

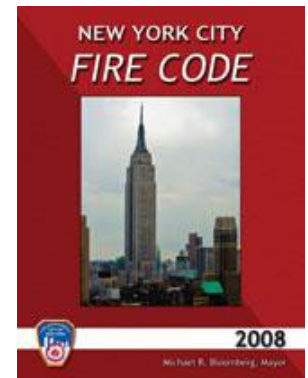


Electrical Extension Cords & Relocatable Power Taps: (RPT's)

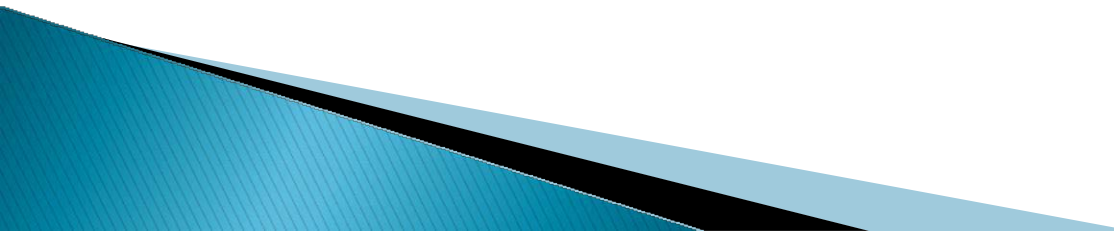


First: Why all the fuss?

- ▶ If either device is not use correctly, a fire can happen
- ▶ The current FDNY Fire Code addresses these issues in 605.4 and 605.5
- ▶ A fire on May 4, 2010 in Manhattan was caused by a large appliance plugged into an RPT.

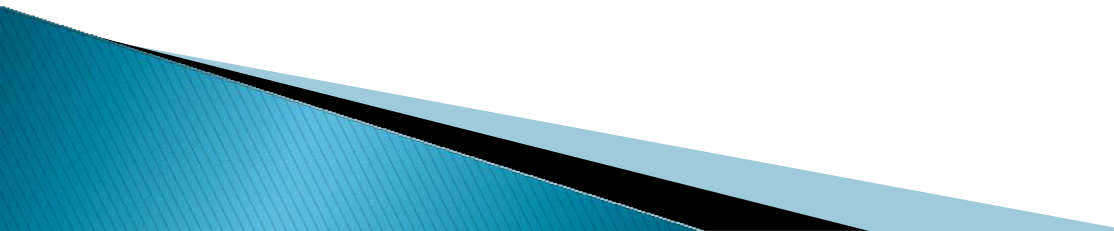


What's An Extension Cord?

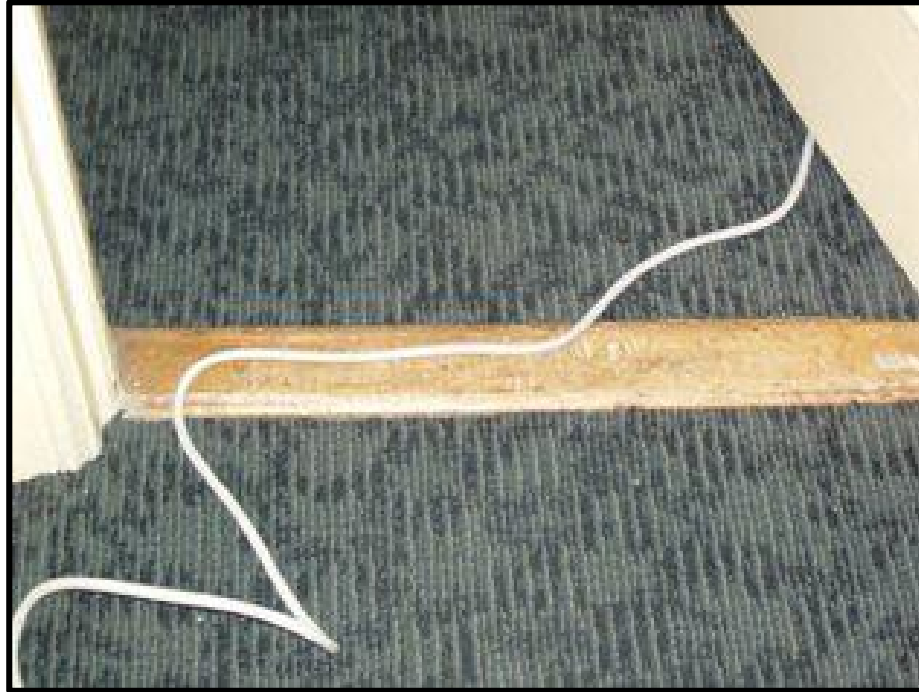
- ▶ In summary it's a – “flexible multi-conductor cord having an attachment plug at one end for plugging unto a receptacle (outlet) and a connector on the other end for attachment to a continuing cord”;
 - ▶ Can range from 3' to 100' in length.
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An Extension Cord

