



GORDIAN®

Electrical Costs

with RSMeans data

2023

46th annual edition



Electrical Costs with RSMMeans data

Antonio D'Aulerio, Senior Editor

2023

46th annual edition

Chief Technology Officer

Chris Gaudreau

Chief Product Officer

Ted Kail

Director, Data Operations

Sam Giffin

Principal Engineer

Bob Mewis

Engineering and Research

Matthew Doheny, Sr. Manager

Engineers: Architectural Divisions

1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 41

Sam Babbitt

Stephen Bell

Sergeleen Edouard

Richard Goldin

Scott Keller

Thomas Lane

Engineers: Civil Divisions and Wages

2, 31, 32, 33, 34, 35, 44, 46

Derrick Hale, PE

Christopher Babbitt

Michael Lynch

Elisa Mello

Giles Munyard

David Yazbek

Engineers: Mechanical, Electrical, Plumbing & Conveying Divisions

14, 21, 22, 23, 25, 26, 27, 28, 48

Joseph Kelble

Brian Adams

Michelle Curran

Antonio D'Aulerio

Thomas Lyons

Jake MacDonald

Contributing Engineers

John Melin, PE, Manager

Paul Cowan

Barry Hutchinson

Gerard Lafond, PE

Matthew Sorrentino

Production

Debra Panarelli, Manager

Jonathan Forgit

Sheryl Rose

Janice Thalini

Data Quality

Patrice Bruesch, QA Lead and Testing Strategist, Technology

David Byars

Ellen D'Amico

Cover Design

Blaire Collins

Data Management Ecosystem

Audrey Considine

Kedar Gaikwad

Todd Glowac

Srini Narla



RSMMeans data from Gordian

Construction Publishers & Consultants

30 Patewood Dr., Suite 350

Greenville, SC 29615

United States of America

1.800.448.8182

rsmeans.com

Copyright 2022 by The Gordian Group Inc.

All rights reserved.

Cover photo © iStock.com/roman023

Printed in the United States of America

ISSN 1540-6318

ISBN 978-1-955341-54-7

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.

0033

\$362.00 per copy (in United States)

Price is subject to change without prior notice.

Table of Contents

Foreword	iv
How the Cost Data Is Built: An Overview	v
Estimating with RSMMeans data: Unit Prices	vii
How to Use the Cost Data: The Details	ix
Unit Price Section	1
RSMMeans data: Unit Prices—How They Work	2
Assemblies Section	387
RSMMeans data: Assemblies—How They Work	388
Reference Section	471
Construction Equipment Rental Costs	473
Crew Listings	485
Historical Cost Indexes	522
City Cost Indexes	523
Location Factors	566
Reference Tables	572
Change Orders	642
Project Costs	645
Abbreviations	650
Index	654
Training Class Options	674
Labor Trade Rates including Overhead & Profit	Inside Back Cover

Assemblies Section

Table of Contents

<i>Table No.</i>	<i>Page</i>
D SERVICES	
D2020 Domestic Water Distribution	
D2020 210 Electric Water Heaters - Residential Systems	394
D2020 240 Electric Water Heaters - Commercial Systems	395
D3020 Heat Generating Systems	
D3020 102 Small Heating Systems, Hydronic, Electric Boilers	396
D3020 104 Large Heating Systems, Hydronic, Electric Boilers	397
D4090 Other Fire Protection Systems	
D4090 910 Fire Suppression Unit Components	398
D4090 920 FM200 Systems	398
D5010 Electrical Service/Distribution	
D5010 110 High Voltage Shielded Conductors	399
D5010 120 Overhead Electric Service, 3 Phase - 4 Wire	400
D5010 130 Underground Electric Service	402
D5010 230 Feeder Installation	404
D5010 240 Switchgear	405
D5010 250 Panelboard	406
D5020 Lighting and Branch Wiring	
D5020 110 Receptacle (by Wattage)	408
D5020 115 Receptacles, Floor	409
D5020 120 Receptacles & Wall Switches	410
D5020 125 Receptacles & Switches by Each	411
D5020 130 Wall Switch by Sq. Ft.	412
D5020 135 Miscellaneous Power	413
D5020 140 Central A. C. Power (by Wattage)	414
D5020 145 Motor Installation	415
D5020 155 Motor Feeder	417
D5020 160 Magnetic Starter	418
D5020 165 Safety Switches	419
D5020 170 Motor Connections	420
D5020 175 Motor & Starter	421
D5020 208 Fluorescent Fixtures (by Type)	427
D5020 210 Fluorescent Fixtures (by Wattage)	428
D5020 214 Incandescent Fixture (by Type)	429
D5020 216 Incandescent Fixture (by Wattage)	430
D5020 218 Fluorescent Fixture, High Bay, 8'-10' (by Wattage)	431
D5020 220 H.I.D. Fixture, High Bay, 8'-10' (by Type)	432

