



GORDIAN®

Light Commercial Costs

with RSMeans data

2020

39th annual edition

Light Commercial Costs with RSMMeans data

John Gomes, CCT, Senior Editor

GORDIAN®

2020

39th annual edition

Chief Data Officer
Noam Reininger

Vice President, Data
Tim Duggan

Principal Engineer
Bob Mewis (1, 4)

Contributing Editors
Brian Adams (21, 22)
Paul Cowan
Christopher Babbitt
Sam Babbitt
Stephen Bell
Michelle Curran
Antonio D'Aulerio (26,
27, 28, 48)

Matthew Doheny (8,
9, 10)
John Gomes, CCT (13,
41)
Derrick Hale, PE (2, 31,
32, 33, 34, 35, 44, 46)
Barry Hutchinson
Joseph Kelble (14,
23, 25)
Scott Keller (3, 5)
Charles Kibbee
Gerard Lafond, PE
Thomas Lane (6, 7)
Thomas Lyons
Jake MacDonald (11, 12)
John Melin, P.E.
Elisa Mello
Matthew Sorrentino

Kevin Souza
David Yazbek

Production Manager
Debbie Panarelli

Production
Jonathan Forgit
Sharon Larsen
Sheryl Rose
Janice Thalim

**Data Quality
Manager**
Joseph Ingargiola

Innovation
Ray Diwakar
Kedar Gaikwad
Srini Narla

Cover Design
Blaire Collins

Data Analytics
David Byars
Ellen D'amico
Thomas Hauger
Cameron Jagoe
Matthew Kelliher-
Gibson
Renee Rudicil



**Numbers in italics are the divisional responsibilities for each editor. Please contact the designated editor directly with any questions.*

RSMMeans data from Gordian

Construction Publishers & Consultants
1099 Hingham Street, Suite 201
Rockland, MA 02370
United States of America
1.800.448.8182
RSMMeans.com

Copyright 2019 by The Gordian Group Inc.
All rights reserved.
Cover photo © iStock.com/shansekala

Printed in the United States of America
ISSN 0896-7601
ISBN 978-1-950656-12-7

Gordian's authors, editors, and engineers apply diligence and judgment in locating and using reliable sources for the information published. However, Gordian makes no express or implied warranty or guarantee in connection with the content of the information contained herein, including the accuracy, correctness, value, sufficiency, or completeness of the data, methods, and other information contained herein. Gordian makes no express or implied warranty of merchantability or fitness for a particular purpose. Gordian shall have no liability to any customer or third party for any loss, expense, or damage, including consequential, incidental, special, or punitive damage, including lost profits or lost revenue, caused directly or indirectly by any error or omission, or arising out of, or in connection with, the information contained herein. For the purposes of this paragraph, "Gordian" shall include The Gordian Group, Inc., and its divisions, subsidiaries, successors, parent companies, and their employees, partners, principals, agents and representatives, and any third-party providers or sources of information or data. Gordian grants the purchaser of this publication limited license to use the cost data

contained herein for purchaser's internal business purposes in connection with construction estimating and related work. The publication, and all cost data contained herein, may not be reproduced, integrated into any software or computer program, developed into a database or other electronic compilation, stored in an information storage or retrieval system, or transmitted or distributed to anyone in any form or by any means, electronic or mechanical, including photocopying or scanning, without prior written permission of Gordian. This publication is subject to protection under copyright law, trade secret law and other intellectual property laws of the United States, Canada and other jurisdictions. Gordian and its affiliates exclusively own and retain all rights, title and interest in and to this publication and the cost data contained herein including, without limitation, all copyright, patent, trademark and trade secret rights. Except for the limited license contained herein, your purchase of this publication does not grant you any intellectual property rights in the publication or the cost data.

0180

\$309.99 per copy (in United States)
Price is subject to change without prior notice.



