

GENERAL SPECIFICATIONS

INTRODUCTION
THE CONTRACTING FOR INSTALLATION OF THE ELECTRICAL SYSTEM WILL BE ACCOMPLISHED IN THE FIELD AT THE DIVISION LEVEL. THESE SPECIFICATIONS ARE TO AID IN PREPARATION OF DIVISION LEVELS, STORE PLANS AND CONTRACT DOCUMENTS. IN CASE OF A CONFLICT BETWEEN THIS SPECIFICATION AND THE CONTRACT DOCUMENTS PROVIDED BY THE DIVISION CONSTRUCTION MANAGER, THE DIVISION'S PLANS AND SPECIFICATIONS SHALL PREVAIL.
DEFINITIONS
THE FOLLOWING DEFINITIONS APPLY TO THIS PROJECT.
FURNISH - TO SUPPLY THE MATERIAL NECESSARY TO PERFORM THE TASK.
INSTALL - TO SUPPLY THE LABOR NECESSARY TO COMPLETE THE TASK.
PROVIDE - TO FURNISH AND INSTALL MATERIAL AND LABOR TO COMPLETE THE TASK.

WIRING METHODS

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. WIRE AND CABLE.
2. CONDUIT.
3. OUTLET BOXES AND CONDUIT FITTINGS.
4. WIRING DEVICES.
1.2 REFERENCES
A. THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED. PUBLICATIONS ARE REFERENCED WITHIN THE TEXT BY THE BASIC DESIGNATION ONLY.
B. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):
1. NFPA 70 - NATIONAL ELECTRICAL CODE (NEC).
C. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA):
1. UNDERWRITERS LABORATORIES (UL):
1. UL 1569 - METAL CLAD CABLES.

PANELBOARDS

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. LIGHTING/APPLIANCE PANELBOARDS.
B. RELATED REQUIREMENTS:
1. SECTION 16060 - BASIC ELECTRICAL MATERIALS AND METHODS, GROUNDING.
1.2 REFERENCES
A. NATIONAL ELECTRICAL CODE (NFPA-70) AND INTERIM AMENDMENTS IN EFFECT.
1.3 QUALITY ASSURANCE
A. COMPLY WITH NATIONAL ELECTRICAL CODE.
B. COMPLY WITH LOCAL AND STATE, UTILITY REGULATIONS AND LAWS.
1.4 SYSTEM DESCRIPTION
A. ELECTRICAL SYSTEM VOLTAGES: THE FOLLOWING VOLTAGES SHALL APPLY UNLESS OTHERWISE NOTED.
1. RECEPTACLE AND SMALL POWER SYSTEMS: 208Y/120 VOLT, 3 PHASE, 4 WIRE WYE, 60 HZ, SOLID GROUNDING NEUTRAL.

GENERAL NOTES

1. PROVIDE SEALS AT RACEWAY PENETRATIONS AS FOLLOWS:
A. FIRE RATED WALLS: SEAL WITH SEALANT HAVING A T-RATING TO MATCH OR EXCEED WALL RATING.
B. EXTERIOR: REFER TO ARCHITECTURAL DOCUMENTS FOR SEALING REQUIREMENTS AT ALL EXTERIOR MOUNTED DEVICES, FIXTURES, ENCLOSURES, AND RACEWAY PENETRATIONS.
2. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZE PER NEC) IN PVC TYPE CONDUIT, POWER CIRCUITS, ISOLATED GROUND CIRCUITS, OR AS SHOWN ON PLANS. CONDUIT SHALL BE SIZED PER NEC BASED ON THWN 800 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
A. SWITCHES +48"
B. RECEPTACLES +20"
C. VOICE/DATA +20"

SYMBOL LEGEND

Table with 2 columns: SYMBOL and DESCRIPTION. Lists various electrical symbols and their corresponding descriptions, such as EXIT FIXTURE, SWITCH, DIMMER, and various types of receptacles.

MATERIALS AND METHODS

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. ELECTRICAL IDENTIFICATION
2. HANGERS AND SUPPORTS
3. CONDUIT SLEEVES
4. GROUNDING AND BONDING
PRODUCTS
1.2 ELECTRICAL IDENTIFICATION
A. NAMEPLATES: PROVIDE LAMINATED PLASTIC NAMEPLATES WITH 3/4 INCH MINIMUM CONTRASTING_COLOR ENGRAVED LETTERS.
1.3 HANGERS AND SUPPORTS
A. CONDUIT AND EQUIPMENT SUPPORTS: HANGERS SHALL BE SERIES P3000 OR P3030 CHANNELS W/ UNISTRUT DEPENDING ON LOAD AND SPAN INVOLVED. USE PIPE HANGERS BY MINERALLAC, OR CADDY CLIPS BY CADDY ONLY WHEN IMPRACTICAL TO INSTALL UNISTRUT HANGERS.
B. ATTACH HANGERS AND SUPPORTS TO STRUCTURE OVERHEAD BY METHODS APPROVED AT JOB SITE. DO NOT USE FASTENERS WHICH PENETRATE THE ROOF DECK.

