

MI-60

Copper clad heating cable

EN Assembly instructions

EN Assembly instructions for MI-60

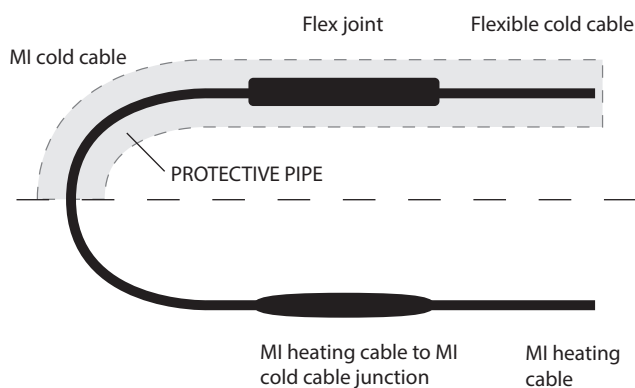
Thank you for choosing Ebeco. For the guarantee to be valid, the product must be installed and operated as indicated in this manual. This means it is extremely important that you read the entire manual.

If you have any questions, you are always more than welcome to contact Ebeco. Call +46 (0) 31 707 75 50 or send an e-mail to support@ebeco.se. Feel free to visit ebeco.com for more information.



Important The system is a mains voltage installation and must therefore be installed in accordance with the current regulations and under the supervision of a qualified electrician.

Design of the cable



Technical specifications for MI-60

Art. no.	Power	Length	Resistance	Area (300 W/m ²)
89 607 80	2,380 W	42 m	67 Ω	8 m ²
89 607 82	3,450 W	58 m	46 Ω	11.5 m ²
89 607 84	3,800 W	67 m	42 Ω	12.5 m ²
89 607 86	4,500 W	79 m	35 Ω	15 m ²
89 607 88	5,350 W	95 m	30 Ω	18 m ²

Tolerance ± 10 %

c/c distance approx. 19 cm

Voltage: 400 V

Insulation: >10 m Ω

Important to know

- The cold cable consists of a flexible cold cable section with earth braid. The flexible cold cable can be shortened. The heating cable must not be cut.
- Protect the cold cables from moisture and damage.
- Do not lay the flex joint and the flexible cold cable in direct contact with the hot asphalt. Use a protective pipe (metal), see diagram above. The sensor cable must also be laid in a protective pipe.
- The joint between the MI cold cable and the MI heating cable must be covered with the same material used for the MI heating cable. Check that the MI heating cable is completely covered.
- The cable must not touch or cross itself. Minimum distance 60 mm.
- The cable must not cross any expansion joints.
- Minimum bend radius is 6 x the heating cable's diameter.

Areas of application

The cable can be laid in asphalt, concrete or sand which is covered with paving stones, flagstones or asphalt.

- The working temperature of the asphalt must not exceed 250 °C
- Do not expose the sensor and the cable roll to extreme temperatures (≥ 80 °C) for a long period of time.
- Lowest laying temperature is -5 °C.

Before you start installing

- Check that the material supplied corresponds with the information on the delivery note.

Measurements and test record

- Measure the insulation and resistance of the cable, see values in the table. Enter the values in the test report (at the end of the manual).
- The insulation and resistance of the cable must be measured before and after embedding/surface coating, to check that the cable was not damaged when it was laid. Enter the values in the test report.

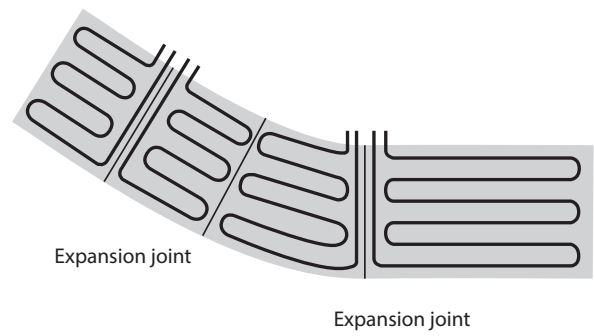
Roughly plan how to lay the cable

- Take into account that the heating cable has a 3 m long cold cable at each end and that both ends must be connected to the same junction box.

- Check the c/c distance using the formula:

