42mm			0.922
54mm			1.334
Flint	2,550		
Gravel	1,750		
Hardcore	1,900		
Hoggin	1,750		
Glass, clear sheet			
3mm		7.50	
4mm		10.00	
5mm		12.50	
6mm		15.00	
10mm		25.00	
12mm		30.00	
15mm		37.50	
19mm		47.50	
25mm		63.50	
Glass, float			
3mm		7.50	
4mm		10.00	
5mm		12.50	
6mm		15.00	
Glass, patterned			
3mm		6.00	
4mm		7.50	
5mm		9.50	
6mm		11.50	
10mm		21.50	
Laminboard	500–700		
Lime, ground	750		
Mild steel flat bars			
25×9.53mm			1.910
38×9.53mm			2.840
50×12.70			5.060
50×19.00			7.590
Mild steel round bars			
6mm			0.222
8mm			0.395
10mm			0.616

Weights of materials	kg/m³	kg/m²	kg/m
12mm			0.888
16mm			1.579
20mm			2.466
25mm			3.854
32mm			6.313
40mm			9.864
50mm			15.413
Mild steel square bars			
6mm			0.283
8mm			0.503
10mm			0.784
12mm			1.131
16mm			2.010
20mm			3,139
25mm			4.905
32mm			8.035
40mm			12.554
50mm			19.617
Plaster			
Carlite browning, 11mm thick		7.80	
Carlite tough coat, 11 mm thick		7.80	
Carlite bonding, 8mm thick		7.10	
Carlite bonding, 11 mm thick		9.80	
Thistle hardwall, 11 mm thick		8.80	
Thistle dri-coat, 11 mm thick		8.30	
Thistle renovating, 11 mm thick		8.80	
Sand		1,600	
Screed, 12.5mm thick		29.00	
Stone, Bath	2,200		
Stone, crushed	1,350		
Stone, Darley Dale	2,400		

Weights of materials	kg/m³	kg/m²
Stone, natural	2,400	
Stone, Portland	2,200	
Stone, reconstructed	2,250	
Stone, York	2,400	
Terrazzo, 25mm thick		45.50
Timber		
Ash	800	
Baltic Spruce	480	
Beech	815	
Birch	720	
Box	960	
Cedar	480	
Ebony	1,215	
Elm	625	
Greenheart	960	
Jarrah	815	
Maple	750	
Pine, Pitchpine	800	
Pine, Red Deal	575	
Pine, Yellow Deal	530	
Sycamore	530	
Teak, African	960	
Teak, Indian	655	
Walnut	495	
Top soil	1,000	
Water	950	
Woodblock flooring		
softwood		12.70
hardwood		17.60
Zinc sheeting		4.6

EXCAVATION AND FILLING

Shrinkage of deposited material

Clay	-10%
Gravel	-7.5%
Sandy soil	-12.5%

Bulking excavated material

Clay	40%
Gravel	25%
Sand	20%

Typical fuel consumption for plant	Engine size kW	Litres per hour
Compressors up to	20	4.00
	30	6.50
	40	8.20
	50	9.00
	75	16.00
	100	20.00
	125	25.00
Concrete mixers up to	150	30.00
	5	1.00
	10	2.40
	15	3.80
	20	5.00
Dumpers	5	1.30
	7	2.00
	10	3.00
	15	4.00
	20	4.90
	30	7.00
Excavators	50	12.00
	10	2.50
	20	4.50
	40	9.00
	60	13.00
Pumps	80	17.00
	5	1.10
	10	2.10
	15	3.20
	20	4.20
	25	5.50

CONCRETE WORK

Concrete mixes	Mix	Cement t	Sand m ³	Aggregate m ³	Water liters
	1:1:2	0.50	0.45	0.70	208.00
	1:1.5:3	0.37	0.50	0.80	185.00
	1:2:4	0.30	0.54	0.85	175.00
	1:2.5:5	0.25	0.55	0.85	166.00
	1:3:6	0.22	0.55	0.85	160.00

BRICKWORK AND BLOCKWORK

Bricks per m² (brick size 215×103.5×65mm)

Half brick wall		
stretcher bond		59
English bond		89
English garden wall bond		74
Flemish bond		79
One brick wall		
English bond		118
Flemish bond		118
One and a half brick wall		
English bond		178
Flemish bond		178
Two brick wall		
English bond		238
Flemish bond		238
Metric modular bricks		
200×100×75mm		
90mm thick		133
190mm thick		200
200×100×100mm		
90mm thick		50
190mm thick		100
290mm thick		150
300×100×75mm		
90mm thick		44
300×100×100mm		
90mm thick		50

