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# heating solutions





















**HEATING SOLUTIONS** 



# ebeco.com



Learn more about our products and keep up to date with the latest news from us at ebeco.com.

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## About Ebeco

Ebeco is one of the leading companies in electric underfloor heating and related products in Scandinavia. Since 1978 we have been developing, designing and producing heating systems for a range of needs within industrial and property sectors and for private houses. Our main business areas are underfloor heating, snow melting and frost protection. We offer the broadest product portfolio in the market.

Ebeco has subsidiaries in Norway, Finland and Russia and sales organisations in a number of European countries. The head office is located in Gothenburg.



## Quality and environment

Ebeco's quality management system is certified according to the ISO 9001:2000 standard. All activities within the company which are linked to quality shall thus be managed and controlled according to ISO-standard.

In our commercial operations we actively participate in development by offering the market products whose function contributes to reduced environmental impact. We make efforts to continuously improve our work procedures as well as our products and services with the aim of reducing our share of environmental impact.

Ebeco is affiliated with REPA (Register for Producer Responsibility), a system for recycling of plastic, metal, paper/cardboard and corrugated cardboard. This means that Ebeco takes responsibility for recovery of all packaging materials for our products.

Ebeco is a member of Elkretsen, which is the service company for trade and industry. Elkretsen provides collection and recycling of electric and electronic products. Our products are free from toxic substances and all product solutions meet the RoHS- and WEEE-directives.

All Ebeco's systems are CE-marked The CE-mark on a product certifies that the product meets EU requirements on health and safety.



## Heating solutions

#### Underfloor heating systems

Ebeco offers underfloor heating systems for all types of rooms, substrates and floors. Combined with insulation provided by us, you get the best possible solution for energy efficient heating with maximum comfort at home. We also have underfloor heating for caravans and campers.

#### Control

The thermostat line EB-Therm has been developed for optimum regulation of underfloor heating systems and manufactured under Ebeco's own management. Control of other types of installations can also be found in our product range.

#### Winter products

Our winter range of products, can solve problems with frost, snow and cold.

**Concrete curing** - the cable accelerates the curing process and keeps the concrete warm for the entire season.

**Heating mat** - the ground thawing mat efficiently thaws and keeps the ground warm.

**F-10** and **Frostvakt** - self regulating heating cable for frost protection of pipes, gutters, etc. We also have snow melting systems for the ground as well as roofs.

#### Other

We produce and supply heating cables to the industrial sector, have practical solutions for ceiling heating, foil for heating churches and steam-free mirrors etc.

In this product catalogue, you'll find a complete list of Ebeco's heating solutions.



### Ebeco guarantees

Ebeco's guarantee is unique in the market. What makes it unique is that we give the same guarantee on all materials supplied in our Kit-series. This even includes the thermostats. We guarantee you safe and secure underfloor heating for 10 years. Also our snow melting system, T-18, has this unique guarantee. Our products maintain the highest quality, and so we offer the best guarantee.

## Energy Saver = Saved energy

Ebeco's products do not only make possible efficient heating. They also reduce energy costs. That's why we have created the Energy Saver-symbol. With the help of this symbol it is easier to choose energy saving product solutions. Look for products labelled with Energy Saver to save energy.





Choose the right underfloor heating system



#### Underfloor heating systems

#### Indoors:

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# Choose the right underfloor heating system

Ebeco has created different underfloor heating systems. This enables us to provide solutions for all kinds of rooms, substrates and floors. Below you will find an overview of our systems. Note that the underfloor heating systems stated in the table are recommendations for the different substrate and floor covering.



#### Ebeco Floor covering Ceramic tiles and Vinyl floor covering -Wooden and system guide dry areas natural stone floors laminate floor Chip and plaster board/ Cable Kit electr. Foil Kit + Ebisol Foil Kit + Ebisol Well insulated Thermoflex Kit concrete floor Poorly insulated Cable Kit 300/200+ Foil Kit + Ebisol Foil Kit + Ebisol concrete floor Cable Board Open wooden Cable Kit Cable Kit Cable Kit joist frames Embedding in Multiflex 20 Multiflex 20 Multiflex 20 concrete slab

Multiflex 20

Conservatory

\*Comfort heating

Vinyl floor covering

wetrooms

Cable Kit

Cable Kit

Cable Kit

Multiflex 20

Multiflex 20\*

Multiflex 20\*

EBECO Selection selec

## Ebeco Cable Kit

The complete underfloor heating kit, primarily for ceramic tiles and natural stone floors.

- Durable and reliable underfloor heating.
- Thin cable, providing low-height systems.
- Contains everything you need for installation.
- Approved for laying directly on combustible material.
- Product range: Cable Kit 300, Cable Kit 200 and Cable Kit 50.
- 10 years guarantee, including thermostat.



#### **Technical specifications**

CABLE DIAMETER COLD CABLE LENGTH CABLE TYPE LOWEST INSTALLATION TEMP. VOLTAGE MINIMUM BEND RADIUS GUARANTEE APPROVAL Approx. 4 mm 2.5 m 2-wire with braid Cable: -5°C, tape: +18°C 230 V 25 mm 10 years CE Ebeco is alone in the market in providing a product solution which makes it possible to reduce the electricity costs by up to 35%. The insulation board Cable Board in combination with Cable Kit is a unique and energy-efficient way to avoid heat loss and moisture transfer. For more information on Cable Board, see section *Insulation boards* page 11.



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Cable Kit guide		Cable Kit 300	Cable Kit 200	Cable Kit 50
	•			
Substrate	Concrete substrate Wooden joist frames	*	*	*
and field of	Plasterboard/chipboard	*	*	*
application	Up to 120 W/m <sup>2</sup>	*	*	*
	Cable Board-compatible	*	*	
	Conservatory, up to 160 W/m <sup>2</sup>	*		
	Number of lenghts	14	14	8
Contents	Thermostat	EB-Therm 355	EB-Therm 205	EB-Therm 55
contents	Cable	*	*	*
	Flexible conduit	*	*	*
	Drum holder	*	*	
	Glue sticks	*	*	*
	Fixing tape	*	*	
		e		
Thermostat	Fuzzy technology	*	*	*
functions	Floor sensor	*	*	*
lanctions	Room sensor	*	*	
	Energy saving function	4 st	2 st	
	Programmable	*		
	LCD-display	*	*	
	Breaking capacity	16 A	16 A	16 A
	Colour options	*	,	
	Power reserve	36	4	
	Ventilation function	*	*	
	Background lighting	*	*	
	Operating time function Reset function	*	*	