SHALL NOT –

- ▶ Be substituted for permanent wiring;
 - ▶ Be affixed to buildings or structures;
 - ▶ Be extended through walls, ceilings, floors or under doors or floor coverings
 - ▶ Be subject to environmental damage or physical impact;
 - ▶ Be used with major appliances, such as refrigerators or freezers, which are not obviously not portable.
- 

Violation !



Violations per 605.4.3 – FDNY Fire Code

An Extension Cord

SHALL

- ▶ Be used only with portable devices
FDNY Code (605.5);
- ▶ Be plugged directly into an approved receptacle (outlet), RPT (power strip) or multiplug adapter and, except for approved multiplug extension cords, SHALL only serve one portable device
FDNY Code (605.5.1).

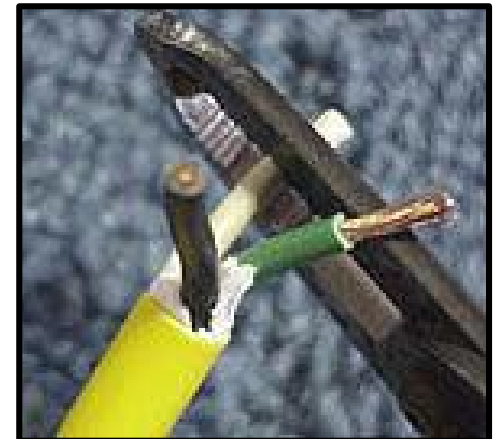
What's a Portable Device?

- ▶ Per the International Fire Code, of which the FDNY Fire Code is based upon:
- ▶ *“Additionally, as a way of limiting the use of extension cords, their use is restricted to portable appliances...”*
- ▶ *The reference to “portable” primarily denotes smaller, often-relocated appliances, such as a fan or a power tool ...*
- ▶ *Extension cords must not be used with major appliances, such as refrigerators, which are obviously not portable”.*

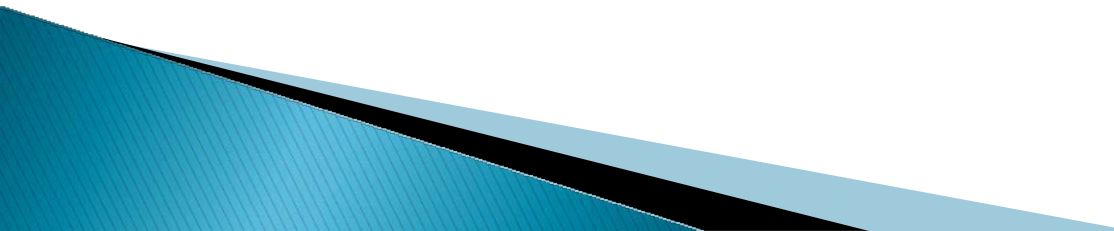
Ampacity

(thickness / gauge of an extension cord)