<i>Table No.</i>	<i>Page</i>
D5020 222 H.I.D. Fixture, High Bay, 8'-10' (by Wattage)	433
D5020 224 H.I.D. Fixture, High Bay, 16' (by Type)	434
D5020 226 H.I.D. Fixture, High Bay, 16' (by Wattage)	435
D5020 228 H.I.D. Fixture, High Bay, 20' (by Type)	436
D5020 230 H.I.D. Fixture, High Bay, 20' (by Wattage)	437
D5020 232 H.I.D. Fixture, High Bay, 30' (by Type)	438
D5020 234 H.I.D. Fixture, High Bay, 30' (by Wattage)	439
D5020 236 H.I.D. Fixture, Low Bay, 8'-10' (by Type)	440
D5020 238 H.I.D. Fixture, Low Bay, 8'-10' (by Wattage)	441
D5020 240 H.I.D. Fixture, Low Bay, 16' (by Type)	442
D5020 242 H.I.D. Fixture, Low Bay, 16' (by Wattage)	443
D5020 290 Daylight Dimming System	444
D5020 295 Lighting On/Off Control System	445
D5030 Communications and Security	
D5030 310 Telephone Systems	446
D5030 810 Security & Detection Systems	446
D5030 910 Communication & Alarm Systems	447
D5030 920 Data Communication	448
D5090 Other Electrical Systems	
D5090 210 Generators (by kW)	449
D5090 420 Photovoltaic Power System, Stand Alone	451
D5090 430 Photovoltaic Power System, Grid Connected	452
D5090 480 Energy Monitoring Systems	453
D5090 510 Electric Baseboard Radiation (Low Density)	454
D5090 520 Electric Baseboard Radiation (Medium Density)	455
G BUILDING SITEWORK	
G1030 Site Earthwork	
G1030 805 Trenching Common Earth	458
G1030 806 Trenching Loam & Sandy Clay	460
G1030 807 Trenching Sand & Gravel	462
G4010 Electrical Distribution	
G4010 312 Underground Power Feed	464
G4010 320 Underground Electrical Conduit	465
G4020 Site Lighting	
G4020 110 Site Lighting	468
G4020 210 Light Pole (Installed)	470

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, equipment, and their costs; Historical Cost Indexes for cost comparisons over time; City Cost Indexes and Location Factors for adjusting costs to the region you are in; Reference Tables, where you will find explanations, estimating information and procedures, and technical data; and an explanation of all the Abbreviations in the data set.

Table of Contents

Construction Equipment Rental Costs	473
Crew Listings	485
Historical Cost Indexes	522
City Cost Indexes	523
Location Factors	566
Reference Tables	572
R01 General Requirements.....	572
R02 Existing Conditions	584
R05 Metals	585
R07 Thermal & Moisture Protection	585

Reference Tables (cont.)

R22 Plumbing	586
R23 Heating, Ventilating & Air Conditioning.....	588
R26 Electrical.....	590
R27 Communications	638
R31 Earthwork	639
R33 Utilities.....	640
Change Orders	642
Project Costs	645
Abbreviations	650