

# PREMFLEX 90

Industrial flexible cable for power transmission.

BASED ON: IEC 60502-1



100% Green Energy  
Cable Production



## APPLICATION

PREMFLEX 90 cable is suitable for all types of low voltage industrial-type connections, in urban grids, building installations, etc.

Its high flexibility makes the installation process substantially easier and, as a result, is particularly suitable for use in difficult layouts. It can be buried or installed in a tube as well as outdoors without requiring additional protection.

## CONSTRUCTION

### Conductor

Electrolytic annealed copper, class 6 (high flexibility) according to EN 60228 and IEC 60228.

### Insulation

Flexible PVC high service temperature type T13 according to EN 50363-3 up to 70 mm<sup>2</sup>. Cross-linked polyethylene, type XLPE according to IEC 60502-1 from 95 mm<sup>2</sup>.

The standard identification of insulated conductors according to HD 308 is the following:

1 x Natural

### Outer sheath

Flexible and oil resistant PVC, type TM5 according to EN 50363-4-1. Black or orange colour.

## CHARACTERISTICS

 **Electrical performance**  
Low voltage: 0,6/1 kV.

 **Thermal performance**  
Maximum conductor temperature: 90°C.  
Maximum short-circuit temperature: 250°C (max. 5 s).  
Minimum service temperature: -40°C (fixed and protected installations).  
Minimum installation and handling temperature: 0°C (on cable surface).

 **Fire performance**  
Flame non-propagation according to EN 60332-1 / IEC 60332-1.  
Reduced halogen emission. Chlorine < 15%.

 **Mechanical performance**  
Minimum bending radius: 5x cable diameter.  
Impact resistance: AG2 Medium severity.

 **Environmental performance**  
Chemical & Oil resistance: Excellent.  
Grease & mineral oils resistance: Excellent.

 **Installation conditions**  
Open Air.  
In conduit.  
In tray.

## STANDARDS / COMPLIANCE

 **Based on**  
IEC 60502-1

 **Standards and approvals**  
RoHS / CE



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## DIMENSIONS & ADMISSIBLE INTENSITIES



Cross-section (mm <sup>2</sup> )	Diameter (mm)	Weight (kg/km)	Open air (A) <sup>1</sup>	Buried (A) <sup>2</sup>	Voltage drop (V/A · km) <sup>3</sup>
1 x 50	14,5	555	242	183	0,984
1 x 70	16,2	740	310	225	0,693
1 x 95	17,5	905	377	270	0,525
1 x 120	19,1	1.120	437	306	0,410
1 x 185	23,4	1.705	575	387	0,270
1 x 240	26,2	2.220	679	448	0,204
1 x 300	29,1	2.765	783	502	0,163
1 x 400	33,8	3.710	940	592	0,123

<sup>1</sup> Reference method F for single-core and method E for multicore cables according to IEC 60364-5-52 in open air at 30°C ambient temperature.

<sup>2</sup> Reference method D2 according to IEC 60364-5-52. Directly buried at 0,7 m depth with soil thermal resistivity of 2,5 K·m/W and 20°C of ground temperature. <sup>3</sup> At maximum service temperature and  $\cos\phi=1$ . In all cases are supposed a single-phase circuit.

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## SHORT-CIRCUIT CURRENT-CARRYING CAPACITIES

<b>Time (s)</b>	0,1	0,2	0,3	0,5	1	1,5	2	2,5	3
<b>A/mm<sup>2</sup></b>	452	320	261	202	143	117	101	90	83

## CORRECTION FACTORS FOR AIR TEMPERATURE

<b>Air T. (°C)</b>	20	25	30	35	40	45	50	55	60
<b>Factor</b>	1,08	1,04	1	0,96	0,91	0,87	0,82	0,76	0,71

## CORRECTION FACTORS FOR GROUND TEMPERATURE

<b>Ground T. (°C)</b>	10	15	20	25	30	35	40	45	50
<b>Factor</b>	1,07	1,04	1	0,96	0,93	0,89	0,85	0,80	0,76

## CORRECTION FACTORS FOR SOIL THERMAL RESISTIVITY

<b>Moisture degree of soil</b>	Very damp	Slightly damp	Slightly dry	Dry	Very dry
<b>Thermal Resist. (K·m/W)</b>	1	1,5	2	2,5	3
<b>Factor</b>	1,50	1,28	1,12	1	0,90

Other correction factors (for grouping cables, for harmonic currents), that are not in this specification, can be applied. Further information can be found in IEC 60364-5-52.