Table of Contents

Foreword	iv
MasterFormat® Comparison Table	v
How the Cost Data Is Built: An Overview	vii
Estimating with RSMeans data: Unit Prices	ix
How to Use the Cost Data: The Details	xi
Commercial/Industrial/Institutional Section	1
Green Commercial/Industrial/Institutional Section	109
Assemblies Section	142
RSMeans data: Assemblies—How They Work	146
Unit Price Section	333
RSMeans data: Unit Prices—How They Work	336
Reference Section	803
Construction Equipment Rental Costs	805
Crew Listings	817
Historical Cost Indexes	852
Location Factors	860
Reference Tables	866
Change Orders	917
Project Costs	921
Abbreviations	926
Index	930
Other Data and Services	959
Labor Trade Rates including Overhead & Profit	Inside Back Cover

Commercial/Industrial/ Institutional Section

Table of Contents

	Page	Building Types	Page	Building Types	Page
How To Use	4	M.250 Funeral Home.....	38	M.500 Post Office	74
Building Types		M.260 Garage, Auto Sales	40	M.510 Racquetball Court	76
M.010 Apartment, 1–3 Story	8	M.290 Garage, Repair.....	42	M.530 Restaurant	78
M.035 Assisted-Senior Living	10	M.300 Garage, Service Station	44	M.540 Restaurant, Fast Food.....	80
M.050 Bank	12	M.310 Gymnasium	46	M.550 Rink, Hockey/Indoor Soccer	82
M.060 Bowling Alley.....	14	M.380 Laundromat	48	M.560 School, Elementary	84
M.070 Bus Terminal	16	M.390 Library	50	M.580 School, Jr. High, 2–3 Story	86
M.080 Car Wash.....	18	M.400 Medical Office, 1 Story.....	52	M.600 Store, Convenience	88
M.090 Church	20	M.410 Medical Office, 2 Story	54	M.610 Store, Department, 1 Story.....	90
M.100 Club, Country	22	M.420 Motel, 1 Story	56	M.630 Store, Retail	92
M.170 Community Center	24	M.430 Motel, 2–3 Story	58	M.640 Supermarket	94
M.175 Computer Data Center.....	26	M.440 Movie Theatre	60	M.660 Telephone Exchange	96
M.180 Courthouse, 1 Story	28	M.450 Nursing Home	62	M.670 Town Hall, 1 Story	98
M.195 Day Care Center	30	M.455 Office, 1 Story	64	M.680 Town Hall, 2–3 Story	100
M.200 Factory, 1 Story	32	M.460 Office, 2–4 Story	66	M.685 Veterinary Hospital	102
M.220 Fire Station, 1 Story	34	M.485 Outpatient Surgery Center	68	M.690 Warehouse	104
M.240 Fraternity/Sorority House.....	36	M.490 Police Station.....	70	M.700 Warehouse Self Storage	106
		M.495 Post Frame Barn.....	72		

Green Commercial/Industrial/ Institutional Section

Table of Contents

<i>Table No.</i>	<i>Page</i>	<i>Table No.</i>	<i>Page</i>	<i>Table No.</i>	<i>Page</i>
Green Models		G.400 Medical Office, 1 Story	118	G.490 Police Station.....	130
Building Types		G.410 Medical Office, 2 Story	120	G.530 Restaurant.....	132
G.050 Bank.....	110	G.420 Motel, 1 Story.....	122	G.560 School, Elementary	134
G.220 Fire Station, 1 Story	112	G.430 Motel, 2-3 Story.....	124	G.580 School, Jr. High, 2-3 Story	136
G.250 Funeral Home	114	G.455 Office, 1 Story.....	126	G.640 Supermarket.....	138
G.390 Library	116	G.460 Office, 2-4 Story	128	G.690 Warehouse.....	140