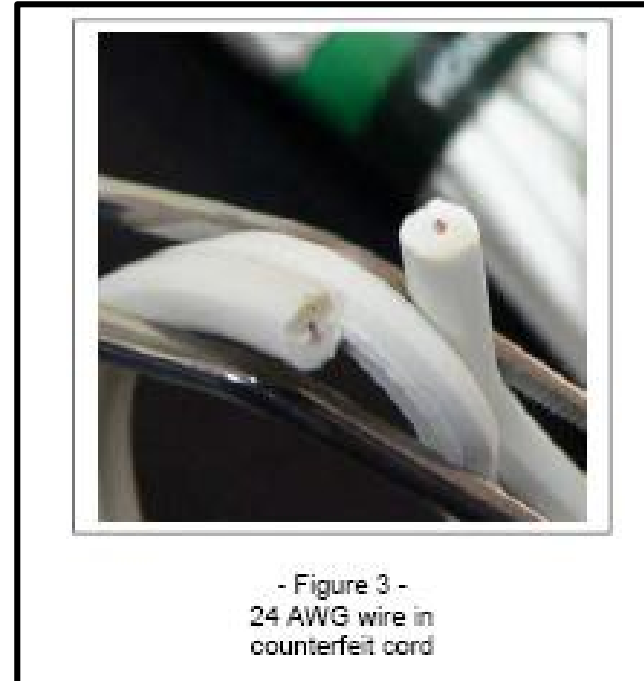
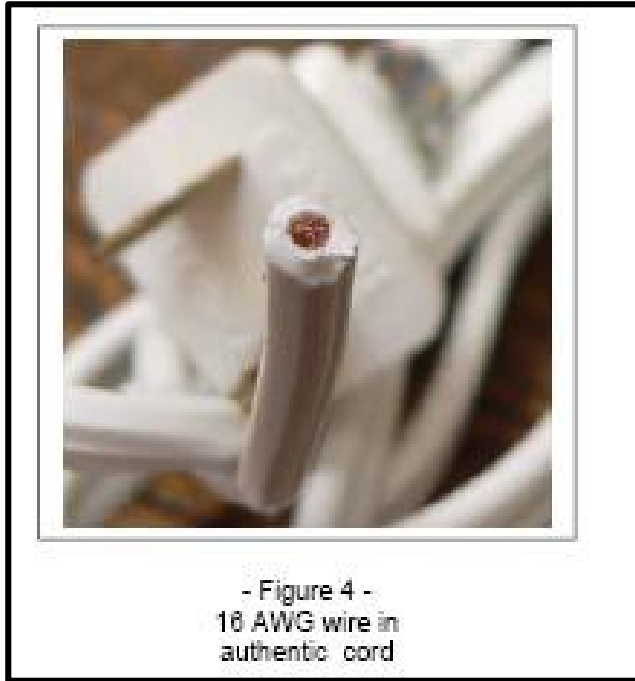
- ▶ The ampacity of the extension cord SHALL not be less than the rated capacity of the portable appliance supplied by the cord (605.5.2);
- ▶ In other words, use the correct size cord for the appliance (a heavier / thicker cord is better!);
- ▶ Insure the cord is listed!



Bogus Cords Out There?

- ▶ *You bet !*
 - ▶ Comprised of mostly plastic rather than copper;
 - ▶ So a 16 gauge cord may only have the copper content of a 24 gauge cord;
 - ▶ This can cause the cord to overheat and cause a fire.
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Real vs. Bogus Cord:



NOTE: Cord on right was packaged as a
UL listed, 16AWG cord !

The Word SHALL?

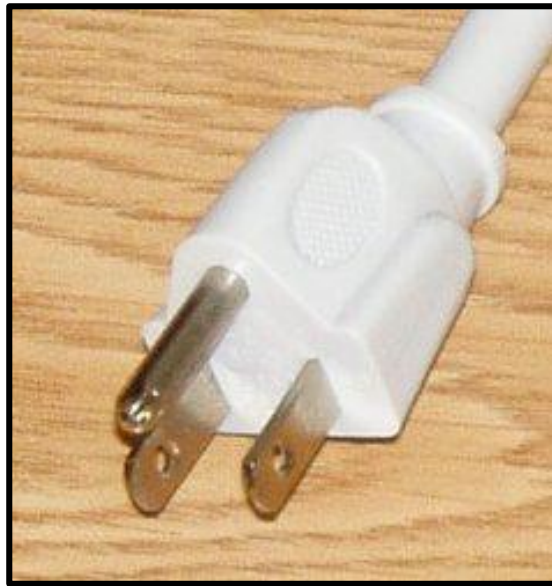
- ▶ We keep hearing “**SHALL**” quite often in the code – what does it mean?
- ▶ Per the *NFPA*: Shall. *Indicates a mandatory requirement;*
- ▶ *Per Webster’s Dictionary*. Shall.
- ▶ 1 a : will have to : **must**
2 b : used in laws, regulations, or directives to express what is mandatory.

Maintenance

- ▶ Extension cords SHALL be maintained in good condition without splices, deterioration or damage FDNY(605.5.3).

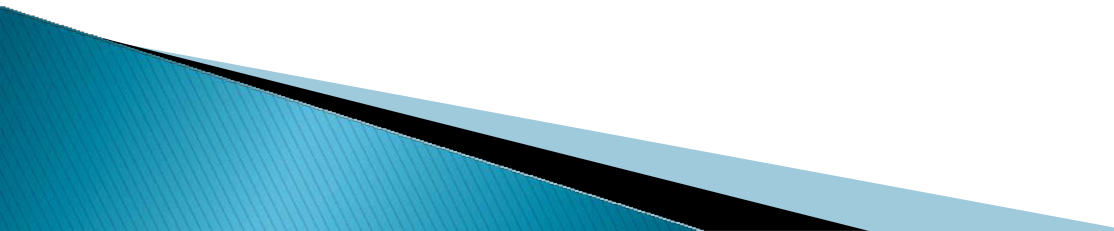
Grounding

- ▶ Extension cords SHALL be grounded when serving a grounded portable device (605.5.4).



