



CWI
SEMINAR

AWS D1.1

CODE CLINIC

STUDY GUIDE

2020 EDITION



Foreword

The American Welding Society's Education and Training department has published the D1.1 Code Clinic Study Guide to help CWI exam candidates and other welding professionals understand, navigate, and apply AWS D1.1/D1.1M *Structural Welding Code - Steel*.

The information in this Study Guide is organized into three units. Unit 1 serves as a primer on the D1.1 code book and how to prepare for the exam. Unit 2 provides a detailed overview of each clause in the D1.1 code book. A set of practice exercises are provided at the end of each clause. Lastly, Unit 3 is dedicated to additional study and preparation. It includes four "mini" practice tests and a full-length practice exam. Collectively, these will help you get familiar with the types of questions you're likely to encounter on Part C (Code Book Applications) of the CWI exam, gauge your retention of the content, and identify subject areas where you may need to focus your efforts.

In order to utilize this Study Guide as effectively as possible, it is recommended that you use it in conjunction with your code book and refer to the corresponding text, tables, or figures as they are referenced. Please note that this edition of the Study Guide was specifically written for the D1.1 code book published in 2020 (24th Edition). As such, the page numbers referenced in this publication may not match those of subsequent printings or addenda.

It's also important to stress that the D1.1 code is a very lengthy and technical document. Your primary focus should be on *using* the code book — not memorizing its contents. Trying to selectively recall information from a 600+ page standard is neither desirable or necessary.

Every effort has been made to ensure that this Study Guide is an accurate, easy-to-use, and effective preparation tool for the D1.1 code book exam. If you have any questions or comments regarding this (or any) AWS educational publication or program, we would like to hear your thoughts.

Please submit your inquiries and/or feedback to:

American Welding Society
Education and Training Department, 2nd Floor
8669 NW 36th Street, Suite #130
Miami, Florida 33166-6672

You can also contact the Education and Training department via e-mail at aws.seminars@aws.org.

Additional information on AWS products and services may be found on our website at www.aws.org.

Table of Contents

Foreword	iii
Unit 1: Exam Preparation	
Chapter 1 - Introduction to the D1.1 Study Guide	3
Chapter 2 - Code Book Exam Breakdown	9
Chapter 3 - Overview of the D1.1 Code	17
Chapter 4 - Text, Tables, and Figures	25
Chapter 5 - Table of Contents and Index	45
Chapter 6 - Attacking the Question	57
Chapter 7 - Preparing for the Exam	67
Unit 2: D1.1 Clause Breakdown	
Clause 1 - General Requirements	77
Practice Exercises	84
Clause 2 - Normative References	85
Practice Exercises	87
Clause 3 - Terms and Definitions	89
Practice Exercises	93
Clause 4 - Design of Welded Connections	95
Practice Exercises	111
Clause 5 - Prequalification of WPSs	115
Practice Exercises	152
Clause 6 - Qualification	155
Practice Exercises	197
Clause 7 - Fabrication	201
Practice Exercises	221
Clause 8 - Inspection	223
Practice Exercises	241
Clause 9 - Stud Welding	245
Practice Exercises	254
Clause 10 - Tubular Structures	257
Practice Exercises	278
Clause 11 - Strengthening and Repair of Existing Structures	281
Practice Exercises	285

Unit 3: Practice Exams

Mini-Test 1	290
Mini-Test 2	296
Mini-Test 3	302
Mini-Test 4	308
Full-Length Practice Exam	314
Answer Keys	323