Assemblies Section

Table of Contents

<i>Table No.</i>	<i>Page</i>	<i>Table No.</i>	<i>Page</i>
A SUBSTRUCTURE			
A1010 Standard Foundations			
A1010 105	Wall Foundations	152	
A1010 110	Strip Footings	153	
A1010 210	Spread Footings	154	
A1010 320	Foundation Dampproofing	154	
A1030 Slab on Grade			
A1030 120	Plain & Reinforced	156	
A2010 Basement Excavation			
A2010 110	Building Excavation & Backfill	157	
A2020 Basement Walls			
A2020 110	Walls, Cast in Place	158	
B SHELL			
B1010 Floor Construction			
B1010 203	C.I.P. Column, Square Tied	160	
B1010 204	C.I.P. Column, Square Tied-Minimum Reinforcing	161	
B1010 206	Tied, Concentric Loaded Precast Concrete Columns	162	
B1010 207	Tied, Eccentric Loaded Precast Concrete Columns	162	
B1010 208	Steel Columns	163	
B1010 210	Wood Columns	166	
B1010 214	"T" Shaped Precast Beams	167	
B1010 215	"L" Shaped Precast Beams	167	
B1010 223	Cast in Place Flat Plate	168	
B1010 226	Cast in Place Multispan Joist Slab	168	
B1010 229	Precast Plank with No Topping	169	
B1010 230	Precast Plank with 2" Concrete Topping	169	
B1010 234	Precast Double "T" Beams with No Topping	170	
B1010 235	Precast Double "T" Beams With 2" Topping	170	
B1010 244	Light Gauge Steel Floor Systems	171	
B1010 246	Deck & Joists on Bearing Walls	172	
B1010 248	Steel Joists on Beam & Wall	173	
B1010 250	Steel Joists, Beams & Slab on Columns	175	
B1010 258	Metal Deck/Concrete Fill	177	
B1010 261	Wood Joist	177	
B1010 264	Wood Beam & Joist	177	
B1010 720	Steel Column Fireproofing	178	
B1020 Roof Construction			
B1020 102	Wood/Flat or Pitched	179	
B1020 108	Steel Joists, Beams & Deck on Columns & Walls	180	
B1020 112	Steel Joists, Beams, & Deck on Columns	181	
B1020 116	Steel Joists & Deck on Bearing Walls	182	
B1020 120	Steel Joists, Joist Girders & Deck on Columns & Walls	183	
B1020 124	Steel Joists & Joist Girders on Columns	184	
B1020 310	Canopies	184	
B2010 Exterior Walls			
B2010 101	Cast In Place Concrete	185	
B2010 102	Flat Precast Concrete	186	
B2010 103	Fluted Window or Mullion Precast Concrete	187	
B2010 104	Ribbed Precast Concrete	188	
B2010 106	Tilt-Up Concrete Panel	189	
B2010 109	Concrete Block Wall - Regular Weight	190	
B2010 110	Concrete Block Wall - Lightweight	190	
B2010 111	Reinforced Concrete Block Wall - Regular Weight	191	
B2010 112	Reinforced Concrete Block Wall - Lightweight	191	
B2010 113	Split Ribbed Block Wall - Regular Weight	193	
B2010 115	Reinforced Split Ribbed Block Wall - Regular Weight	193	
B2010 117	Split Face Block Wall - Regular Weight	194	
B2010 119	Reinforced Split Face Block Wall - Regular Weight	195	
B2010 128	Stone Veneer	196	
B2010 129	Brick Veneer/Wood Stud Backup	198	
B2010 130	Brick Veneer/Metal Stud Backup	198	
B2010 134	Brick Face Cavity Wall	200	
B2010 135	Brick Face Cavity Wall - Insulated Backup	202	
B2010 140	Glass Block	204	
B2010 146	Metal Siding Panel	205	
B2010 148	Panel, Shingle & Lap Siding	206	
B2010 151	Stucco Wall	208	
B2010 152	E.I.F.S.	208	
B2010 154	Metal Siding Support	210	
B2010 160	Pole Barn Exterior Wall	211	
B2020 Exterior Windows			
B2020 102	Wood Windows	212	
B2020 104	Steel Windows	213	
B2020 106	Aluminum Windows	213	
B2020 108	Vinyl Clad Windows	214	
B2020 210	Tubular Aluminum Framing	215	
B2020 220	Curtain Wall Panels	216	
B2030 Exterior Doors			
B2030 110	Glazed Doors, Steel or Aluminum	217	
B2030 210	Wood Doors	218	
B2030 220	Steel Doors	218	
B2030 230	Aluminum Doors	219	
B3010 Roof Coverings			
B3010 105	Built-Up	220	
B3010 120	Single Ply Membrane	221	
B3010 130	Preformed Metal Roofing	221	
B3010 135	Formed Metal	221	
B3010 140	Shingle & Tile	222	
B3010 320	Roof Deck Rigid Insulation	223	
B3010 410	Base Flashing	223	
B3010 420	Roof Edges	224	
B3010 430	Flashing	224	
B3010 610	Gutters	225	
B3010 620	Downspouts	225	
B3010 630	Gravel Stop	225	

