

Low Smoke Zero Halogen (LSZH) Power Cords



IEC 60320 C14/C13, C14/C15 and C20/C19 Power Cords utilizing LOW SMOKE ZERO HALOGEN cordage (BSI, HAR, ROHS, IEC, HD21.14, BS EN 50525-3-11). For installation where fire, smoke emission, and toxic fumes create a potential threat to life and equipment. LSZH, LS0H, LSOH, LSFH, 0HLS, OHLS. All of our LSZH cables are TAA compliant and are the perfect fit for new government cabling installations. If you are looking for an LSZH Cable not listed below, we offer custom molded LSZH power cords. Contact us at sales@worldcordsets.com to get a quote on custom molded power cords.

Low Smoke Zero Halogen - General Information

Why Low Smoke Zero Halogen?

Standard power cable jackets are made from a PVC compound containing Chlorine (part of the Halogen Group), which, when burned release a toxic gas that can cause serious damage to humans and electrical equipment. This raises concerns in applications that have dense PVC cabling where electrical equipment or people are present. Low Smoke Zero Halogen, also known as Low Smoke Free

of Halogen or (LSZH, LSOH, LS0H, OHLS) refers to the cable jacketing which is composed of thermoplastics/thermoset compounds that release limited smoke and no halogens when exposed to high heat/fire. This cordage was initially invented to solve two main problems: reduce smoke/improve visibility in an emergency fire escape situation and reduce toxins being released in such a fire that could harm victims exposed. This cordage is generally used where there is limited ventilation or where set standards require such health/safety measures. You can find the amount of halogen contained in typical LSZH Cable in Table 2 below.

Common Abbreviations and Terms for Low Smoke Zero Halogen

TERM/ABBREVIATION	MEANING
LSZH	Low Smoke Zero Halogen
LSF	Low Smoke/Fume
LS0H	Low Smoke Zero Halogen
LSHF	Low Smoke Halogen Free
LSNH	Low Smoke No Halogen
NHFR	NonHalogen Flame Retardant
HFFR	Halogen Free Flame Retardant
FRNC	Fire Retardant, Non-Corrosive
LS	Low/Limited Smoke
ST	Smoke Test
FRLS	Fire Resistant, Low Smoke
RE	Reduced Emissions
LC	Low Corrosivity
LH	Low Halogen

Table 1: Low Smoke Zero Halogen Terms and Abbreviations

Halogen Content in Standard Wire & Cable Polymers

Using the table below, you can see that standard PVC cables contain vastly greater amounts halogen contents than any of the LSZH polymers.

Polymer	Halogen Content % by Weight
PU (polyurethane)	<.02
EPR (Ethylene propylene rubber)	<.02
PE (polyethylene)	<.02
XLP (Cross-Linked Polyethylene)	<.02
CSPE (chlorosulfonated polyethylene)	13-26
CPE (chlorinated polyethylene)	14-28
PVC (polyvinyl chloride)	22-29
FEP (fluorinated ethylene propylene)	62-78

Table 2: Halogen Content in Typical Wire & Cable Polymers

When should I use LSZH cabling?

Low Smoke Zero Halogen cabling is usually used in regulated industries such as government. New data centers are sometimes choosing to use LSZH cabling to help protect data center facilities from the harmful smoke in case of fire. Because data centers utilize large ventilation systems, even a small

amount of smoke in a small area can quickly be distributed accidentally throughout the entire building through the ventilation systems. A side note is the National Electrical Code requires cables used in plenum spaces to be Low Smoke Emitting, which is another common usage of this cordage. Refer to the National Electrical Code(NEC), or the National Fire Protection Agency(NFPA) to determine if LSZH cordage is right for you.



IEC 60320 C13 CONNECTOR (FEMALE)

The IEC 60320 C13 is a grounded 3 Wire connector rated up to 250V and 15 Amps. The C13 mates with a C14 inlet, and is commonly used in a jumper cable scenario in IT Installations providing power from a PDU to a server, router, switch or other computing device. Most people know the C13 as 'the thing that plugs into my computer' because it is the standard connector used to power most desktop computers. In a desktop computer application, the most common cable is the NEMA 5-15P to C13, which connects your standard North American wall outlet to a desktop computer.



IEC 60320 C14 CONNECTOR (MALE)

The IEC 60320 C14 is a grounded 3 Wire Plug rated up to 250V and 15 Amps. The C14 mates with a C13 outlet, typically found on Data Center/IT specific PDUs (Power Distribution Unit). The IEC 60320 C14 is typically used with either 18awg SVT, 18awg SJT(OW), 16awg SJT(OW) or 14awg SJT(OW). The types of cordages used will change the rating of the overall cord set.



IEC 60320 C15 CONNECTOR (FEMALE)

The IEC 60320 C15 is a grounded 3 Wire connector rated up to 250V & 10 Amps Internationally and 125V/250V & 15 Amps in North America. The C15 mates with a C16 inlet as well as a C14 Inlet and is commonly used in IT Installations providing power from a PDU to a server, router, switch or other computing device. The C15 is a HIGH TEMPERATURE connector rated up to 120°C, unlike the 70°C rating of the C13. The C15 is commonly used in electric kettles and other household appliances that involve higher temperatures than a normal C13 is made to withstand. The C15 connector is commonly used with 18awg SJT(OW), 16awg SJT(OW), and 14awg SJT(OW).



IEC 60320 C19 CONNECTOR (FEMALE)

The IEC 60320 C19 is a grounded 3 Wire connector rated up to 250V and 20 Amps. The C19 mates with a C20 inlet, and is commonly used in a jumper cable scenario in IT Installations providing power from a PDU to a server, router, switch or other computing device. The C19 is typically used in high powered blade server chassis, large network routers, and other IT equipment that draws more power than a standard C13 can accommodate.



IEC 60320 C20 CONNECTOR (MALE)

The IEC 60320 C20 is a grounded 3 Wire Plug rated up to 250V and 20 Amps. The C20 mates with a C19 outlet, typically found on Data Center/IT specific PDUs (Power Distribution Unit). The most common configuration for a C20 is in a jumper cable scenario, providing power from a PDU to a blade server chassis, high powered server, large network router, or similar device.

Subcategories

10A C14 C13 LSZH Power Cords



10A C14 to C13 LSZH Power Cords. Low Smoke Zero Halogen cables are typically used in government applications or areas where smoke could cause damage to humans or equipment.

NEMA 5-15P to C13 Power Cords - LSZH cordage

NEMA 5-15P to C13 Power Cords - LSZH cordage

10A C13 to Open - LSZH Cordage

10A IEC60320 C13 to Open (50mm ROJ + 6mm Strip) 1.0 mm² LSZH Cordage

10A C14 to Open - LSZH Cordage



10A C14 to Open - LSZH Cordage

10A C14 C15 LSZH Cordage



10A C14 C15 LSZH Cordage

2.5A C14 C5 LSZH Cordage



2.5A C14 C5 LSZH Cordage

16A C20 C19 Power Cords - LSZH Cordage



16A C20 C19 Power Cords - LSZH Cordage

10A IEC60320 C14 C13 Locking Power Cords - LSZH Cordage

10A IEC6020 C14 C13 Locking Power Cords - LSZH Cordage

Schuko CEE7/7 - LSZH Cordage



Schuko CEE7/7 - LSZH Cordage