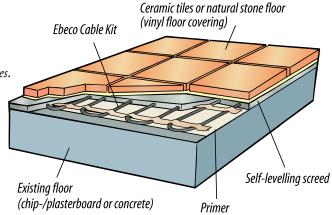


Cable Kit

#### Ordering information

Cable Kit 300								
ARTICLE NO	ARTICLE	POWER OUTPUT	LENGTH	AREA C/C 9 CM, 120 W/m <sup>2</sup>	AREA C/C 11 CM, 100 W/m <sup>2</sup>	AREA C/C 15 CM, 75 W/m <sup>2</sup>	ONLY ON CONCRE AREA C/C 7 CM, 160 W/m <sup>2</sup>	<b>TE SUBSTRATE</b> AREA C/C 8 CM 140 W/m <sup>2</sup>
E 89 608 70	Cable Kit 300	150 W	13,5 m	1,3 m <sup>2</sup>	1,5 m <sup>2</sup>	2,0 m <sup>2</sup>	0,9 m <sup>2</sup>	1,1 m <sup>2</sup>
E 89 608 71	Cable Kit 300	200 W	18,5 m	1,7 m <sup>2</sup>	2,0 m <sup>2</sup>	2,7 m <sup>2</sup>	1,3 m <sup>2</sup>	1,5 m²
E 89 608 72	Cable Kit 300	260 W	23 m	2,1 m <sup>2</sup>	2,6 m <sup>2</sup>	3,4 m <sup>2</sup>	1,6 m <sup>2</sup>	1,8 m <sup>2</sup>
E 89 608 73	Cable Kit 300	330 W	31 m	2,7 m <sup>2</sup>	3,3 m <sup>2</sup>	4,4 m <sup>2</sup>	2,1 m <sup>2</sup>	2,3 m <sup>2</sup>
E 89 608 74	Cable Kit 300	400 W	37 m	3,3 m <sup>2</sup>	4,0 m <sup>2</sup>	5,3 m <sup>2</sup>	2,5 m <sup>2</sup>	2,8 m <sup>2</sup>
E 89 608 75	Cable Kit 300	470 W	43 m	3,9 m <sup>2</sup>	4,7 m <sup>2</sup>	6,3 m <sup>2</sup>	3,0 m <sup>2</sup>	3,4 m <sup>2</sup>
E 89 608 76	Cable Kit 300	540 W	49 m	4,5 m <sup>2</sup>	5,4 m <sup>2</sup>	7,2 m <sup>2</sup>	3,4 m <sup>2</sup>	3,9 m <sup>2</sup>
E 89 608 77	Cable Kit 300	650 W	58 m	5,4 m <sup>2</sup>	6,5 m <sup>2</sup>	8,7 m <sup>2</sup>	4,1 m <sup>2</sup>	4,7 m <sup>2</sup>
E 89 608 78	Cable Kit 300	810 W	73 m	6,7 m	8,1 m	10,7 m	5,0 m	5,8 m
E 89 608 79	Cable Kit 300	960 W	86 m	8,0 m <sup>2</sup>	9,6 m <sup>2</sup>	12,8 m <sup>2</sup>	6,0 m <sup>2</sup>	6,9 m <sup>2</sup>
E 89 608 80	Cable Kit 300	1180 W	107 m	9,8 m <sup>2</sup>	11,8 m <sup>2</sup>	15,7 m <sup>2</sup>	7,4 m <sup>2</sup>	8,4 m <sup>2</sup>
E 89 608 81	Cable Kit 300	1380 W	124 m	11,5 m <sup>2</sup>	13,8 m <sup>2</sup>	18,3 m <sup>2</sup>	8,6 m <sup>2</sup>	9,8 m <sup>2</sup>
E 89 608 82	Cable Kit 300	1710 W	155 m	14,2 m <sup>2</sup>	17,1 m <sup>2</sup>	22,7 m <sup>2</sup>	10,7 m <sup>2</sup>	12,2 m <sup>2</sup>
E 89 608 83	Cable Kit 300	2080 W	187 m	17,3 m <sup>2</sup>	20,8 m <sup>2</sup>	27,7 m <sup>2</sup>	13,0 m <sup>2</sup>	14,9 m <sup>2</sup>
E 89 608 90	Supplementary kit without thermostat	1180 W	107 m	9,8 m <sup>2</sup>	11,8 m <sup>2</sup>	15,7 m <sup>2</sup>	7,4 m <sup>2</sup>	8,4 m <sup>2</sup>
Cable Kit 200								
ARTICLE NO	ARTICLE	POWER OUTPUT	LENGTH	AREA C/C 9 CM , $120 \text{ W/m}^2$	AREA C/C 11 CM, 100 W/m <sup>2</sup>	AREA C/C 15 CM, 75 W/m <sup>2</sup>		
E 89 608 50	Cable Kit 200	150 W	13,5 m	1,3 m²	1,5 m <sup>2</sup>	2,0 m <sup>2</sup>		
E 89 608 51	Cable Kit 200	200 W	18,5 m	1,7 m <sup>2</sup>	2,0 m <sup>2</sup>	2,7 m <sup>2</sup>		
E 89 608 52	Cable Kit 200	260 W	23 m	2,1 m <sup>2</sup>	2,6 m <sup>2</sup>	3,4 m <sup>2</sup>		
E 89 608 53	Cable Kit 200	330 W	31 m	2,7 m <sup>2</sup>	3,3 m <sup>2</sup>	4,4 m <sup>2</sup>		
E 89 608 54	Cable Kit 200	400 W	37 m	3,3 m²	4,0 m <sup>2</sup>	5,3 m <sup>2</sup>		
E 89 608 55	Cable Kit 200	470 W	43 m	3,9 m²	4,7 m <sup>2</sup>	6,3 m <sup>2</sup>		
E 89 608 56	Cable Kit 200	540 W	49 m	4,5 m <sup>2</sup>	5,4 m <sup>2</sup>	7,2 m <sup>2</sup>		
E 89 608 57	Cable Kit 200	650 W	58 m	5,4 m²	6,5 m <sup>2</sup>	8,7 m <sup>2</sup>		
E 89 608 58	Cable Kit 200	810 W	73 m	6,7 m	8,1 m	10,7 m		
E 89 608 59	Cable Kit 200	960 W	86 m	8,0 m <sup>2</sup>	9,6 m <sup>2</sup>	12,8 m <sup>2</sup>		
E 89 608 60	Cable Kit 200	1180 W	107 m	9,8 m²	11,8 m <sup>2</sup>	15,7 m <sup>2</sup>		
E 89 608 61	Cable Kit 200	1380 W	124 m	11,5 m²	13,8 m²	18,3 m <sup>2</sup>		
E 89 608 62	Cable Kit 200	1710 W	155 m	14,2 m²	17,1 m²	22,7 m <sup>2</sup>		
E 89 608 63	Cable Kit 200	2080 W	187 m	17,3 m <sup>2</sup>	20,8 m <sup>2</sup>	27,7 m <sup>2</sup>		
E 89 608 90	Supplementary kit without thermostat		107 m	9,8 m <sup>2</sup>	11,8 m <sup>2</sup>	15,7 m <sup>2</sup>		
Cable Kit 50								
ARTICLE NO.	ARTICLE	POWER OUTPUT	LENGTH	AREA C/C 9 CM , 120 W/m <sup>2</sup>	AREA C/C 11 CM, 100 W/m <sup>2</sup>	AREA C/C 15 CM, 75 W/m <sup>2</sup>		
E 89 608 40	Cable Kit 50	150 W	13,5 m	1,3 m <sup>2</sup>	1,5 m <sup>2</sup>	2,0 m <sup>2</sup>		·
E 89 608 41	Cable Kit 50	200 W	18,5 m	1,7 m <sup>2</sup>	2,0 m <sup>2</sup>	2,7 m <sup>2</sup>		
E 89 608 42	Cable Kit 50	260 W	23,0 m	2,1 m <sup>2</sup>	2,6 m <sup>2</sup>	3,4 m <sup>2</sup>		
E 89 608 43	Cable Kit 50	330 W	31,0 m	2,7 m <sup>2</sup>	3,3 m <sup>2</sup>	4,4 m <sup>2</sup>		
E 89 608 44	Cable Kit 50	400 W	37,0 m	3,3 m <sup>2</sup>	4,0 m <sup>2</sup>	5,3 m²		
E 89 608 45	Cable Kit 50	470 W	43,0 m	3,9 m <sup>2</sup>	4,7 m <sup>2</sup>	6,3 m <sup>2</sup>		
E 89 608 46	Cable Kit 50	540 W	49,0 m	4,5 m <sup>2</sup>	5,4 m <sup>2</sup>	7,2 m <sup>2</sup>		
E 89 608 47	Cable Kit 50	650 W	58,0 m	5,4 m <sup>2</sup>	6,5 m²	8,7 m <sup>2</sup>		

For information on our accessories, see section 17, Accessories.