Table of Contents

<i>Table No.</i>	<i>Page</i>	<i>Table No.</i>	<i>Page</i>
B3020 Roof Openings			
B3020 110 Skylights	226	D2010 410 Kitchen Sink Systems	254
B3020 210 Hatches	226	D2010 420 Laundry Sink Systems	255
C INTERIORS		D2010 430 Laboratory Sink Systems	255
C1010 Partitions		D2010 440 Service Sink Systems	255
C1010 102 Concrete Block Partitions - Regular Weight	228	D2010 510 Bathtub Systems	256
C1010 104 Concrete Block Partitions - Lightweight	229	D2010 610 Group Wash Fountain Systems	256
C1010 124 Drywall Partitions/Wood Stud Framing	230	D2010 710 Shower Systems	257
C1010 126 Drywall Partitions/Metal Stud Framing	231	D2010 810 Drinking Fountain Systems	257
C1010 128 Drywall Components	233	D2010 820 Water Cooler Systems	258
C1010 144 Plaster Partition Components	234	D2010 920 Two Fixture Bathroom, Two Wall Plumbing	259
C1010 205 Partitions	235	D2010 922 Two Fixture Bathroom, One Wall Plumbing	259
C1020 Interior Doors		D2010 924 Three Fixture Bathroom, One Wall Plumbing	259
C1020 102 Special Doors	236	D2010 926 Three Fixture Bathroom, Two Wall Plumbing	259
C1030 Fittings		D2020 Domestic Water Distribution	
C1030 110 Toilet Partitions	237	D2020 220 Gas Fired Water Heaters - Residential Systems	260
C1030 310 Storage Specialties, EACH	238	D2020 230 Oil Fired Water Heaters - Residential Systems	260
C1030 510 Identifying/Visual Aid Specialties, EACH	238	D2020 240 Electric Water Heaters - Commercial Systems	261
C1030 520 Identifying/Visual Aid Specialties, S.F.	238	D2020 250 Gas Fired Water Heaters - Commercial Systems	262
C1030 710 Bath and Toilet Accessories, EACH	238	D2020 260 Oil Fired Water Heaters - Commercial Systems	263
C1030 730 Bath and Toilet Accessories, L.F.	239	D2040 Rain Water Drainage	
C1030 830 Fabricated Cabinets, EACH	239	D2040 210 Roof Drain Systems	264
C1030 830 Fabricated Counters, L.F.	239	D3010 Energy Supply	
C1030 910 Other Fittings, EACH	239	D3010 510 Apartment Building Heating - Fin Tube Radiation	265
C2010 Stair Construction		D3010 520 Commercial Building Heating - Fin Tube Radiation	265
C2010 110 Stairs	240	D3010 530 Commercial Bldg. Heating - Terminal Unit Heaters	265
C3010 Wall Finishes		D3020 Heat Generating Systems	
C3010 230 Paint & Covering	241	D3020 102 Small Heating Systems, Hydronic, Electric Boilers	266
C3010 235 Paint Trim	242	D3020 104 Large Heating Systems, Hydronic, Electric Boilers	266
C3020 Floor Finishes		D3020 106 Boilers, Hot Water & Steam	267
C3020 410 Tile & Covering	243	D3020 108 Heating Systems, Unit Heaters	268
C3020 600 Bases, Curbs & Trim	244	D3020 110 Heating System, Fin Tube Radiation	269
C3030 Ceiling Finishes		D3030 Cooling Generating Systems	
C3030 105 Plaster Ceilings	246	D3030 110 Chilled Water, Air Cooled Condenser Systems	270
C3030 110 Drywall Ceilings	246	D3030 115 Chilled Water, Cooling Tower Systems	272
C3030 140 Plaster Ceiling Components	247	D3050 Terminal & Package Units	
C3030 210 Acoustical Ceilings	247	D3050 150 Rooftop Single Zone Unit Systems	274
C3030 240 Acoustical Ceiling Components	248	D3050 160 Self-contained, Water Cooled Unit Systems	276
D SERVICES		D3050 165 Self-contained, Air Cooled Unit Systems	278
D1010 Elevators and Lifts		D3050 170 Split Systems With Air Cooled Condensing Units	280
D1010 110 Hydraulic	250	D3090 Other HVAC Systems/Equip	
D2010 Plumbing Fixtures		D3090 320 Garage Exhaust Systems	282
D2010 110 Water Closet Systems	252	D4010 Sprinklers	
D2010 120 Water Closets, Group	252	D4010 310 Dry Pipe Sprinkler Systems	283
D2010 210 Urinal Systems	252	D4010 410 Wet Pipe Sprinkler Systems	287
D2010 310 Lavatory Systems	253	D4020 Standpipes	
		D4020 310 Wet Standpipe Risers, Class I	289
		Wet Standpipe Risers, Class II	289
		Wet Standpipe Risers, Class III	289