Other Extension Cord Safety Tips

DO NOT:

- ▶ “Daisy Chain” (interconnect) multiple extension cords;
 - ▶ Expose to water or wet locations – unless the cords is specifically designed for that use;
 - ▶ Remove the grounding prong.
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Other Extension Cord Safety Tips

DO NOT:

- Use coiled up – always extend out the cord – otherwise cord cannot dissipate the build up of heat.



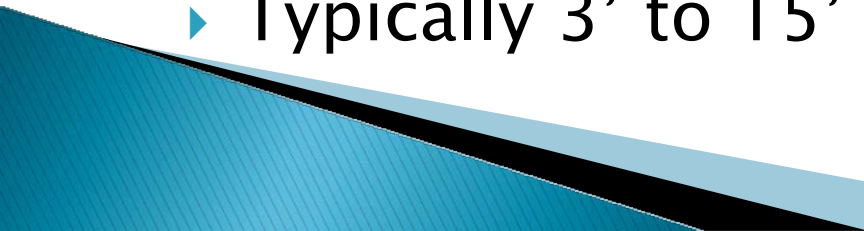
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Relocatable Power Taps



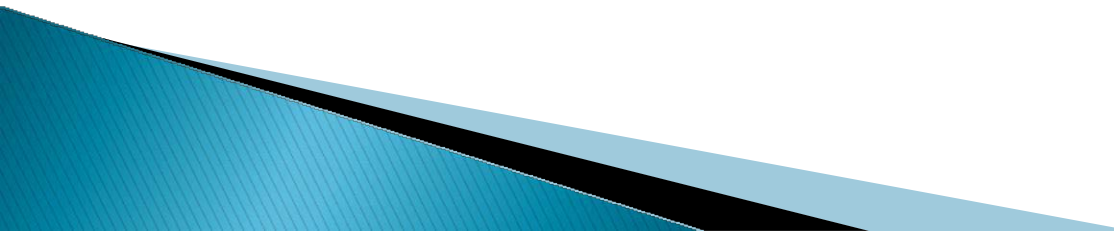
What's An RPT?

(relocatable power tap)

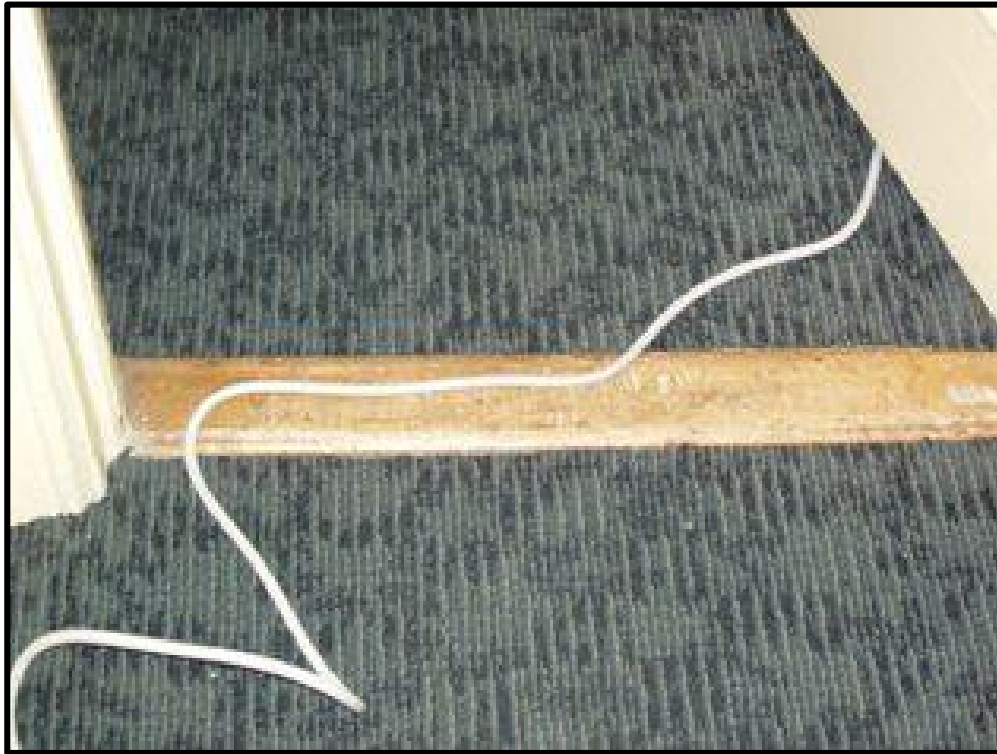
- ▶ In summary it's a “device designed for indoor use as a relocatable multiple outlet extensions of a single branch circuit to provide outlet receptacles for computers and other low ampere equipment”;
 - ▶ More commonly known as a “power strip;”
 - ▶ RPT's also are designed to provide a degree of protection from surges in voltage and filtering for electrical use;
 - ▶ Typically 3' to 15' in length.
- 