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## Ebeco Thermoflex Kit

Underfloor heating kit with heating cable mat for ceramic tiles and natural stone floors.

- Self-adhesive heating cable mat.
- Quick and simple installation.
- Includes everything you need for installation in one complete kit.
- Thin cable, providing low-height systems.
- Approved for laying on combustible material.
- 10 years guarantee, including thermostat.



#### **Technical specifications**

CABLE DIAMETER
COLD CABLE LENGTH
CABLETYPE
MESH
LOWEST INSTALLATION TEMP.
VOLTAGE
MINIMUM BEND RADIUS
POWER OUTPUT
GUARANTEE
APPROVAL

Approx. 4 mm 3.0 m 2-wire with braid Self-adhesive mesh Cable: -5°C Tape: +18°C\* 230 V 25 mm 120 W/m<sup>2</sup> 10 years CE

Contents	Thermoflex Kit 300	Thermoflex Kit 200
Thermostat Heating cable mat	EB-Therm 355 *	EB-Therm 205 *
Flexible conduit	*	*
Number of lenghts	13	13

Thermoflex Kit

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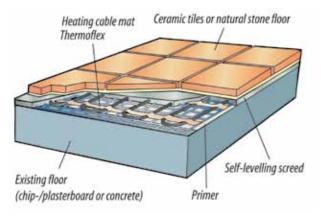
\* Adhesion is reduced at lower temperatures.

#### Ordering information

#### $120 \, W/m^2$

Thermoflex Kit 300 Thermoflex Kit 200

ARTICLE NUMBER	ARTICLE NUMBER	ARTICLE	POWER	AREA
E 89 602 17	E 89 602 30	Thermoflex Kit 120 W/m <sup>2</sup>	150 W	1.25 m
E 89 602 18	E 89 602 32	Thermoflex Kit 120 W/m <sup>2</sup>	200 W	1.7 m <sup>2</sup>
E 89 602 19	E 89 602 34	Thermoflex Kit 120 W/m <sup>2</sup>	250 W	2.1 m <sup>2</sup>
E 89 602 20	E 89 602 36	Thermoflex Kit 120 W/m <sup>2</sup>	340 W	2.7 m <sup>2</sup>
E 89 602 21	E 89 602 38	Thermoflex Kit 120 W/m <sup>2</sup>	400 W	3.4 m <sup>2</sup>
E 89 602 22	E 89 602 40	Thermoflex Kit 120 W/m <sup>2</sup>	480 W	3.9 m <sup>2</sup>
E 89 602 23	E 89 602 42	Thermoflex Kit 120 W/m <sup>2</sup>	530 W	4.4 m <sup>2</sup>
E 89 602 24	E 89 602 44	Thermoflex Kit 120 W/m <sup>2</sup>	640 W	5.4 m <sup>2</sup>
E 89 602 25	E 89 602 46	Thermoflex Kit 120 W/m <sup>2</sup>	780 W	6.6 m <sup>2</sup>
E 89 602 26	E 89 602 48	Thermoflex Kit 120 W/m <sup>2</sup>	940 W	7.9 m <sup>2</sup>
E 89 602 27	E 89 602 49	Thermoflex Kit 120 W/m <sup>2</sup>	1170 W	9.6 m
E 89 602 28	E 89 602 50	Thermoflex Kit 120 W/m <sup>2</sup>	1380 W	11.5 m <sup>2</sup>
E 89 602 29	E 89 602 52	Thermoflex Kit 120 W/m <sup>2</sup>	1700 W	14.0 m <sup>2</sup>
COMPLEMENTARY KIT	WITHOUT A THERMO	DSTAT		
E 89 605 96	E 89 605 96	Thermoflex Complementary kit	1380 W	11.5 m <sup>2</sup>



#### $160 \, W/m^2$

Thermoflex Kit 300

ARTICLE NUMBER	ARTICLE	POWER	AREA
66 556 04	Thermoflex Kit 160 W/m <sup>2</sup>	270 W	1.7 m <sup>2</sup>
66 556 08	Thermoflex Kit 160 W/m <sup>2</sup>	430 W	2.7 m <sup>2</sup>
66 556 12	Thermoflex Kit 160 W/m <sup>2</sup>	580 W	3.6 m <sup>2</sup>
66 556 14	Thermoflex Kit 160 W/m <sup>2</sup>	690 W	4.4 m <sup>2</sup>
66 556 16	Thermoflex Kit 160 W/m <sup>2</sup>	870 W	5.4 m <sup>2</sup>
66 556 18	Thermoflex Kit 160 W/m <sup>2</sup>	1030 W	6.5 m <sup>2</sup>
66 556 20	Thermoflex Kit 160 W/m <sup>2</sup>	1270 W	7.9 m <sup>2</sup>
66 556 22	Thermoflex Kit 160 W/m <sup>2</sup>	1480 W	9.3 m <sup>2</sup>
66 556 24	Thermoflex Kit 160 W/m <sup>2</sup>	1840 W	11.5 m <sup>2</sup>
66 556 26	Thermoflex Kit 160 W/m <sup>2</sup>	2230 W	13.9 m <sup>2</sup>
COMPLEMENTARY	KIT WITHOUT A THERMOSTAT		
66 556 28	Thermoflex Complementary kit	1840 W	11.5 m <sup>2</sup>

For information on our accessories, see section 17, *Accessories*.

2

## EBECO SSS

## Ebeco Foil Kit

Complete underfloor heating kit for wooden floors, laminate and vinyl floor covering.

- Durable and reliable underfloor heating foil.
- Thin foil, providing low build-up height.
- Width: 43 cm.
- Laying is done on Ebeco insulation board.
- Contains no PVC.
- 10 years warranty, including thermostat.



2

#### **Technical specifications**

THICKNESS LOWEST INSTALLATION TEMP. VOLTAGE TOTAL WIDTH/WIDTH WHEN HEATED POWER OUTPUT MAX. CONNECTOR AREA AT 10 A WARRANTY APPROVAL 0.3 mm +5°C 230 V 430/400 mm 65 W/m<sup>2</sup> Approx. 35 m<sup>2</sup> 10 years CE

Contents	Ebeco Foil Kit
Thermostat Underfloor heating foil	EB-Therm 205 *
Tape Terminals Single-core double insulated	*
cable Flexible conduit	*
Number of lenghts	6

# Foil Rite Control of C

Ebeco Foil is always laid on Ebisol insulation board. With Ebisol, the heat is reflected back up towards the floor surface. In addition, the insulation board protects against cold from below and also reduce footfall noise. For more information on Ebisol, see section 3, Insulation.