Table of Contents

Table No.		Page
D4020 330	Dry Standpipe Risers, Class I	290
	Dry Standpipe Risers, Class II	290
	Dry Standpipe Risers, Class III	290
D4020 410	Fire Hose Equipment	291
D4090 Other Fire Protection Systems		
D4090 910	Fire Suppression Unit Components	292
D4090 920	FM200 Systems	292
D5010 Electrical Service/Distribution		
D5010 120	Overhead Electric Service, 3 Phase - 4 Wire	293
D5010 130	Underground Electric Service	294
D5010 230	Feeder Installation	295
D5010 240	Switchgear	296
D5010 250	Panelboard	297
D5020 Lighting and Branch Wiring		
D5020 110	Receptacle (by Wattage)	298
D5020 115	Receptacles, Floor	298
D5020 130	Wall Switch by Sq. Ft.	299
D5020 135	Miscellaneous Power	299
D5020 140	Central A. C. Power (by Wattage)	299
D5020 145	Motor Installation	300
D5020 155	Motor Feeder	301
D5020 210	Fluorescent Fixtures (by Wattage)	302
D5020 216	Incandescent Fixture (by Wattage)	302
D5020 226	H.I.D. Fixture, High Bay, 16' (by Wattage)	302
D5020 234	H.I.D. Fixture, High Bay, 30' (by Wattage)	303
D5020 238	H.I.D. Fixture, Low Bay, 8'-10' (by Wattage)	304
D5020 242	H.I.D. Fixture, Low Bay, 16' (by Wattage)	304
D5030 Communications and Security		
D5030 910	Communication & Alarm Systems	305
D5090 Other Electrical Systems		
D5090 210	Generators (by kW)	306
E EQUIPMENT & FURNISHINGS		
E1010 Commercial Equipment		
E1010 110	Security/Vault, EACH	308
E1010 510	Mercantile Equipment, EACH	308
E1010 610	Laundry/Dry Cleaning, EACH	308
E1020 Institutional Equipment		
E1020 110	Ecclesiastical Equipment, EACH	309
E1020 130	Ecclesiastical Equipment, L.F.	309
E1020 210	Library Equipment, EACH	309
E1020 230	Library Equipment, L.F.	309
E1020 310	Theater and Stage Equipment, EACH	309
E1020 320	Theater and Stage Equipment, S.F.	309
E1020 330	Theater and Stage Equipment, L.F.	309
E1020 610	Detention Equipment, EACH	310
E1020 710	Laboratory Equipment, EACH	310
E1020 720	Laboratory Equipment, S.F.	310