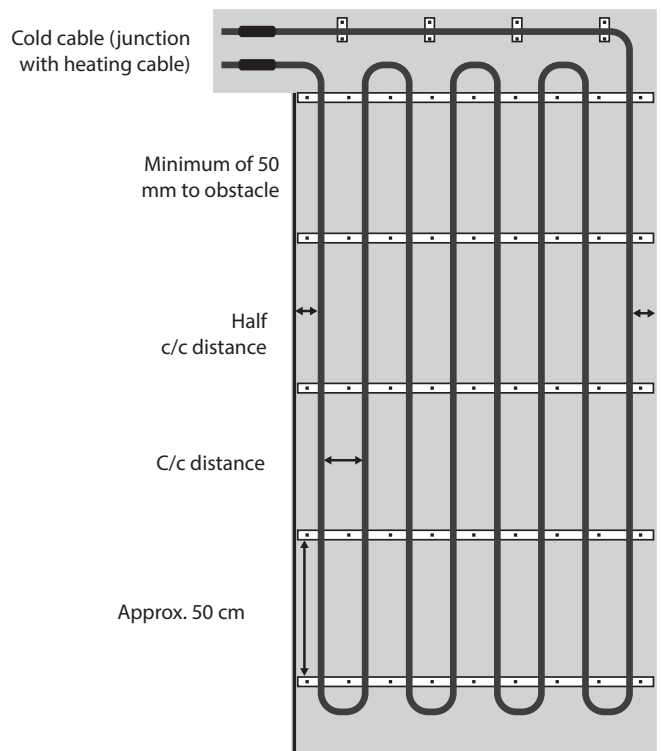
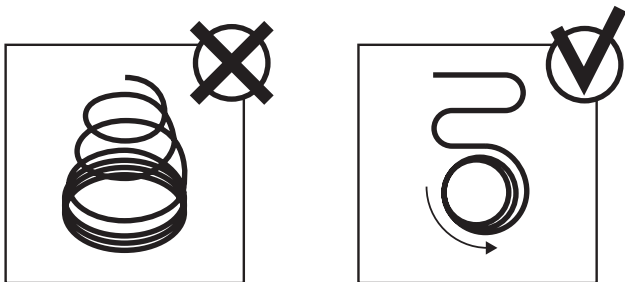
$$\text{C/c distance} = \frac{\text{Area}}{\text{Cable length}}$$

- The heating cable must be laid at least one metre into covered areas such as driveways where snow can be dragged in by vehicles.
- The heating cable must be laid all the way to any drainage channels (ACO-drain channel). The channels must also be heated, for instance using Ebeco T-18 (Art. no. 8960480)
- The heating cable must not cross expansion joints. Use a heating circuit on each side of the joint.
- It is often quicker to lay long loops than shorter ones.
- Make sure to maintain the correct c/c distance even on curved areas, by laying the heating cable along the curve instead of radially.



Installation

1. Install the protective pipe for the cold cable. Secure the pipe so that it remains in place when the asphalt is laid.
2. Make sure that the surface is smooth and completely free from sharp objects that could damage the cable. Make sure that the pipe for the sensor cable is recessed in order to lay the heating cable on a flat surface.
3. Fix the stainless fixing strip (Art. no. 8935035) at a c/c distance of about 50 cm. Fix on the substrate.
4. Roll out the heating cable with care. Make sure it is not twisted or coiled (see figure).



5. Lay the cable at the correct c/c distance and secure with the fixing strips. The first and last cable loops are laid at half the c/c distance.
6. The insulation and resistance of the cable must be measured before and after embedding/surface coating, to check that the cable was not damaged when it was laid. Enter the values in the test report.
7. Fill in and fit the heating cable signs to each junction box. There should also be a diagram/photograph of the cable's installation at the electrical cabinet.

Warranty certificate

EN

MI-60

Ebeco AB provides a 10 year guarantee for defective materials in Snowmelt, Snowmat, MI-60 and Multiflex 27.

The guarantee only becomes valid under condition that the installation is carried out by a qualified electrician according to the applicable regulations and in accordance with installation instructions issued by Ebeco. This guarantee certificate, including the test record below, must be completed in its entirety and, along with the materials specification or invoice, must be signed by the electrician who carried out the installation. Furthermore, there must be photographs/sketches that show the mat in its entirety after laying but before covering.

If defects should arise during the guarantee period, Ebeco AB undertakes to repair or alternatively replace Snowmelt/Snowmat/Multiflex at no cost to the purchaser.

Ebeco AB also undertakes to restore the surface coating to its original condition after the repair or replacement has been completed. In order to be able to remedy the fault, the purchaser must have saved or have access to 1 m² of the existing surface material. For any controls (timer/panelboard), where defects occur after 3 years, Ebeco AB will supply a new control.

*Applies only under condition that the product is installed together with Snowmat timer, E 18 970 77, or Ebeco's panelboard.

The guarantee does not apply to installations that have been carried out by an unqualified electrician or alternatively if an unqualified electrician has carried out modifications or repairs. Nor does the guarantee apply if the defect has arisen as a result of using incorrect materials and construction or as a result of incorrect installation. Nor is damage covered that is a result of vandalism, fire, lightning, water damage or damage caused by negligence, abnormal usage or as a result of an accident.

In the event of a material defect that is covered by the guarantee Ebeco AB must be notified.

In the event of the guarantee being invoked, this guarantee certificate with accompanying invoice of installation, material specification plus completed and signed test record must be presented.

EBECO AB
Martin Larsson, CEO

Electrical installation carried out by:

according to enclosed materials specification.

Date: -----

Signature: -----

Test record Snowmelt, Snowmat MI-60 and Multiflex 27

Min. insulation value 10 Mohm.

Mat / Cable no. 1-6	Before laying		After fixing		After surface coating / embedding	
	Resistance value	Insulation value	Resistance value	Insulation value	Resistance value	Insulation value
No. 1, E-no.:						
No. 2, E-no.:						
No. 3, E-no.:						
No. 4, E-no.:						
No. 5, E-no.:						
No. 6, E-no.:						