#### Ordering information

ARTICLE NUMBER	ARTICLE	POWER OUTPUT	WIDTH	FOIL LENGTH	AREA		
E 89 606 40	Ebeco Foil Kit	65 W/m <sup>2</sup>	43 cm	13,5 m	max 6 m <sup>2</sup>		
E 89 606 42	Ebeco Foil Kit	65 W/m <sup>2</sup>	43 cm	18 m	6-8 m <sup>2</sup>		
E 89 606 44	Ebeco Foil Kit	65 W/m <sup>2</sup>	43 cm	22,5 m	8-10 m <sup>2</sup>	Wooden/laminate floor	
E 89 606 46	Ebeco Foil Kit	65 W/m <sup>2</sup>	43 cm	27 m	10-12 m <sup>2</sup>		——— Wood/laminat floors, max 15 г
E 89 606 48	Ebeco Foil Kit	65 W/m <sup>2</sup>	43 cm	31,5 m	12-14 m <sup>2</sup>		Non-ageing plastic film, 2 mm
E 89 606 50	Supplementary kit	65 W/m <sup>2</sup>	43 cm	22,5 m	10 m <sup>2</sup>		
	without thermostat	:					Ebeco Foil Kit 0,3 mm
ARTICLE NUMBER	ARTICLE	POWER OUTPUT	WIDTH	FOIL LENGTH	AREA		Ebisol insulation sheet (3)/6 m
22 106 40	Ebeco Foil Kit	100 W/m <sup>2</sup>	43 cm	13,5 m	max 6 m <sup>2</sup>		~
22 106 42	Ebeco Foil Kit	100 W/m <sup>2</sup>	43 cm	18 m	6-8 m <sup>2</sup>		Existing floor (chipboard or
22 106 44	Ebeco Foil Kit	100 W/m <sup>2</sup>	43 cm	22,5 m	8-10 m <sup>2</sup>		concrete floor)
22 106 46	Ebeco Foil Kit	100 W/m <sup>2</sup>	43 cm	27 m	10-12 m <sup>2</sup>		
22 106 48	Ebeco Foil Kit	100 W/m <sup>2</sup>	43 cm	31,5 m	12-14 m <sup>2</sup>	Vinyl floor covering	
22 106 50	Supplementary kit		43 cm	22,5 m	10 m <sup>2</sup>	Vir	nyl floor covering , Chipboard, min 6 mm
	without thermostat	:					Non-ageing plastic film 0,2 mm
ARTICLE NUMBER	ARTICLE			AREA			
E 89 601 70	Ebisol insulation bo	ard 3 mm		6 m <sup>2</sup>			
E 89 601 72	Ebisol insulation bo	ard 6 mm (recom	mended)	6 m <sup>2</sup>			Ebeco Foil Kit 0,3 mm
							Ebisol insulation sheet (3)/6 m
information of	n our accessorie	s see section	17				



Existing floor (chipboard or concrete floor)



2

## Ebeco Foil, by the metre Underfloor heating foil by the metre for wooden floors, laminate

and vinyl floor covering.

- · Durable and reliable underfloor heating foil.
- Thin foil, providing low build-up height.
- Available in widths 43 cm and 69 cm.
- Laying is done on Ebeco insulation board.
- Contains no PVC.
- 10 years guarantee, including thermostat.



#### **Technical specifications**

THICKNESS LOWEST INSTALLATION TEMP. VOLTAGE TOTAL WIDTH/WIDTH WHEN HEATED TOTAL WIDTH/WIDTH WHEN HEATED POWER OUTPUT MAX. CONNECTOR AREA AT 10 A **GUARANTEE** APPROVAL

0.3 mm +5°C 230 V 430/400 mm 690/660 mm 65 W/m<sup>2</sup> Approx. 35 m<sup>2</sup> 10 years CE

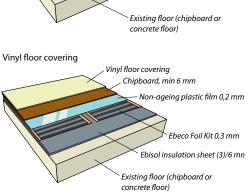
For the best result Ebeco Foil should always be laid on Ebisol insulation board. With Ebisol, the heat is reflected back up towards the floor surface. In addition, the insulation board protects against cold from below and also acts as footstep sound reduction. For more information on Ebisol, see section 3, Insulation.



#### Ordering information

ARTICLE NUMBER	ARTICLE	UNIT	POWER OUTPUT	WIDTH			
E 89 606 26	Ebeco Foil	By the metre	65 W/m <sup>2</sup>	43 cm			
E 89 606 28	Ebeco Foil	By the metre	65 W/m <sup>2</sup>	69 cm	Wooden/lamir	nate floor	
							— Wood/laminat floors, r
ARTICLE NUMBER	ARTICLE	UNIT	POWER OUTPUT	WIDTH			Non-ageing plastic film
E 89 606 06	Ebeco Foil	By the metre	100 W/m <sup>2</sup>	43 cm			
E 89 606 08	Ebeco Foil	By the metre	100 W/m <sup>2</sup>	69 cm			Ebeco Foil Kit
							Ebisol insulation shee

ARTICLE NUMBER	ARTICLE	AREA
E 89 601 70	Ebisol insulation board 3 mm	6 m <sup>2</sup>
E 89 601 72	Ebisol insulation board 6 mm (recommended)	$6 \text{ m}^2$



For information on our accessories, see section 17.





## Multiflex 20

Heating cable for embedding in concrete slab and outdoors.

- Series resistant heating cable with return conductor.
- Comes on drum with practical drum holder.
- Flexible laying.



2

#### **Technical specifications**

COLD CABLE LENGTH
CABLETYPE
POWER OUTPUT
MINIMUM BEND RADIUS
LOWEST LAYING TEMP.
GUARANTEE
APPROVAL

2.5 m 2-wire with braid 20 W/m 30 mm -5°C 10 years CE

	Ibrahang
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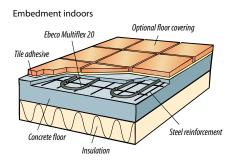
Contents	Multiflex 20
Heating cable on drum	*
Drum holder (for cables over 20 m)	*
Number of sizes	12 pcs