Table No.		Page
E1020 730	Laboratory Equipment, L.F.	310
E1020 810	Medical Equipment, EACH	310
E1030 Vehicular Equipment		
E1030 110	Vehicular Service Equipment, EACH	311
E1030 210	Parking Control Equipment, EACH	311
E1030 310	Loading Dock Equipment, EACH	311
E1090 Other Equipment		
E1090 210	Solid Waste Handling Equipment, EACH	312
E1090 350	Food Service Equipment, EACH	312
E1090 360	Food Service Equipment, S.F.	312
E1090 410	Residential Equipment, EACH	312
E1090 610	School Equipment, EACH	312
E1090 620	School Equipment, S.F.	313
E1090 810	Athletic, Recreational, and Therapeutic Equipment, EA.	313
E1090 820	Athletic, Recreational, and Therapeutic Equipment, S.F.	313
E2010 Fixed Furnishings		
E2010 310	Window Treatment, EACH	314
E2010 320	Window Treatment, S.F.	314
E2010 420	Fixed Floor Grilles and Mats, S.F.	314
E2010 510	Fixed Multiple Seating, EACH	314
E2020 Moveable Furnishings		
E2020 210	Furnishings/EACH	315
E2020 220	Furniture and Accessories, L.F.	315
F SPECIAL CONSTRUCTION		
F1010 Special Structures		
F1010 120	Air-Supported Structures, S.F.	318
F1010 210	Pre-Engineered Structures, EACH	318
F1010 320	Other Special Structures, S.F.	318
F1010 330	Special Structures, EACH	318
F1010 340	Special Structures, S.F.	318
F1020 Integrated Construction		
F1020 110	Integrated Construction, EACH	319
F1020 120	Integrated Construction, S.F.	319
F1020 250	Special Purpose Room, EACH	319
F1020 260	Special Purpose Room, S.F.	319
F1020 330	Special Construction, L.F.	319
F1030 Special Construction Systems		
F1030 120	Sound, Vibration, and Seismic Construction, S.F.	320
F1030 210	Radiation Protection, EACH	320
F1030 220	Radiation Protection, S.F.	320
F1030 910	Other Special Construction Systems, EACH	320
F1040 Special Facilities		
F1040 210	Ice Rinks, EACH	321
F1040 510	Liquid & Gas Storage Tanks, EACH	321
F1040 910	Special Construction, EACH	321

Table of Contents

<i>Table No.</i>	<i>Page</i>
G BUILDING SITEWORK	
G1030 Site Earthwork	
G1030 805 Trenching Common Earth	324
G1030 807 Trenching Sand & Gravel	325
G1030 815 Pipe Bedding	326
G2010 Roadways	
G2010 232 Bituminous Roadways Crushed Stone	327
G2020 Parking Lots	
G2020 210 Parking Lots Gravel Base	328

<i>Table No.</i>	<i>Page</i>
G2040 Site Development	
G2040 810 Flagpoles	329
G2040 950 Other Site Development, EACH	329
G3030 Storm Sewer	
G3030 210 Manholes & Catch Basins	330
G4020 Site Lighting	
G4020 210 Light Pole (Installed)	331