Blocks per m² (block size 414×215mm)

60mm thick	9.9
75mm thick	9.9
100mm thick	9.9
140mm thick	9.9
190mm thick	9.9
215mm thick	9.9

Mortar per m²	Wirecut m³	1 Frog m³	2 Frogs m³
Brick size 215×103.5×65mm			
half brick wall	0.017	0.024	0.031
one brick wall	0.045	0.059	0.073
one and a half brick wall	0.072	0.093	0.114
two brick wall	0.101	0.128	0.155
Brick size 200×100×75mm	Solid m³		Perforated m³
90mm thick	0.016		0.019
190mm thick	0.042		0.048
290mm thick	0.068		0.078
Brick size 200×100×100mm			
90mm thick	0.013		0.016
190mm thick	0.036		0.041
290mm thick	0.059		0.067
	Solid m³		Perforated m³
Brick size 200×100×100mm			
90mm thick	0.015		0.018
Block size 440×215mm			
60mm thick	0.004		
75mm thick	0.005		
100mm thick	0.006		
140mm thick	0.007		
190mm thick	0.008		
215mm thick	0.009		

MASONRY

Mortar per m² of random walling	m³
300mm thick wall	0.120
450mm thick wall	0.160
550mm thick wall	0.120

CARPENTRY AND JOINERY

Length of boarding required	m/m²
Board width, 75mm	13.33
Board width, 100mm	10.00
Board width, 125mm	8.00
Board width, 150mm	6.67
Board width, 175mm	5.71
Board width, 200mm	5.00

ROOFING	Lap mm	Gauge mm	Nr/m²	Battens m/m²
Clay/concrete tiles				
267×165mm	65	100	60.00	10.00
	65	98	64.00	10.50
	65	90	68.00	11.30
387×230mm	75	300	16.00	3.20
	100	280	17.40	3.50
420×330mm	75	340	10.00	2.90
	100	320	10.74	3.10
Fibre slates				
500×250mm	90	205	19.50	4.85
	80	210	19.10	4.76
	70	215	18.60	4.65
600×300mm	105	250	13.60	4.04
	100	250	13.40	4.00
	90	255	13.10	3.92
	80	260	12.90	3.85
400×200mm	70	263	12.70	3.77
	70	165	30.00	6.06
	75	162	30.90	6.17
500×250mm	90	155	32.30	6.45
	70	215	18.60	4.65
	75	212	18.90	4.72
	90	205	19.50	4.88
600×300mm	100	200	20.00	5.00
	110	195	20.50	5.13
	100	250	13.4	4.00
	110	245	13.60	4.08

Natural slates

405×205mm	75	165	29.59	8.70
405×255mm	75	165	23.75	6.06
405×305mm	75	165	19.00	5.00
460×230mm	75	195	23.00	6.00
460×255mm	75	195	20.37	5.20
460×305mm	75	195	17.00	5.00
510×255mm	75	220	18.02	4.60
510×305mm	75	220	15.00	4.00
560×280mm	75	240	14.81	4.12
560×280mm	75	240	14.00	4.00
610×305mm	75	265	12.27	3.74

Reconstructed stone
slates

380×250mm	75	150	16.00	3.20
-----------	----	-----	-------	------

PLASTERING AND TILING

Plaster coverage	m² per 1000kg
Carlite browning, 11 mm thick	135–155
Carlite tough coat, 11mm thick	135–150
Carlite bonding, 11mm thick	100–115
Thistle hardwall, 11mm thick	115–130
Thistle dri-coat, 11mm thick	135–135
Thistle renovating, 11mm thick	115–125

Tile coverage	Nr per m²
152×152mm	43.27
200×200mm	25.00

PLUMBING AND HEATING

Roof drainage	Area m²	Pipe mm	Gutter mm
One end outlet	15	50	75
	38	68	100
	100	110	150
Centre outlet	30	50	75
	75	68	100
	200	110	150

PAINTING AND WALLPAPERING

Average coverage of paints m² per litre	Timber	Plastered surfaces	Brickwork
Primer	10–12	9–11	5–7
Undercoat	10–12	11–14	6–8
Gloss	11–14	11–14	6–8
Emulsion	10–12	12–15	6–10