#### Ordering information

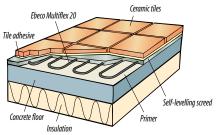
ARTICLE NUMBER	ARTICLE	POWER OUTPUT	LENGTH	EMBEDMENT INDC AREA C/C 25 CM, 80 W/m <sup>2</sup>	OORS AREA C/C 20 CM, 100 W/m <sup>2</sup>	FILLING/EMBEDMENT AREA C/C 15 CM, 130 W/m <sup>2</sup>	OUTDOORS* AREA C/C 12 CM, 160 W/m <sup>2</sup>
E 89 607 00	Multiflex 20	200 W	10 m	2.5 m <sup>2</sup>	2.0 m <sup>2</sup>	1.5 m <sup>2</sup>	1.3 m <sup>2</sup>
E 89 607 00 E 89 607 02	Multiflex 20	270 W	14 m	3.4 m <sup>2</sup>	2.7 m <sup>2</sup>	2.1 m <sup>2</sup>	1.7 m <sup>2</sup>
E 89 607 02 E 89 607 04	Multiflex 20	350 W	17 m	4.4 m <sup>2</sup>	3.5 m <sup>2</sup>	2.7 m <sup>2</sup>	2.2 m <sup>2</sup>
E 89 607 04	Multiflex 20	440 W	23 m	5.5 m <sup>2</sup>	4.4 m <sup>2</sup>	3.4 m <sup>2</sup>	2.8 m <sup>2</sup>
E 89 607 08	Multiflex 20	550 W	27 m	6.9 m <sup>2</sup>	5.5 m <sup>2</sup>	4.2 m <sup>2</sup>	3.4 m <sup>2</sup>
E 89 607 10	Multiflex 20	720 W	36 m	9.0 m <sup>2</sup>	7.2 m <sup>2</sup>	5.5 m <sup>2</sup>	4.5 m <sup>2</sup>
E 89 607 12	Multiflex 20	870 W	44 m	10.9 m <sup>2</sup>	8.7 m <sup>2</sup>	6.7 m <sup>2</sup>	5.4 m <sup>2</sup>
E 89 607 14	Multiflex 20	1 090 W	53 m	13.6 m <sup>2</sup>	10.9 m <sup>2</sup>	8.4 m <sup>2</sup>	6.8 m <sup>2</sup>
E 89 607 16	Multiflex 20	1 290 W	64 m	16.1 m <sup>2</sup>	12.9 m <sup>2</sup>	9.9 m <sup>2</sup>	8.1 m <sup>2</sup>
E 89 607 18	Multiflex 20	1 560 W	79 m	19.5 m <sup>2</sup>	15.6 m <sup>2</sup>	12.0 m <sup>2</sup>	9.8 m <sup>2</sup>
E 89 607 20	Multiflex 20	1 840 W	93 m	23.0 m <sup>2</sup>	18.4 m <sup>2</sup>	14.2 m <sup>2</sup>	11.5 m <sup>2</sup>
E 89 607 22	Multiflex 20	2 350 W	115 m	29.4 m <sup>2</sup>	23.5 m <sup>2</sup>	18.1 m <sup>2</sup>	14.7 m <sup>2</sup>

\* For outdoors, not full heating.

For information on our accessories, see section 17, *Accessories*.



#### Embedment outdoors



The heat is reflected

## Ebeco Cable Board

Insulation board for energy-efficient underfloor heating on ceramic tiles.

- Grooved insulation board, specially designed for Cable Kit 300 and 200.
- Prevents loss of heat downwards and sideways.
- Lets moisture dissipate through breather holes and reduces the risk of damage due to humidity.
- A fast and energy saving system. Saves 20-35% power\*
- Insensitive to humidity.
- Easy to install.

#### Technical specifications

DIMENSION TYPE OF MATERIAL THERMAL CONDUCTIVITY MELTING POINT IGNITION POINT	20 mm x 0.6 x 1.2 m / 0.72 m <sup>2</sup> Extruded polystyrene 0.030 W/mC >100°C >300°C	Floor surface (ceramic tiles) Moisture is allowed to pass through Cable Board
MAX. CONTINUOUS TEMP. WATER REPELLENT	75°C 100%	Cable board
SOLUBILITY	Highly resistant to acids and bases. Soluble in organic solvents.	Existing floor
ENVIRONMENT	No chlorofluorocarbons (CFC). No brominated flame retardants.	Cold

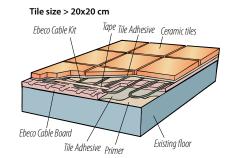
For more information on Cable Kit 300 CABLE BOARD-AREA CABLE KIT 300 CABLE KIT 200 and 200, see section 2, Underfloor heating PACKAGE systems. E 89 608 70 E 89 608 50 1.4-1.9 m 1 pcs 1.9-2.4 m<sup>2</sup> E 89 608 71 E 89 608 51 1 pcs \* Compared to underfloor heating 2.3-3.0 m E 89 608 72 E 89 608 52 1 pcs 3.1-3.9 m E 89 608 73 E 89 608 53 1 pcs laid on uninsulated concrete floors. 3.7-4.6 m E 89 608 74 E 89 608 54 2 pcs 4.3-5.2 m E 89 608 75 E 89 608 55 2 pcs 4.9-5.9 m E 89 608 76 E 89 608 56 2 pcs 5.7-7.3 m F 89 608 77 F 89 608 57 2-3 pcs 7.3-9.2 m E 89 608 78 E 89 608 58 3 pcs 8.6-10.5 m<sup>2</sup> E 89 608 79 E 89 608 59 3 pcs 10.7-12.7 m<sup>2</sup> E 89 608 80 E 89 608 60 3-4 pcs 12.4-14.4 (15.4) m<sup>2</sup> E 89 608 81 E 89 608 61 4 pcs 15.4-17.5 (18.5) m<sup>2</sup> E 89 608 82 E 89 608 62 5 pcs 18.5-20.7 m<sup>2</sup> E 89 608 83 E 89 608 63 6 pcs

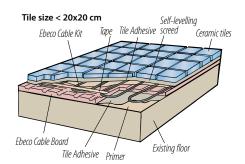
#### Ordering information

ARTICLE NUMBER	ARTICLE	AREA
E 89 601 80	Ebeco Cable Board	3.6 m <sup>2</sup>

E 89 601 80 Ebeco Cable Board

Cable Board in conjunction with Cable Kit 300, 200





For information on our accessories, see section 17, Accessories.

## Ebisol

Insulation board for energy-efficient underfloor heating for wooden floors, laminate and vinyl floor covering.

- One of the most effective insulation solutions on the market.
- Efficiently reflects the heat back towards the floor.
- Makes maximum use of the energy and reduces energy consumption.
- Footstep sound reduction, which makes the floor more quiet and less rigid to walk on.



#### 3

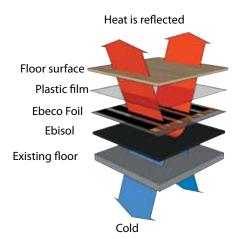
#### **Technical specifications**

DIMENSION	3 or 6 mm x 1.2 x 0.5 m
TYPE OF MATERIAL	Extruded polystyrene
THERMAL CONDUCTIVITY	0.028 W/m°C (EN 13164:2003)
MAX. CONTINUOUS TEMP.	75°C
IGNITION POINT	>300°C
DENSITY	40 kg/m <sup>3</sup>
WATER REPELLENT	100%
FOOTSTEP SOUND REDUCTION	20 dB (EN ISO 140-8:1999)
ENVIRONMENT	No chlorofluorocarbons (CFC).

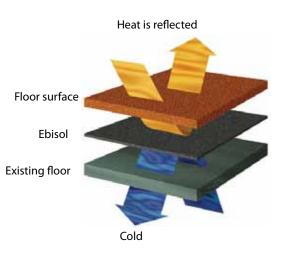
#### Ordering information

ARTICLE NUMBER	ARTICLE	AREA
E 89 601 70	Ebisol insulation board 3 mm	$6 \text{ m}^2$
E 89 601 72	Ebisol insulation board 6 mm (recommended)	$6 \text{ m}^2$

#### Ebisol with underfloor heating



Ebisol as insulation/footstep sound reduction





## Thermo Board

Energy efficient insulation for underfloor heating

- Thermo Board is mainly intended to be used together with the underfloor heating solution Thermoflex Kit.
- Flexible the board can be placed on any surface.
- Energy Efficient labelled with Energy Saver.
- High Insulation value Thermo Board is compared to approx. 500 mm concrete.
- Keeps its Form is not affected by moisture or water.



