

Single Phase Industrial Extension Leads by EEC Technical Services

The EEC Industrial extension leads are available in 3 ranges:

Light Duty*:

The “Light Duty” extension lead is suitable for indoor use and outdoor use. The “light” extension lead has the shortest maximum length allowed from the outlet to the appliance

These light duty extension leads are recommended for indoor use or for outdoor applications where the ambient temperature is below 40°C.

For extended use outdoors or in environments with high ambient temperatures use the Heavy extension leads.

(Intermittent use: Ambient temperature above 40°C below 45°C)

Heavy Duty*:

The “heavy duty” extension lead is suitable for indoor, outdoor and harsh environments. The “heavy duty” extension lead has a larger diameter cable and longer maximum allowable length from the outlet to the appliance than the “light duty” lead.

Construction*:

For indoor, outdoor and harsh environments.

The “construction” lead has a larger diameter cable and longer maximum allowable length from the outlet to the appliance than “heavy duty” leads. It is suitable for use on sites that have a few outlets, if the lead is connected to a temporary site power board that is a long way from the local distribution board, where voltage drop is a consideration (either the machine is a considerable distance from the main distribution board or has high starting current).

*For the calculation of the maximum extension cable length, the outlet is assumed to be 20m from the distribution board, and the extension lead length is additional.

Extension Lead Specifications

Cable Specifications:

Rubber insulated H07 standard cable.

Submersible to:200m

Max Voltage: 06/1kV

Insulation: Ethylene-propylene rubber (EPR) R-EP-90 90 deg C Conductor

Sheath Colour: Black

Suitable for fresh water, salt water, sewage/contaminated water, UV, sunlight, oil and weather resistant.

Cable Temperature Range: -25 deg C to +90 deg C (mobile) -40 deg C to +90 Deg C (fixed)

Maximum permissible short-circuit temperature: 250 deg C for 1 Sec

Fittings.

The leads are made using quality SAA, and Standards Australia approved, Australian and International Standard Plugs and Sockets.

Cord Length Calculation.

The current ratings of the cable comply with AS3008.1.1:2009 Table 14 "Touching" for calculating the "Light Duty" indoor use current capacity and the "Exposed to sun" current carrying capacity for the "Heavy duty" and "Construction" extension leads.

When calculating the total lead lengths for general use, the following assumptions:

1. From the distribution board (DB) to the outlet the cable run distance is 20m.
2. The cable used for the supply from the DB to the outlet is the minimum cable size required.
3. Maximum voltage drops from the MDB to the appliance did not exceed 5% as per AS3000.
4. For calculating the voltage drop, AS3008.1.1:2009 Table 48 60°C cable operating temperature resistance used as the worst-case scenario. (Under normal operation the cable can be warm to touch)
5. When calculating the maximum extension cord length for equipment with high starting currents. The maximum voltage drop is 3%, and the running current is close to the lead rated current, and the starting current is 4-10 times the full load current of the motor.

Maximum Allowable 3 Phase Extension Lead Length.

(For Ethylene-propylene rubber insulated (EPR) R-EP-90 90 deg C Conductor cords)

<u>10A Single Phase Lead</u>	Cord CSA in mm ²	Max Length For general use	The maximum length for use with any equipment that has a high starting current
Light Duty	1	25m	15m
Heavy Duty	1.5	35m	25m
Long Heavy Duty	2.5	60m	40m
Construction	4	100m	60m

<u>15A Single Phase Lead</u>	Cord CSA in mm ²	Max Length For general use	The maximum length for use with any equipment that has a high starting current
Light Duty	1.5	25m	10m
Heavy Duty	2.5	40m	20m
Construction	4	65m	35m

<u>20A Single Phase Lead</u>	Cord CSA in mm ²	Max Length For general use	The maximum length for use with any equipment that has a high starting current
Light Duty	2.5	20m	10m
Heavy Duty	4	40m	15m
Construction	6	60m	25m

<u>32A Single Phase Lead</u>	Cord CSA in mm ²	Max Length For general use	The maximum length for use with any equipment that has a high starting current
Light Duty	4	30m	15m
Heavy Duty	6	50m	25m
Construction	10	85m	45m



ABN: 39101655734

Electrical, Electronics and Controls Technical Services
P.O. Box 1619, Hoppers Crossing, Victoria 3029
Phone: +613 9731 6101 Fax: +613 9748 5025
REC: 17796



EEC Technical Services. Registered Electrical Contractors based in Victoria.