Unit Price Section

Table of Contents

<i>Sect. No.</i>	<i>Page</i>	<i>Sect. No.</i>	<i>Page</i>	<i>Sect. No.</i>	<i>Page</i>
General Requirements					
01 11	Summary of Work	342	06 05	Wood, Plastics & Composites	
01 21	Allowances	342	06 11	Common Work Results for Wood,	
01 31	Project Management			Plastics, and Composites	426
	and Coordination	343	06 12	Wood Framing	433
01 41	Regulatory Requirements	345	06 13	Structural Panels	444
01 45	Quality Control	345	06 16	Heavy Timber Construction	445
01 52	Construction Facilities	345	06 15	Wood Decking	445
01 54	Construction Aids	346	06 17	Sheathing	446
01 56	Temporary Barriers and Enclosures ..	349	06 18	Shop-Fabricated Structural Wood	448
01 66	Product Storage and Handling		06 18	Glued-Laminated Construction	449
	Requirements	350	06 22	Millwork	450
01 71	Examination and Preparation	350	06 25	Prefinished Paneling	462
01 74	Cleaning and Waste Management	350	06 26	Board Paneling	464
01 76	Protecting Installed Construction	350	06 43	Wood Stairs and Railings	464
			06 44	Ornamental Woodwork	466
			06 48	Wood Frames	467
			06 49	Wood Screens and Exterior	
				Wood Shutters	468
02 21	Surveys	352	06 51	Structural Plastic Shapes and Plates ..	469
02 32	Geotechnical Investigations	352	06 63	Plastic Railings	470
02 41	Demolition	352	06 65	Plastic Trim	470
02 82	Asbestos Remediation	357	06 73	Composite Decking	471
02 83	Lead Remediation	361	06 81	Composite Railings	472
02 87	Biohazard Remediation	362		Thermal & Moisture Protection	
			07 01	Operation and Maint. of Thermal	
				and Moisture Protection	474
			07 05	Common Work Results for Thermal	
				and Moisture Protection	474
03 01	Concrete		07 11	Dampproofing	476
	Maintenance of Concrete	366	07 19	Water Repellents	476
03 05	Common Work Results		07 21	Thermal Insulation	476
	for Concrete	366	07 22	Roof and Deck Insulation	480
03 11	Concrete Forming	366	07 24	Exterior Insulation	
03 15	Concrete Accessories	370		and Finish Systems	482
03 21	Reinforcement Bars	372	07 25	Weather Barriers	482
03 22	Fabric and Grid Reinforcing	373	07 26	Vapor Retarders	482
03 23	Stressed Tendon Reinforcing	373	07 27	Air Barriers	483
03 24	Fibrous Reinforcing	374	07 31	Shingles and Shakes	483
03 30	Cast-In-Place Concrete	375	07 32	Roof Tiles	485
03 31	Structural Concrete	375	07 41	Roof Panels	486
03 35	Concrete Finishing	377	07 42	Wall Panels	487
03 39	Concrete Curing	379	07 46	Siding	488
03 41	Precast Structural Concrete	380	07 51	Built-Up Bituminous Roofing	491
03 48	Precast Concrete Specialties	380	07 52	Modified Bituminous	
03 54	Cast Underlayment	380		Membrane Roofing	492
03 63	Epoxy Grouting	381	07 53	Elastomeric Membrane Roofing	493
03 82	Concrete Boring	381	07 54	Thermoplastic Membrane Roofing ..	494
			07 57	Coated Foamed Roofing	495
			07 58	Roll Roofing	495
			07 61	Sheet Metal Roofing	495
			07 65	Flexible Flashing	496
			07 71	Roof Specialties	498
			07 72	Roof Accessories	502
			07 76	Roof Pavers	503
			07 81	Applied Fireproofing	503
			07 84	Firestopping	504
			07 91	Preformed Joint Seals	505
			07 92	Joint Sealants	506
				Openings	
			08 01	Operation and Maintenance	
				of Openings	510
			08 05	Common Work Results	
				for Openings	511
			08 11	Metal Doors and Frames	512
			08 12	Metal Frames	513
			08 13	Metal Doors	516
			08 14	Wood Doors	519
			08 16	Composite Doors	521
			08 17	Integrated Door	
				Opening Assemblies	522
			08 31	Access Doors and Panels	524
			08 32	Sliding Glass Doors	525
			08 33	Coiling Doors and Grilles	526
			08 34	Special Function Doors	528
			08 36	Panel Doors	529
			08 38	Traffic Doors	529
			08 41	Entrances and Storefronts	530
			08 42	Entrances	531
			08 43	Storefronts	531
			08 45	Translucent Wall	
				and Roof Assemblies	532
			08 51	Metal Windows	532
			08 52	Wood Windows	534
			08 53	Plastic Windows	540
			08 54	Composite Windows	543
			08 61	Roof Windows	543
			08 62	Unit Skylights	544
			08 63	Metal-Framed Skylights	545
			08 71	Door Hardware	546
			08 75	Window Hardware	556
			08 79	Hardware Accessories	557
			08 81	Glass Glazing	558
			08 83	Mirrors	559
			08 84	Plastic Glazing	559
			08 85	Glazing Accessories	560
			08 87	Glazing Surface Films	560
			08 88	Special Function Glazing	562
			08 91	Louvers	564
			08 95	Vents	566
				Finishes	
			09 01	Maintenance of Finishes	568
			09 05	Common Work Results	
				for Finishes	570
			09 22	Supports for Plaster	
				and Gypsum Board	572
			09 23	Gypsum Plastering	575
			09 24	Cement Plastering	576
			09 25	Other Plastering	576
			09 26	Veneer Plastering	577
			09 29	Gypsum Board	577
			09 30	Tiling	581
			09 31	Thin-Set Tiling	581
			09 32	Mortar-Bed Tiling	583
			09 34	Waterproofing-Membrane Tiling	584
			09 35	Chemical-Resistant Tiling	584
			09 51	Acoustical Ceilings	585
			09 53	Acoustical Ceiling	
				Suspension Assemblies	586
			09 54	Specialty Ceilings	587
			09 61	Flooring Treatment	587
			09 62	Specialty Flooring	588
			09 63	Masonry Flooring	588
			09 64	Wood Flooring	589
			09 65	Resilient Flooring	590
			09 66	Terrazzo Flooring	592
			09 67	Fluid-Applied Flooring	594
			09 68	Carpeting	594
			09 72	Wall Coverings	595
			09 74	Flexible Wood Sheets	596
			09 77	Special Wall Surfacing	597
			09 81	Acoustic Insulation	598
			09 84	Acoustic Room Components	598
			09 91	Painting	598
			09 93	Staining and Transparent Finishing ..	611
			09 96	High-Performance Coatings	611
			09 97	Special Coatings	612
				Specialties	
			10 11	Visual Display Units	616
			10 13	Directories	617
			10 14	Signage	617
			10 17	Telephone Specialties	619
			10 21	Compartments and Cubicles	619
			10 22	Partitions	623
			10 26	Wall and Door Protection	624
			10 28	Toilet, Bath,	
				and Laundry Accessories	625
			10 31	Manufactured Fireplaces	627
			10 43	Emergency Aid Specialties	628