An RPT

SHALL NOT

- ▶ Be extended through walls, ceilings, floors or under doors or floor coverings;
 - ▶ Be subject to environmental damage or physical impact;
 - ▶ All above per FDNY Code 605.4.3.
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Violations !

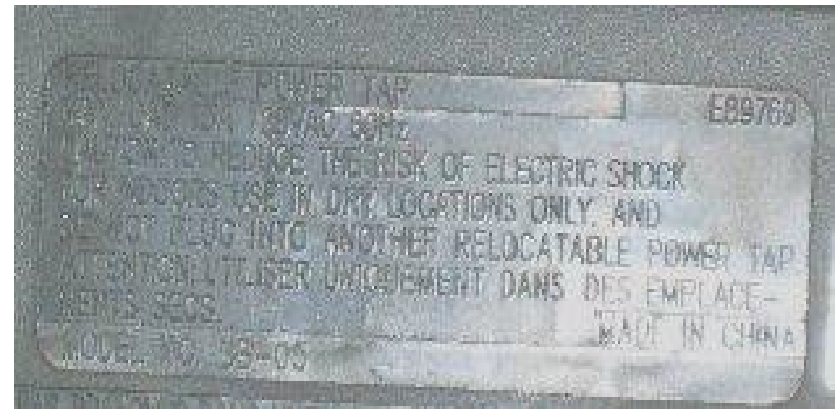
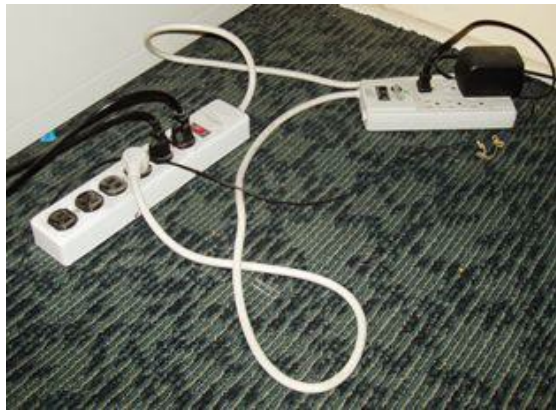


Violations per 605.4.3 – FDNY Fire Code

Additionally, In Accordance With An RPT's UL Listing -

An RPT SHALL NOT:

- Be series connected “daisy chained” into other RPT's or extension cords
- Used on construction sites



Back view of an RPT

An RPT

SHALL

- ▶ Be directly connected to a permanently installed receptacle (outlet);
- ▶ Be of the polarized or grounded type, equipped with overcurrent protection, and SHALL be “Listed”.



The Word LISTED?

- ▶ Similar to the word “SHALL” we keep hearing “**LISTED**” quite often in the code – what does it mean?
- ▶ Per the *NFPA: Listed*. “*Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose”.*

When In Doubt?

Always follow the manufacturer's instructions !

ELECTRICAL REQUIREMENTS

A 115V AC, 60 Hz, 15 amp circuit breaker and electrical supply are required. A separate circuit, servicing only this appliance, is required.

All Sub Zero Built In models are equipped with a power supply cord with a 3 prong grounding plug, which must be plugged into a matching 3 prong grounding type wall receptacle. Follow the National Electrical Code and local codes and ordinances when installing the receptacle. For location of the electrical supply, refer to the Installation Specifications illustration for your specific model on pages 7-11.

IMPORTANT NOTE: A ground fault circuit interrupter (GFCI) is not recommended and may cause interruption of operation.

A WARNING

Do not use an extension cord or two-prong adapter. Electrical ground is required on this appliance. Do not remove the power supply cord ground prong.

A CAUTION

The outlet must be checked by a qualified electrician to be sure that it is wired with the correct polarity. Verify that the outlet provides 115 V AC and is properly grounded.

HOW TO REACH EH&S

- ▶ **Website:** ww.ehs.columbia.edu
 - ▶ **CUMC:** 601 West 168 St, Suite #53
(212) 305-6780
 - ▶ **Morningside:**
419 W. 119th Street, Lower Level
(212) 854 -8749
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