

NFPA 70E

This OSHA consensus standard covers electrical safety related work practices and procedures for employees who work on or near exposed energized electrical conductors or circuit parts. Relevant requirements include:

The power must be proven to be off before work can be performed. This includes:

- ▼ *The safe interruption of the load & opening of the disconnect*
- ▼ *Visual verification/voltage testing to ensure deenergization*

The potential electrical hazard must be identified and documented.

- ▼ *Flash hazard analysis must be performed*
- ▼ *Flash protection boundaries must be determined*

Appropriate steps must be taken to protect persons working near live parts or within the flash protection boundary.

- ▼ *Personal Protective Equipment must be provided based on the relevant incident energy exposure levels (cal/cm²)*
- ▼ *Only properly qualified persons shall be allowed to perform work*

See published NFPA 70E standard for complete safety requirements.

Wiring and connection systems utilizing conventional switches and/or pin and sleeve devices would typically require all of the above listed protective measures to comply with NFPA 70E.

In contrast, by using Meltric's DECONTACTOR™ Series plugs & receptacles to connect equipment, users can avoid **ALL** these requirements and procedures.

Meltric Decontactors

Meltric Decontactors are switch rated plugs and receptacles. All Decontactors feature spring-loaded, silver-nickel butt contacts, dead front construction, enclosed arc chambers and short-circuit make and withstand ratings of at least 65kA. They are UL and CSA approved for use as a Motor Circuit Disconnect Switch or a Branch Circuit Disconnect Switch and thus can be used to connect and disconnect resistive or inductive loads.

Decontactors unique features allow users to safely and quickly change-out equipment without the need for NFPA 70E required work procedures and cumbersome PPE.

- ▼ Switch ratings ensure safe load interruption.
- ▼ Removing the plug provides positive visual verification of deenergization without voltage testing.
- ▼ Dead front construction prevents exposure to live parts and maintains NFPA 70E hazard risk category = 0.
- ▼ Plug & play simplicity allows qualified mechanics to quickly change-out motors. Electrical personnel are not required at the job site.

Simple and Safe Push Button Switch Operation



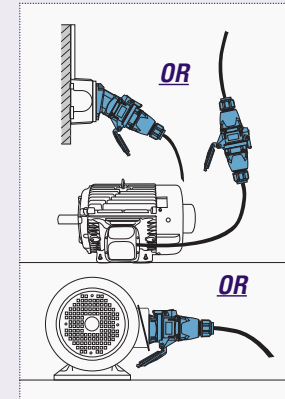
Pressing the pawl (DSN & DS series) breaks the circuit. The plug is ejected to its rest position.



The plug and the receptacle can then be separated. The safety shutter prevents access to live parts.

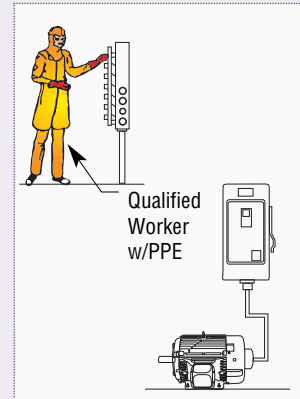
Motor Change-out Process Comparison

Motor Connected with a Meltric Motor Plug



1. Mechanic removes plug from receptacle
2. Apply lockout/tagout as required
3. Mechanic removes old/installs new motor
4. Mechanic inserts plug into receptacle

Motor Hard-Wired to a Bladed Disconnect Switch



1. Electrician opens disconnect switch
2. Determine PPE requirements and obtain
3. Remove disconnect cover
4. Voltmeter test to verify deenergization
5. Apply lockout/tagout
6. Disconnect motor from hard-wiring
7. Mechanic removes old/installs new motor
8. Electrician verifies rotation of motor.
9. Electrician connects motor to hard wiring

Meltric Makes it Safe & Easy

Using **Meltric's DECONTACTOR™ Series Motor Plugs** to connect motors and other electrical equipment instead of hard-wiring can help reduce change-out and downtime costs by as much as **50%**!



Deconnectors Simplify Code Compliance

Meltric Deconnectors simplify NFPA 70E and NEC code compliance. They allow qualified workers to change-out a motor or other electrical equipment without needing...



Flash Hazard Analysis

as required in NFPA 70E 2004 Edition article 130.3



Arc Flash Boundaries

as required in NFPA 70E 2004 Edition article 130.3



Voltage Testing

as required in NFPA 70E 2004 Edition article 120.2 (F)(2)



Cumbersome PPE

as required in NFPA 70E 2004 Edition table 130.7 (C)(10)



Auxiliary Disconnect Switches

as required in NEC 430.102



Mechanical Interlocks

as required for use with non-hp rated plugs and receptacles

Presented by Meltric and:



800.433.7642 • www.meltric.com

NFPA 092503 D



4640 Ironwood Drive
Franklin, WI 53132



Simplify NFPA 70E Code Compliance with...

Meltric
DECONNECTOR™ Series
Plugs, Receptacles
and Electrical
Connectors