3

#### **Technical specifications**

DIMENSION WEIGHT TYPE OF MATERIAL THERMAL CONDUCTIVITY MELTING POINT IGNITION POINT MAX. CONTINUOUS TEMP. WATER REPELLENT SOLUBILITY	10 mm x 1,2 x 0,6 m 2,3 kg/board Extruderad polystyrene with strengthend glass fiber surface 0,035 W/m°C (EN 13164:2003) >100°C >300°C 75°C 100% Highly resistant to acids and bases. Soluble in organic solvents.
SOLUBILITY	Highly resistant to acids and bases. Soluble in organic solvents. No CFCs. No brominated flame retardants.
	no CrCs. no biommated name relations.

ARTICLE NUMBER	ARTICLE	AREA
E 89 601 60	Thermo Board	3.6 m <sup>2</sup>



## Quick Board

Insulation board for snow melting installations

- Quick Board halves the heating time of the snow melting system.
- The board reflects the heat upward in a very efficient manner.
- Easy to install prepare the subfloor in the same way as for a normal surface coating.

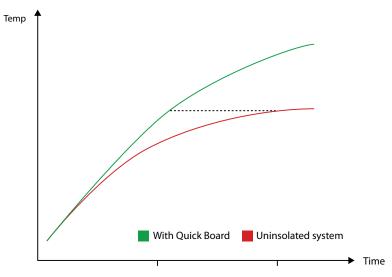
• The material extruded polystyrene cell plastic makes Quick Board light, resilient and impervious to moisture.

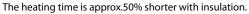


#### **Technical specifications**

DIMENSIONS	30 mm x 1,2 x 0,6 m
TYPE OF MATERIAL	Extruded polystyren
THERMAL CONDUCTIVITY	0,030 W/m°C (EN 13164:2003)
MELTING POINT	<100°C
IGNITION POINT	>380°C
MAX. CONTINUOUS TEMP.	75°C
WATER REPELLENCE	100% insoluble in water. Highly resistant to acids and bacteria.
ENVIRONMENT	Free from freon. Free frombrominated flame retardants







## EB-Therm 355

Programmable underfloor heating thermostat for optimal energy savings

Microprocessor controlled thermostat with fuzzy technology that delivers a more constant temperature and lower energy consumption.
Large, clear backlit LCD display with adjustable contrast that shows the temperature set, current temperature, day, time, date, program being run and which sensor is switched on.

• Operating time function that shows switch-on time as a percentage of the most recent 24 hours, week, month or year.

• Adaptive function that automatically regulates the heating so that the temperature required is achieved at the right time.

• Programmable with up to four optional temperature and time settings per 24 hours.

• Three separate temperature control functions and two preset energy saving programs.

- Automatic resetting for summer and winter time as well as leap years.
- Reset function.

#### **Technical specifications**

# VOLTAGE230 VAC-50HzAIR TEMPERATURE RANGE $+5^{\circ}\text{C}$ to $+37^{\circ}\text{C}$ FLOOR TEMPERATURE RANGE $+5^{\circ}\text{C}$ to $+37^{\circ}\text{C}$ TEMPERATURE LIMITER $+5^{\circ}\text{C}$ to $+45^{\circ}\text{C}$ BREAKING CAPACITY16 A / 230 VACCONNECTION CABLEmax 2.5 mm²LOADCos $\varphi = 1,0$ HYSTERESIS $\pm 0.3^{\circ}\text{C}$ HOUSINGIP21POWER RESERVE36 hSENSOR CABLE3 mMAX. EXTENSION SENSOR CABLE50 m, 2 x 1.5 mrLOD-DISPLAYFeed 230 V engaGreen LEDGreen LED

APPROVAL

+5°C to +37°C +5°C to +37°C +5°C to +45°C 16 A / 230 VAC / single pole  $max \ 2.5 \ mm^2$  $\cos \phi = 1,0$ ±0.3°C IP21 36 h 3 m 50 m, 2 x 1.5mm<sup>2</sup> 36 x 29 mm Feed 230 V engaged: Green LED Heating cable is running: Red LED CE

With the accessory *front cover* it is easy to change the colour of EB-Therm 355. The front covers are adapted for Exxact, Antracit & Metallic and for ELKO Plus, Alu & Black. Frame is not included in the package.



Adapted for Eljo Trend, Elko RS, Elko Plus, Strömfors, Gira, Merten, Exacct frame-systems. EMC-certified and can handle an overvoltage of 2,500 VAC. The thermostats are intended for recessed or surface mounting. For surface mounting, extension frame E 85 816 69 is used.

Ordering info	Ordering information		
ARTICLE NUMBER	ARTICLE	DIMENSIONS	
E 85 816 64	EB-Therm 355	81x81x40 mm	

For information on our accessories, see section 17, Accessories.



## EB-Therm 205

Underfloor heating thermostat with energy saving function

 Microprocessor controlled thermostat with fuzzy technology that delivers a more constant temperature and lower energy consumption. · Large, clear backlit LCD display with adjustable contrast that shows the temperature set, current temperature, day, time, date, program being run and which sensor is switched on.

 Two temperature regulating functions; room thermostat, floor thermostat or a combination of room thermostat with overheating protection in the floor.

- Automatic resetting for summer and winter time as well as leap years.
- Reset function.

## EB-Therm 55

Underfloor heating thermostat with floor sensor

- Microprocessor controlled thermostat with fuzzy technology that delivers a more constant temperature and lower energy consumption.
- The front is fitted with a lockable knob for regulating temperature, as well as an on/off switch that shows whether the underfloor heating is in operation.
- Controlled exclusively by the floor temperature.



**2** 18

#### **Technical specifications** VOLTAGE

AIR TEMPERATURE RANGE FLOOR TEMPERATURE RANGE **TEMPERATURE LIMITER BREAKING CAPACITY** LOAD HYSTERESIS HOUSING SENSOR CABLE MAX. EXTENSION SENSOR CABLE INDICATION

#### 230 VAC-50 Hz

EB-Therm 205

+5°C to +37°C +5°C to +37°C +15°C to +45°C 16A / 230 VAC / singe pole  $\cos \varphi = 1$ ±0,3°C IP21 3 m 50 m, 2x1,5 mm<sup>2</sup> Feed 230 V engaged when lightened symbol on the display CE

#### EB-Therm 55

230 VAC-50 Hz

+10°C to +45°C

16A / 230 VAC / single pole  $\cos \varphi = 1$ ±0,3°C IP21 3 m 50 m, 2x1,5 mm<sup>2</sup> Feed 230 V engaged: green LED Heating cable is running: red LED CE

The thermostats are adapted for Eljo Trend, Elko RS, Elko Plus, Strömfors, Gira, Merten, Jussi, Exxact frame-systems. EMC-certified and can handle an overvoltage of 2,500 VAC. The thermostats are intended for recessed or surface mounting. For surface mounting, extension frame E 85 816 69 is used.

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#### Ordering information

ARTICLE NO	ARTICLE	DIMENSIONS
E 85 816 08	EB-Therm 205	81x81x40 mm
E 85 816 05	EB-Therm 55	81x81x40 mm

For information on our accessories, see section 17.

