



NECA 407-2015

Standard for

Installing and Maintaining Panelboards

AN AMERICAN NATIONAL STANDARD

Currently in preview, click buy full version



Published by
National Electrical Contractors Association

NECA 407-2015

Standard for

Installing and Maintaining Panelboards

**An American
National Standard**



Published by
National Electrical
Contractors Association



| Revision History | |
|------------------------------------|---------|
| NECA 407-2006 originally published | 04/2002 |
| NECA 407-2006 revised | 12/2009 |
| NECA 407-2014 revised | 02/2015 |

NOTICE OF COPYRIGHT

This document is copyrighted by NECA

Reproduction of these documents either in hard copy or soft (including posting on the web) is prohibited without copyright permission. For copyright permission to reproduce portions of this document, please contact NECA Standards & Safety at (301) 657-3110 ext. 546, or send a fax to (301) 215-4500.

CP

National Electrical Contractors Association
3 Bethesda Metro Center, Suite 1100
Bethesda, Maryland 20814
(301) 657-3110

Table of Contents

- Foreword..... v**
- 1. Scope 1**
 - 1.1 Products and Applications Included 1
 - 1.2 Products and Applications Excluded..... 1
 - 1.3 Regulatory and Other Requirements 1
 - 1.4 Mandatory Requirements, Permissive Requirements, Quality and Performance Recommendations, Explanatory Material, and Informative Annexes 1
- 2. Definitions 3**
- 3. Safety Procedures 4**
 - 3.1 General 4
 - 3.2 Safe Work Practices..... 4
 - 3.3 Personal Protective Equipment (PPE)..... 5
 - 3.4 De-Energizing Electrical Equipment..... 5
- 4. Receiving, Inspecting, Handling and Storage 6**
 - 4.1 Receiving 6
 - 4.2 Inspection..... 6
 - 4.3 Handling..... 6
 - 4.4 Storage 6
- 5. Installation 8**
 - 5.1 General 8
 - 5.2 Environmental Considerations 8
 - 5.3 Installation of Cabinets 8
 - 5.4 Installation of Raceways and Cables 9
 - 5.5 Installation of Panelboards 9
 - 5.6 Installation of Conductors 10
 - 5.7 Grounding and Bonding..... 11
 - 5.8 Accessories 12
 - 5.9 Panelboard Pre-Checks 12
- 6. Cleaning, Testing, and Commissioning 13**
 - 6.1 Cleaning..... 13
 - 6.2 Inspections 13
 - 6.3 Acceptance Testing..... 14
 - 6.4 Installation of the Front Cover..... 14
 - 6.5 Energizing Panelboards..... 15

6.6 Balancing Loads 15

7. Closeout..... 17

7.1 Test Data and Manuals 17

7.2 Training 17

7.3 Spare Parts and Special Tools 17

8. Inspections and Maintenance 18

8.1 Frequency of Inspections and Maintenance..... 18

8.2 Record Keeping 18

8.3 Routine Inspections 18

8.4 Cleaning..... 19

8.5 Infrared Scan..... 19

8.6 Inspections 19

8.7 Terminations, Connections, and Lugs 20

8.8 Conductors and Raceways 20

8.9 Switches 20

8.10 Circuit Breakers..... 21

8.11 Electrical Tests 22

8.12 Re-energizing Panelboards 22

9. Inspection and Re-Energization After Adverse Operating Conditions..... 23

9.1 Inspection and Testing Following a Short-Circuit or Ground-Fault..... 23

9.2 Panelboards Soaked By or Submersed Under Water 23

10. Testing Procedures 25

10.1 Insulation Resistance Testing 25

10.2 Ground Resistance Testing 25

10.3 Primary Current Injection Testing of Circuit Breakers (Optional) 25

10.4 Infrared Scan..... 26

Annex A: Reference Standards 27