Wallpaper coverage per roll	Rolls nr	Wall height m	Room perimeter m
	4	2.50	8
	5	2.50	9
	5	2.50	10
	6	2.50	11
	6	2.50	12
	7	2.50	13
	7	2.50	14
	8	2.50	15
	8	2.50	16
	8	2.50	17
	9	2.50	18
	10	2.50	19
	10	2.50	20
	10	2.50	21
	11	2.50	22
	11	2.50	23
	12	2.50	24
	13	2.50	25
	13	2.50	26
	14	2.50	27
	5	2.80	8
	5	2.80	9
	5	2.80	10
	7	2.80	11
	7	2.80	12
	7	2.80	13
	8	2.80	14
	8	2.80	15
	9	2.80	16

10	2.80	17
10	2.80	18
11	2.80	19
11	2.80	20
12	2.80	21
13	2.80	22
13	2.80	23
14	2.80	24
14	2.80	25
15	2.80	26
15	2.80	27

Drainage

Trench widths	Under 1.5m deep mm	Over 1.5m deep mm
Pipe diameter 100mm	450	600
Pipe diameter 150mm	500	650
Pipe diameter 225mm	600	750
Pipe diameter 300mm	650	800

Volumes of filling for pipe bed and haunching (m³ per m)	m³
Pipe diameter 100mm	0.117
Pipe diameter 150mm	0.152
Pipe diameter 225mm	0.195

Volumes of filling for pipe bed and surround (m³ per m)	
Pipe diameter 100mm	0.185
Pipe diameter 150mm	0.231
Pipe diameter 225mm	0.285
Pipe diameter 300mm	0.391

LANDSCAPING

Tree sizes	Type	Height	Clear stem height	Girth
	Light standard	2.50–2.75m	1.50–1.80m	6–8cm
	Standard	2.75–3.00m	1.8m	8–10cm
	Selected standard	3.00–3.50m	1.8m	10–12cm
	Heavy standard	3.50–4.00m	1.8m	12–14cm
	Extra heavy standard	4.00–5.00m	1.8m	14–16cm

Quantities of seed for sports fields

	gm/m ² 34	gm/m ² 50	gm/m ² 102	gm/m ² 500
Bowling green (size 38.4×38.4m, area 1,475m ²)	50	75	150	200
Cricket square (size 22.8×22.8m area 522m ²)	18	27	54	72
Golf green (18 nr each size 570m ²)	350	525	1050	1400
Lawn tennis (size 36.6×18.3m, area 670m ²)	23	35	69	92
Football (size 119×91m, area 10,380m ²)	368	552	1104	1472
Rugby (size 100×69m, area 6,900m ²)	235	352	705	940
Hockey (size 91×55m, area 5,005m ²)	170	255	510	680

Weedkiller

	litres per hectare
Bowling green (size 38.4×38.4m, area 1,475m ²)	1.48
Cricket square (size 22.8×22.8m, area 522m ²)	0.52
Golf green (18 nr each size 570m ²)	10.28
Lawn tennis (size 36.6×18.3m, area 670m ²)	0.67
Football (size 119×91m, area 10,380m ²)	10.83
Rugby (size 100×69m, area 6,900m ²)	6.90
Hockey (size 91×55m, area 5,005m ²)	5.00

CIVIL ENGINEERING OUTPUT

Placing ready-mixed concrete

**Labour gang
(m³ per hour)**

Mass concrete

blinding

150mm thick	5.50
150–300mm thick	6.25
300–500mm thick	7.00

bases

not exceeding 150mm thick	5.00
not exceeding 300mm thick	5.75
not exceeding 500mm thick	6.75
exceeding 150mm thick	7.00

Reinforced concrete

bases

not exceeding 300mm thick	5.50
not exceeding 500mm thick	6.25
exceeding 150mm thick	6.75

suspended slabs

not exceeding 150mm thick	3.75
not exceeding 300mm thick	4.75
exceeding 300mm thick	5.75

walls

not exceeding 150mm thick	3.50
not exceeding 300mm thick	4.50
exceeding 300mm thick	5.00

beams and columns

sectional area not exceeding 0.03m ²)	2.00
sectional area not exceeding 0.03 -1.0m ²)	2.50
sectional area exceeding 1.0m ²)	3.50

Fixing bar reinforcement

The following figures exclude delivery, craneage and hoisting in position. The hours refer to tonnes per hour for a steelfixer and general operative

	Height up to 6m (hours)	Height 7 to 12m (hours)	Height 13 to 19m (hours)	Height over 19m (hours)
Straight round bars				
to beams, walls, roofs and walls	0.06	0.08	0.12	0.16
to braces, columns and sloping roofs	0.06	0.08	0.12	0.16
Bent round bars				
to beams, walls, roofs and walls	0.04	0.06	0.06	0.08
to braces, columns and sloping roofs	0.02	0.02	0.04	0.06
Straight, indented or square bars				
to beams, walls, roofs and walls	0.04	0.08	0.10	0.14
to braces, columns and sloping roofs	0.02	0.04	0.04	0.08
Bent, indented or square bars				
to beams, walls, roofs and walls	0.04	0.04	0.06	0.06
to braces, columns and sloping roofs	0.02	0.02	0.04	0.04