APPROVAL

4

## EB-Therm 800

EB-Therm 800 is a unique digital thermostat with four functions in one.

- The four operating modes are Heating, Cooling, Industrial and Max/min.
- The heating mode is used to control heating in for instance living spaces, offices, and warehouses.
- The cooling mode is used in living areas, offices, warehouses and likewise, as a room thermostat that controls the air conditioning or other cooling.
- The industrial mode is used for temperature control of industrial processes, both for heating and frost protection.
- The Max/Min mode is used mainly for control of small areas on roofs and areas with snow melting capabilities.



#### **Technical specifications**

VOLTAGE **BREAKING CAPACITY** POWER CONSUMPTION **TEMPERATURE RANGE** LOW TEMPERATURE RANGE HIGH TEMPERATURE RANGE CONNECTION CABLE LOAD **HYSTERESIS PROTECTION CLASS** POWER RESERVE MAX.LENGTH SENSOR CABLE DISPLAY MEASUREMENT THERMOSTAT MEASUREMENT MOUNTING ALARM RELAY AMBIENT TERMPERATURE **EMC CERTIFIED** APPROVALS DIRECTIVES

230 VAC ±10% ~ 50Hz 3,680 W/16 A/230 VAC 2,5 W -15 °C to +170 °C, divided in two areas -15 °C to +75 °C - NTC sensor +60 °C to +170 °C - PTC sensor max 2.5 mm<sup>2</sup>  $\cos \phi = 1$ Adjustable +/- 0.3 to 10.3 °C IP20 50 h 50 m, 2x1.5 mm<sup>2</sup> 24x19 mm 90x35x70 mm Standard DIN rail, EN 50022-35 2 A/120 VAC Normally closed -20 °C to +45 °C (display legibility deteriorates at -10 °C) Can handle an overvoltage of 2,500 VAC. CE, S RoHS, WEEE

#### Ordering information

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 85 816 10	EB-Therm 800	90x35x70 mm

For information on our accessories, see section 17, Accessories.

## Ebeco Foil 48 V

Underfloor heating foil for caravans by the metre

- Underfloor heating foil by the metre.
- Adapted to the caravan floor.
- Thin foil, providing low build-up height.
- Available in widths 43 cm, 53 cm and 69 cm.
- Contains no PVC.

## Ecofoil 48 V

Underfloor heating foil for caravans - complete components with connection cable

- Components ready for easy installation.
- Fitted with 5 m connection cable.
- Thin foil, providing low build-up height.
- Contains no PVC.



#### **Technical specifications**

THICKNESS	Ap
LOWEST INSTALLATION TEMP.	+5°
VOLTAGE	48
TOTAL WIDTH/WIDTH WHEN HEATED	430
POWER OUTPUT	80
CONNECTION CABLE	5 n
APPROVAL	CE

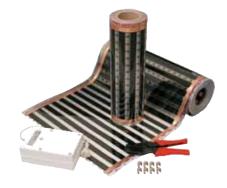
pprox. 0.3 mm 5°C 8 V 30/400 mm, 530/500 mm, 690/660 mm 0 W/m<sup>2</sup> m (only for Ecofoil 48 V) E

#### Ordering information

ARTICLE NUMBER	ARTICLE	WIDTH	UNIT		
E 89 606 01	Ebeco Foil 48 V	53 cm	By the metre		
E 89 606 03	Ebeco Foil 48 V	43 cm	By the metre		
E 89 606 05	Ebeco Foil 48 V	69 cm	By the metre		
ARTICLE NUMBER	ARTICLE		DIMENSIONS	POWER OUTPUT	
65 485 10	Ecofoil 48 V		0.53 x 1.0 m	40 W	
65 485 20	Ecofoil 48 V		0.53 x 2.0 m	80 W	
65 485 30	Ecofoil 48 V		0.53 x 3.0 m	120 W	
65 485 40	Ecofoil 48 V		0.53 x 4.0 m	160 W	
65 485 50	Ecofoil 48 V		0.53 x 5.0 m	200 W	
65 485 60	Ecofoil 48 V		0.53 x 6.0 m	240 W	
65 487 10	Ecofoil 48 V		0.69 x 1.0 m	53 W	
65 487 20	Ecofoil 48 V		0.69 x 2.0 m	86 W	
65 487 30	Ecofoil 48 V		0.69 x 3.0 m	158 W	
65 487 40	Ecofoil 48 V		0.69 x 4.0 m	211 W	
55 487 50	Ecofoil 48 V		0.69 x 5.0 m	264 W	
65 487 60	Ecofoil 48 V		0.69 x 6.0 m	317 W	

For information on our accessories, see section 17.

5





## Ebeco Clear Mirror

Mirror heater which keeps the mirror steam-free

- Self-adhesive heating foil, which is fitted on the back of the mirror.
- Fits most types of mirrors.
- Connected to existing bathroom lighting and activated when the lamp is switched on.



#### Technical specifications

ARTICLE NUMBER	ARTICLE	POWER OUTPUT	DIMENSIONS
E 89 606 31	Ebeco Clear Mirror	12,5 W	252 x 274 mm
E 89 606 33	Ebeco Clear Mirror	28 W	574 x 274 mm
E 89 606 35	Ebeco Clear Mirror	50 W	519 x 524 mm
E 89 606 37	Ebeco Clear Mirror	100 W	1004 x 524 mm

## Frost protection for pipesF-10 & Frostvakt 10

## Ebeco F-10

Self regulating heating cable for frost protection of pipes

- Provides even heat distribution and controlled consumption.
- Can be cut and crossed for perfect fit.
- Can be installed both inside and outside.
- Contains no PVC.
- Protects when laying a 32 mm uninsulated plastic pipe inside all the way down to -30°C.
- When laying 32 mm plastic or metal pipes outside with 20 mm insulation, it protects down to -20°C.

## Ebeco Frostvakt 10

The mobile heating cable

- F-10 self regulating heating cable in mobile design.
- Easy to install.
- Comes in pre-cut lengths with attachment plug.
- Voltage 230 V.



#### Technical specifications

DIMENSION MAX. OPERATING TEMPERATURE LOWEST INSTALLATION TEMP. VOLTAGE MINIMUM BEND RADIUS POWER OUTPUT	7.3 x 5.3 mm 65°C -10°C 230 V 35 mm 10 W/m at +5°C when laying on metal pipes
MAX. CONNECTION	10 W/m at +5°C when laying on metal pipes
LENGTH AT 10 A	100 m exterior fitting 60 m interior fitting

CE

APPROVAL

#### Ordering information

ARTICLE NO	ARTICLE	UNIT/LENGTH	POWER OUTPUT	
E 89 604 60	Ebeco F-10	By the meter (drum 230 m)	10 W/m at +5°C when laying on metal pipes	
E 89 604 22	Ebeco Frostvakt 10	2 m	20 W	
E 89 604 24	Ebeco Frostvakt 10	4 m	40 W	
E 89 604 26	Ebeco Frostvakt 10	6 m	60 W	
E 89 604 28	Ebeco Frostvakt 10	8 m	80 W	
E 89 604 30	Ebeco Frostvakt 10	10 m	100 W	
E 89 604 33	Ebeco Frostvakt 10	13 m	130 W	
E 89 604 36	Ebeco Frostvakt 10	16 m	160 W	
E 89 604 39	Ebeco Frostvakt 10	19 m	190 W	
E 89 604 42	Ebeco Frostvakt 10	22 m	220 W	
E 89 604 45	Ebeco Frostvakt 10	25 m	250 W	
E 89 604 46	Ebeco Frostvakt 10	30 m	300 W	
E 89 604 47	Ebeco Frostvakt 10	35 m	350 W	
E 89 604 48	Ebeco Frostvakt 10	40 m	400 W	
E 89 604 50	Ebeco Frostvakt 10	50 m	500 W	
E 89 604 52	Ebeco Frostvakt 10	60 m	600 W	
E 89 604 54	Ebeco Frostvakt 10	80 m	800 W	
E 89 604 56	Ebeco Frostvakt10	100 m	1000 W	

For information on our accessories, see section 17.



