

What is a PoE-capable patch cord?

Fact: Patch cords were not originally intended to supply power to devices.

The following therefore applies: There must be patch cords used which, on the one hand, guarantee clean data transmission and, on the other hand, do not bear any safety risk due to power supply!

Therefore, it must first be identified which PoE specification (today and in the future!) is used at the customer's place, or more precisely: which power is to be transmitted via the cable:

Norm: IEEE802.3af	up to 15W
IEEE802.3at	up to 30W (PoE+)
IEEE802.3bt	up to 90W (PoE++ or more correctly 4PPoE)

Important proprietary solutions (not normative!):

UPoE (CISCO)	up to 60W
PoH (HDBase-T)	up to 100W

With anything over 30W, the patch cords used may heat up considerably. This effect is intensified by bundling (also in cable managers in the patch/server rack) as well as by cable ducts. As a result, errors may occur during data transmission and/or PoE supply.

In general, the following applies to cables for power supply: the thicker the cable, the less losses occur - transferred to patch cords, this means:

the smaller the AWG number, the thicker the cable.

Most standard shielded patch cords on the market have AWG26 for Cat. 5e or AWG27 for Cat. 6 or Cat. 6a.

So-called slim or flat cables are often much thinner - up to AWG34.

According to the standard, only patch cords thicker than AWG28 can be used for PoE above 30W - if AWG28 is used, additional length restrictions and installation requirements beyond the "normal" standard apply! In addition, all cables used for PoE should fulfil other cable-specific properties (keyword: DCRU).

IMPORTANT: SECOMP always recommends the thickest and shortest possible patch cord for transmitting PoE. It is also recommended to check the existing cabling including the DCRU with regard to PoE.

As of today, no cables can be advertised/offered as "PoE-suitable" because this is neither a meaningful term nor is it clear where, how and for what power the cables are used in the field.

SECOMP does not take any liability or warranty if cables that are too thin and/or too long are used for a PoE transmission!