



065: Portable Cords

Select the right cord

Selecting the right cord is essential to preventing injury or equipment damage when you are working under harsh conditions. The harsher the condition, the more essential cord selection becomes. Extremes in moisture and temperature are two examples of harsh environments. The presence of oil is another example. A cord not suited to the environment is at high risk of suffering an insulation breach and that can lead to an arcing fault or other hazard.

Industrial grade portable cords are three-wire (grounded)—if you have a cord without a ground plug, select a different one.

You can differentiate cords by their jackets. Read the jacket and you'll see the UL designation, which will tell you if the cord has properties important to the task you will be doing. We'll discuss those more in a bit.

Most cord jackets are composed of one or more of the following three compounds, each with its own advantages: thermoset, thermoplastic, and thermoplastic elastomer.

- **Thermoset** jackets are heavy-duty grade or specification-grade rubber. Cords made from thermoset are extremely flexible, even in very cold weather. These cords also have much higher melting temperatures than their plastic counterparts. These are noticeably heavier than the other types of cords.

- **Thermoplastic** is a light-duty plastic compound. Cords made from thermoplastic are suitable for light-duty use.

- **Thermoplastic elastomer** is a medium-duty-grade plastic. It's light-weight, compared to thermoset. For most jobs, thermoplastic is the appropriate choice because it gives high performance with a low weight. However, it can't withstand the extremes that thermoset can.

Jacket designations

The designations may sound confusing, so listen closely. These are:

- S: 600V service cord.
- J: Junior service - 300V service cord.
- T: Thermoplastic.
- E: Thermoplastic elastomer.
- O: Oil-resistant outer jacket.
- OO: Oil-resistant outer jacket and oil-resistant insulation.
- W-A: Approved (in the USA) for indoor/outdoor use (Weather resistant).
- W: CSA (Canada) approved for indoor/outdoor use (Weather/Water resistant).

Cord cautions

Inspect the cord for jacket damage before use. You can do this just by looking for sharp bends or breaks in the jacket.

Inspect cord ends for damage—especially for missing ground plugs.

Discussion leader duties for this session:

Obtain two or three portable cords of different jacket styles to show crew members there is a difference in cords.

What this Safety Talk covers:

The differences in portable cords and the safe application of each.

Discussion notes :