Reference Section

All the reference information is in one section, making it easy to find what you need to know . . . and easy to use the data set on a daily basis. This section is visually identified by a vertical black bar on the page edges.

In this Reference Section, we've included Equipment Rental Costs, a listing of rental and operating costs; Crew Listings, a full listing of all crews and equipment, and their costs; Historical Cost Indexes for cost comparisons over time; Location Factors for adjusting costs to the region you are in; Reference Tables, where you will find explanations, estimating information and procedures, or technical data; Change Orders, information on pricing changes to contract documents; and an explanation of all the Abbreviations in the data set.

Table of Contents

Construction Equipment Rental Costs	805
Crew Listings	817
Historical Cost Indexes	852
Location Factors	860
Reference Tables	866
R01 General Requirements.....	866
R02 Existing Conditions	878
R03 Concrete.....	880
R04 Masonry	897
R05 Metals	899
R06 Wood, Plastics & Composites	903
R07 Thermal & Moisture Protection	903
R08 Openings.....	905
R09 Finishes	908
R13 Special Construction	911

Reference Tables (cont.)

R22 Plumbing	911
R23 Heating, Ventilating & Air Conditioning.....	912
R26 Electrical.....	912
R31 Earthwork	914
R32 Exterior Improvements.....	916
R33 Utilities.....	916
Change Orders	917
Project Costs	921
Abbreviations	926