Erecting and striking formwork	Joiner m² per hour	General operative m² per hour
Vertical wall face, height		
up to 1.5m	1.70	0.80
1.5 to 3.0m	1.40	0.70
3.0 to 4.5m	1.20	0.60
4.5 to 6.0m	1.00	0.50
Horizontal slabs, height		
up to 3.0m	1.11	1.11
3.0 to 3.6m	1.05	1.05
3.6 to 4.2m	1.00	1.00
4.2 to 4.8m	0.95	0.95
4.8 to 5.4m	0.90	0.90
5.4 to 6.0m	0.83	0.83

Formwork multipliers	Multiplier
Battered walls	1.20
Circular walls to large radius	1.70
Circular walls to small radius	2.10
Formwork, one use	1.00
Formwork, two uses, per use	0.85
Formwork, three uses, per use	0.75
Formwork, four uses, per use	0.72
ormwork, five uses, per use	0.68
Formwork, six uses, per use	0.66
Formwork, seven uses, per use	0.63

Drainage

	Unit	Drainage gang (m/hour) in trenches less than 1.5m deep	Drainage gang (m/hour) in trenches less than 3.0m deep	Drainage gang (m/hour) in trenches less than 4.5m deep
Lay and joint flexible-jointed clayware pipes, diameter				
100mm	m	10	8	7
150mm	m	7	6	5
225mm	m	5	4	3
300mm	m	4	3	2
375mm	m	3	2	2

450mm	m	2	2	1
Bends				
100mm	nr	20	17	14
150mm	nr	17	14	13
225mm	nr	13	10	8
300mm	nr	10	8	7
375mm	nr	7	6	5
450mm	nr	3	3	2
Single junctions				
100mm	nr	13	10	8
150mm	nr	7	6	5
225mm	nr	6	5	4
300mm	nr	4	3	3
375mm	nr	3	2	2
450mm	nr	2	2	1

Precast concrete manholes	Unit	Pipelayer	General operative
675mm diameter shaft rings	m/hour	1.00	0.30
900mm diameter manhole rings	m/hour	0.60	0.20
1200mm diameter manhole rings	m/hour	0.40	0.10
1500mm diameter manhole rings	m/hour	0.30	0.10
900 to 675mm tapers	nr/hour	1.00	0.30
1200 to 675mm tapers	nr/hour	0.60	0.20
900 to 675mm tapers	nr/hour	0.50	0.20
Cover slabs to 675mm rings	nr/hour	2.50	0.80
Cover slabs to 675mm rings	nr/hour	2.00	0.70
Cover slabs to 675mm rings	nr/hour	1.40	0.50
Cover slabs to 675mm rings	nr/hour	0.90	0.30
Build in pipes and make good			
150mm diameter	nr/hour	4.00	0.00
300mm diameter	nr/hour	2.00	0.00
450mm diameter	nr/hour	1.00	0.00
Benching 150mm thick	m ² /hour	1.20	1.20
Benching 300mm thick	m ² /hour	0.60	0.60
Render benching 25mm thick	m ² /hour	1.10	1.10
Manhole cover and frame	nr/hour	1.30	1.30

Index

- Agricultural buildings, 2
- Alterations and repairs, 179–193
- Ambulance stations 1, 13, 16

- Banks, 1, 13, 17
- Beds, 88–89
- Boilers, 168–169
- Bowling greens, 5
- Breaking up, 86–87
- Brickwork, blockwork and masonry, 158–160, 227–229
- Builders' work, 84
- Building Societies, 1
- Building work, 51–84
- Busbar trunking, 173–174

- Cables and wiring, 176
- Cable trays, 177
- Car parking, 8, 12, 15, 47
- Car parks, 109–110
- Carpentry and joinery, 229
- Car repairs, 2
- Car showroom, 2
- Car washers, 8
- Ceiling finishes, 80–81
- Churches, 5
- Church halls, 5
- Cinemas, 4
- Circuit breakers, 175
- Civil engineering outputs, 236–238
- Civil engineering work, 116–163
- Coach and bus stations, 8
- Colleges, 6, 40
- Community centres, 4
- Composite and principal rates, 49–193
- Computer buildings, 6
- Concert halls, 4
- Concrete ancillaries, 134–137
- Concrete work, 227
- Conduits, 177–178
- Convents, 5

