



Field Guide 20



Use, Inspection and Storage of Electrical Extension Cords

DO !

- Use only listed (NRTL approved) extension cords
- Always use three-wire (grounded) cords
- Inspect extension cords before each use
- Use properly rated extension cords for the environment
- Properly store extension cords after use

DON'T !

- Use extension cords to replace permanent facility wiring
- Use undersized cords (based on load)
- Use damaged extension cords
- Run extension cords through doors, ceilings, windows, walls, or under carpet/rugs
- Pull extension cords to unplug

Extension cords are for temporary use only and shall not take the place of permanent wiring. Unless part of a construction project, temporary is defined at Berkeley Lab as not exceeding one calendar month.

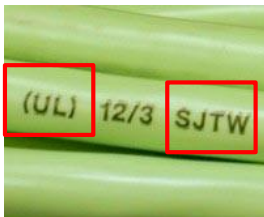
Where equipment is intended to stay in a specific location, and a receptacle is not located close enough to plug in the equipment, submit a work order request to have a receptacle installed where needed.

What to Look For

Extension cords must be inspected before each use.

Cord sets must be listed by a Nationally Recognized Testing Laboratory (NRTL).

Cord sets must be suitable for the environment in which they are used.



See the back side for NRTLs and cord types.

Extension cords must be grounded (3-Prong). Do not cut off the ground prong, or use cords with damaged or missing ground prongs.

There should be no exposed live parts, exposed metal, or splices.

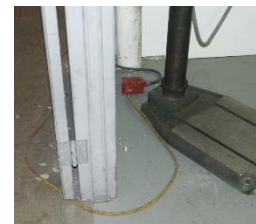
Inspect the cord set for damage such as cracks, frayed wires, or defective plug.

The cord set should not have unusual kinking or spiraling.

If any damage is found, take the cord out of service. Only a QEW may repair an extension cord!

Usage Requirements

Extension cord shall not be run through doorways, windows, or similar openings. Cords shall not be run through holes in walls, structural ceilings, suspended ceilings or floors (even if protected).



Extension cords shall not be permanently attached to buildings, or installed concealed in walls, ceilings, or under carpet or rugs. Cords shall not be installed in conduit or cable tray.

Cords not marked for "Outdoor Use" are to be used indoors. When used outdoors, or for construction, maintenance or repair, cords must be used with a GFCI.

Extension cords must be properly sized for the load being supplied



Two extension cords may be daisy-chained, but must be of the same gauge.

See Table 5.5.15 on reverse side for sizing

Grasp plug to remove, do not yank cord to unplug !

Do not use cords where they present a trip/fall hazard

Cord markings determine the type and service duty of a cord.

Marking	Meaning
S	Hard-service cord, rated for 600 V
SJ	Junior hard-service cord, rated for 300 V
E	Thermoplastic elastomer
T	Thermoplastic
O	Oil-resistant outer jacket
OO	Oil-resistant outer jacket and oil-resistant insulation
W	Weather and water resistant (suitable for outdoor use)

All cord sets, whether for indoor or outdoor use, shall be of hard-service or junior hard-service only and shall have one of the following markings: SOW, SOOW, STW, STOW, STOOW, SEW, SEOW, SEOOW, SJOW, SJOOW, SJTW, SJTOW, SJTOOW, SJEW, SJEOW, or SJEOW.

Cord sets for construction sites shall be of hard-service only and shall have one of the following markings: SOW, SOOW, STW, STOW, STOOW, SEW, SEOW, or SEOOW.

Applied Research Laboratories (ARL) - Recognition terminated 1/28/2008

Canadian Standards Association (CSA) - US, NRTL, NRTL/C

Used for products meeting only U.S. standards

Used for products meeting both U.S. and Canadian standards

Used for gas products

Communication Certification Laboratory, Inc. (CCL)

Curtis Straus LLC (CSL) - Symbol permitted until May 1, 2010

Electrical Reliability Services, Inc. (ERS) - Also known as ETI Conformity Services and formerly Electro-Test, Inc. (ETI) - Recognition terminated 6/23/2008

FM Global Technologies LLC (FM) - Also known as FM Approvals and formerly Factory Mutual Research Corporation

APPROVED

MET Laboratories, Inc. (MET) - Original symbol

Southwest Research Institute (SWRI)

Wyle Laboratories, Inc. (WL)

Intertek Testing Services NA, Inc. (ITNSA) Formerly ETL Testing Laboratories, Inc.

Warrick Hersey - entela

Used for products meeting only U.S. standards

Used for products meeting both U.S. and Canadian standards

NSF International (NSF) - U.S., ELECTRICAL

National Technical Systems Inc. (NTS)

Wyle Laboratories, Inc. (WL)

SGS U.S. Testing Company, Inc. (SGSUS) Formerly U.S. Testing Company, Inc.

USTC

TUV SUD America, Inc. (TUVAM) and TUV SUD Product Services GmbH (TUVPSG)

TUV Rheinland of North America, Inc. (TUV) - Ceased use on or about January 2000

Underwriters Laboratories, Inc. (UL) - LISTED

Where special circumstances require fabrication of a custom cord set, it shall:

- Be fabricated by a Qualified Electrical Worker
- Meet the requirements of wire gauge and length for the load
- Be made only of NRTL-Listed components.
- Be made in accordance with UL 817, Standard for Safety, Cord Sets and Power Supply Cords.

Table 5.5.15 (ESM)

Extension Cord Length (ft)	Nameplate Ampere Rating											
	0-2.0 Amps		2.1-3.4 Amps		3.5-5.0 Amps		5.1-7.0 Amps		7.1-12.0 Amps		12.1-16.0 Amps	
	115	230	115	230	115	230	115	230	115	230	115	230
	V	V	V	V	V	V	V	V	V	V	V	V
25	18	18	18	18	18	18	18	18	16	18	14	16
50	18	18	18	18	18	18	16	18	14	16	12	14
75	18	18	18	18	16	18	14	16	12	14	10	12
100	18	18	16	18	14	16	12	14	10	12	8	10
200	16	18	14	16	12	14	10	12	8	10	6	8
300	14	16	12	14	10	14	8	12	6	10	4	6
400	12	16	10	14	8	12	6	10	4	8	4	6
500	12	14	10	12	8	12	6	10	4	6	2	4
600	10	14	8	12	6	10	4	8	2	6	2	4
800	10	12	8	10	6	8	4	6	2	4	1	2
1000	8	12	6	10	4	8	2	6	1	4	0	2

Remember to properly store extension cords when not in use!

Store indoors, by coiling or hanging the cord. This is the best way to avoid tight kinks, cuts, and scrapes that can damage insulation or conductors.