PART 2 - EXECUTION
2.1 INSTALLATION
A. INSTALL SPECIFIED MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
B. CUTTINGS AND PATCHINGS: WHERE CUTTING IS REQUIRED THROUGH WALLS, FLOORS, OR CEILINGS, MAKE OPENINGS NO LARGER THAN REQUIRED AND PATCH TO MATCH ADJACENT SURFACES.
C. ELECTRICAL EQUIPMENT SUPPORTS: SUPPORT ELECTRICAL EQUIPMENT WITH HANGERS AND SUPPORTS SPECIFIED ABOVE OR IN ANOTHER APPROVED MANNER WHERE DETAILS ARE NOT INDICATED.
D. SLEEVES: INSTALL WIRELESS CONDUITS PASS THROUGH CONCRETE FLOORS, CAULK SLEEVES THROUGH OUTSIDE WALLS ABOVE GRADE WITH SEALANT.
E. FASTENING AND ANCHORING: FASTEN CONDUIT STRAPS, DISCONNECT SWITCHES, PANELBOARDS, AND OTHER EQUIPMENT SECURED TO WALLS AND SLABS WITH CADMIUM PLATED SCREWS OR BOLTS AND LEAD CINCH ANCHORS OR EXPANSION BOLTS AND INSTALL IN HOLES DRILLED WITH PROPER SIZE MASONRY DRILL. PROTECT HOLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR LOAD TO BE SUPPORTED.
F. TORQUE ALL CONDUCTOR CONNECTION TO MANUFACTURER'S RECOMMENDED VALUES. INSPECT PANELBOARDS FOR PHYSICAL DAMAGE, PROPER ALIGNMENT, ANCHORAGE, AND GROUNDING. CHECK PROPER INSTALLATION AND TIGHTNESS OF CONNECTIONS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES, AND FUSES.

SAFETY SWITCHES

PART 1 - GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. SAFETY DISCONNECT SWITCHES.
1.2 REFERENCES
A. THE PUBLICATIONS LISTED BELOW FORM A PART OF THIS SPECIFICATION TO THE EXTENT REFERENCED WITHIN THE TEXT BY THE BASIC DESIGNATION ONLY.
B. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA):
1. NEMA 250 - ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM).
PART 2 - PRODUCTS
2.1 SAFETY SWITCHES
A. SWITCH INTERIOR:
1. DEAD-FRONT CONSTRUCTION WITH HINGED ARC SUPPRESSOR AND SWITCH BLADES WHICH ARE FULLY VISIBLE IN THE OFF POSITION AND WITH DOOR OPEN.
B. SWITCH MECHANISM:
1. QUICK-MAKE AND QUICK-BREAK OPERATING HANDLE AND MECHANISM WITH A QUALITY CENTER INTERLOCK TO PREVENT UNAUTHORIZED OPENINGS OF THE SWITCH DOOR IN THE ON POSITION OR CLOSING THE SWITCH MECHANISM WHILE THE DOOR IS OPEN.
2. PROVIDE ELECTRICAL INTERLOCK SWITCH TO DE-ENERGIZE CONTROL WIRING AS REQUIRED.
3. LINE AND LOAD TERMINALS OF THE DEVICE RATED 100 AMPERES OR LESS SHALL BE RATED FOR 75 DEGREES C.
4. PROVIDE OPERATING HANDLE WITH PROVISIONS FOR INSTALLATION OF A PADLOCK IN "OFF" OR "ON" POSITIONS.
C. RATINGS:
A. GENERAL: SWITCHES HORSEPOWER RATED FOR 600 VOLTS, 60 HZ, HEAVY-DUTY TYPE.
2. WHERE SWITCHES ARE INDICATED TO BE FUSED, FURNISH WITH PROVISIONS FOR FUSES.
D. ENCLOSURES:
1. NEMA 1, CODE GAUGE SHEET STEEL WITH HINGED COVER, EXCEPT WHERE EXPOSED TO WEATHER.
2. IF EXPOSED TO WEATHER, PROVIDE NEMA 3R ENCLOSURE.
PART 3 - EXECUTION
3.1 INSTALLATION
A. INSTALL MOTOR AND CIRCUIT DISCONNECT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. APPLICABLE CODES SHALL TAKE PRECEDENCE OVER DRAWING DETAILS.
B. PROVIDE PROPERLY SIZED GROUNDING LUG AND TERMINATIONS FOR ALL SAFETY SWITCHES.

EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE THE RESPONSIBILITY OF PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

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