- Costs per square metre, 1–9
- Costs per unit, 11–12
- Courts, 1, 13, 18
- Crematoria, 5

- Demolition and site clearance, 128–129
- Dental surgeries, 3
- Distribution boards, 171–172
- Drainage, 94–100, 233, 238
- Ductwork, 166–167

- Earthworks, 129–130
- Electrical work, 171–178
- Elemental costs, 13–47
- Estimating data, 217–239
- Excavation, 85–86, 105, 225–226
- Exhibition buildings, 4, 5
- External doors, 69–70
- External walls, 64–69
- External works, 85

- Factories, 2, 14, 20–21
- Fencing, 92–94
- Field drains, 113–115
- Fire stations, 1, 19
- Filling, 87–88, 105–106
- Finishings, 192–193
- Flats, 11, 12, 15, 43, 45, 46
- Floor finishes, 76–80
- Frame, 54
- Fuel consumption, 226

- General items, 116–120
- Geotechnical and other processes, 122–127
- Golf club houses, 4, 14, 83
- Ground investigation, 120–121
- Gymnasia, 5

- Halls, 1
- Health centres, 2, 30
- Hot and cold water services, 83

- Hotels, 7, 11
- Hospitals, 3, 11
- Housing 7, 11, 12, 15, 46

- Ice rinks, 4
- Indices, 195–196
- In situ concrete, 131–133
- Internal doors, 72–74
- Internal walls, 70–72

- Laboratories, 2, 3, 25
- Labour, 217
- Landscaping, 103–115, 234–235
- Libraries, 6, 14
- Livestock buildings, 24
- Luminaires, 178

- Magistrates' courts, 1
- Manholes, 100–103, 143–144, 239
- Masonry, 229
- Mechanical work, 164–170
- Metric system, 218–220
- Miscellaneous metalwork, 145–148
- Miscellaneous work, 162
- Museums, 6

- Nursery units, 26
- Nurses' residences, 7
- Nursing homes, 4, 11

- Offices, 2–3
- Old persons' homes, 13, 31

- Painting, 160
- Painting and wallpapering, 232–233
- Partitions, 70–72
- Paths, 108–109
- Pavings, 89–92
- Pharmacies, 3
- Piling, 149–151
- Pipework, 82, 138–143, 164–166
- Planting, 112–113
- Plastering and tiling, 231
- Plumbing and heating, 192, 231
- Police stations, 1, 13, 20
- Post offices, 1
- Precast concrete, 138
- Preliminaries, 49
- Prisons, 1
- Property insurance, 199–201

- Professional fees, 203–209
- Public houses, 4, 14, 34

- Radiators, 169–170
- Rail track, 154–156
- Regional variations, 196–197
- Research facilities, 6
- Restaurants, 4, 14, 35
- Retaining walls, 107–108
- Roads, 108
- Roads and pavings, 151–154
- Roofing, 229–231
- Roofs, 56–63

- Sanitary fittings, 81
- Schools, 6, 12, 14, 38, 39, 40, 41
- Sewer renovation and ancillary works, 162–163
- Shopping malls, 8
- Shops, 8
- Site clearance, 103–105
- Soil stabilisation, 106–107
- Sixth form colleges, 6, 40
- Soiling, seeding and turfing, 110–113
- Sport centres, 4
- Sports grounds, 110
- Sports halls, 14, 36
- Sports stadia, 11
- Sports pavillons, 4
- Squash courts, 4
- Staircases, 63–64
- Structural metalwork, 145
- Student accommodation, 7, 12
- Substructures, 49–53
- Supermarkets, 8
- Surface treatments, 88, 106
- Surgeries, 3, 14, 29
- Swimming pools, 4

- Taking down, 179
- Teachers' training colleges, 4, 14, 42
- Temperature equivalents, 220
- Temples, 5
- Tennis courts, 5
- Theatres, 5–11
- Thermal insulation, 167–169
- Timber, 148–149
- Transformers, 171
- Trunking, 172–175
- Tunnels, 156–158

Universities, 6
Upper floors, 55–56
Useful addresses, 211–215

VAT, xi
Village halls, 14, 20
Visitors' centres, 5

Wall finishes, 74–75

Warehouses, 8, 27, 28
Waterproofing, 161
Weights of materials, 221–225
Welfare centres, 13, 32
Windows, 69–70

Youth clubs, 4
Youth hostels, 7