## Ebeco FR-30

Prevents doors in cold storage rooms from freezing shut

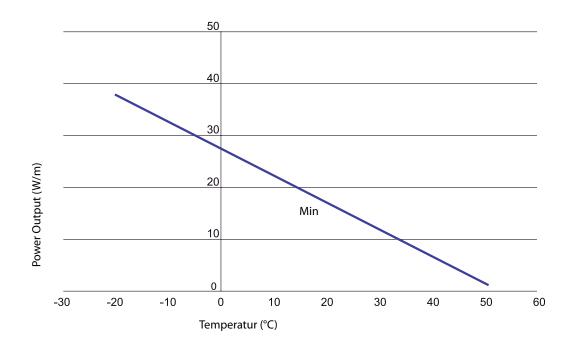
- FR-30 is a smart self-regulating heating cable that detects the surrounding temperature and regulates its output as required.
- It always provides even heat distribution and controlled consumption.
- The cable can easily be cut and crossed as required to suit any frame without the risk of overheating.
- The FR-30 can protect door frames in cold storage rooms at temperatures as low as -30  $^\circ\!C.$
- The heating cable can only be laid in metal door frames.
- Completely free of PVC.

#### **Technical specifications**

DIMENSIONS	6 mm
CROSS SECTION AREA	2 x 0,57 m <sup>2</sup>
MAX. OUTER TEMP.	
cable switched off	+80°C
cable switched on	+65°C
CONNECTION VOLTAGE	230 V
POWER	At 0°C 27W/m
MAX CONNECTION LENGTH	At -30°C 42W/m
	At 16A 80 m
	At 10A 45 m
APPROVAL	CE

#### Ordering information

ARTICLE NO	ARTICLE	DIMENSIONS
89 604 67	FR-30 self regulating frost protection cable	by the metre





#### Snowmelt

## Ebeco Snowmelt

Snow melting mat under asphalt, stone surfacing or concrete.

- Elastic heating cable mat with heating cable for snow melting secured on rubber bands.
- High temperature resistance, giving long service life.
- The mat can be stretched to increase the c/c-distances and reduce the output.
- Quick, easy and convenient installation.



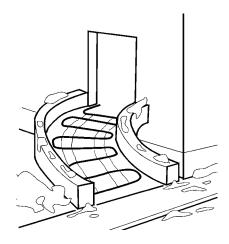
#### **Technical specifications**

CABLE TYPE COLD CABLE LENGTH LOWEST INSTALLATION TEMP. VOLTAGE MINIMUM BEND RADIUS POWER OUTPUT	2-wire with braid 5 m -5°C 230 V 35 mm From 300 W/ m², can be reduced to 200 W/m²
APPROVAL	From 300 W/ m <sup>2</sup> , can be reduced to 200 W/m <sup>2</sup> CE

#### Ordering information

ARTICLE NUMBER	ARTICLE	POWER OUTPUT	WIDTH	AREA AT 300 W/m <sup>2</sup>	AREA AT 250 W/m <sup>2</sup>	AREA AT 200 W/m <sup>2</sup>
E 89 602 90	Ebeco Snowmelt	2 200 W	0.5 m	7 m <sup>2</sup>	9 m <sup>2</sup>	11 m <sup>2</sup>
E 89 602 92	Ebeco Snowmelt	2 700 W	1.0 m	9 m <sup>2</sup>	11 m <sup>2</sup>	13.5 m <sup>2</sup>
E 89 602 94	Ebeco Snowmelt	3 600 W	1.0 m	12 m <sup>2</sup>	14.5 m <sup>2</sup>	18 m <sup>2</sup>
E 89 602 96	Ebeco Snowmelt	4 250 W	1.0 m	14 m <sup>2</sup>	17 m <sup>2</sup>	21.5 m <sup>2</sup>

For information on panelboards for control of ground installations, see section 11, *Control.* For information on our accessories, see section 17.



## Ebeco Snowmat

Snow melting mat for snow melting under asphalt, stone surfacing or concrete.

- Heating cable mat for snow melting secured on mesh.
- High temperature resistance, giving long service life.
- Quick, easy and convenient installation.
- Fast-acting system.



#### **Technical specifications**

CABLE TYPE	2-wire with braid
COLD CABLE LENGTH	5 m
LOWEST INSTALLATION TEMP.	-5℃
VOLTAGE	230 V
POWER OUTPUT	320 W/m <sup>2</sup>
APPROVAL	CE

#### Ordering information

			MIDTH		4054
ARTICLE NUMBER	ARTICLE	POWER OUTPUT	WIDTH	LENGTH	AREA
E 89 602 80	Ebeco Snowmat	700 W	0.5 m	4.2 m	2.1 m <sup>2</sup>
E 89 602 81	Ebeco Snowmat	1 100 W	0.5 m	6.9 m	3.5 m <sup>2</sup>
E 89 602 82	Ebeco Snowmat	1 350 W	0.5 m	8.5 m	4.2 m <sup>2</sup>
E 89 602 83	Ebeco Snowmat	2 350 W	0.5 m	14.4 m	7.2 m <sup>2</sup>
E 89 602 84	Ebeco Snowmat	2 900 W	0.5 m	18.0 m	9.0 m <sup>2</sup>

For information on control of ground installation, see section 11, *Control*. For information on our accessories, see section 17.



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## Ebeco Multiflex 27

Heating cable for snow melting under asphalt, stone surfacing or concrete.

- Series resistant heating cable with return conductor.
- Durable and hard-wearing cable.
- High temperature resistance, giving long service life.
- Flexible laying.



#### **Technical specifications**

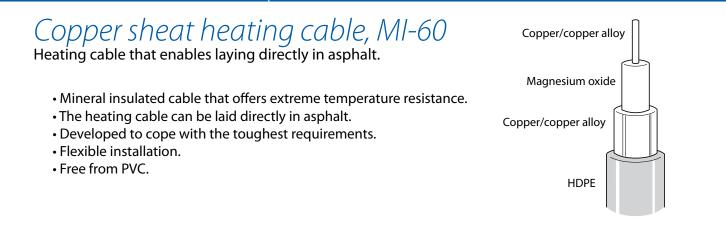
CABLETYPE	2-wire with braid
COLD CABLE LENGTH	5 m
LOWEST INSTALLATION TEMP.	-5°C
VOLTAGE	230 V
MINIMUM BEND RADIUS	35 mm
POWER OUTPUT	27 W/m
APPROVAL	CE

#### Ordering information

ARTICLE NUMBER	ARTICLE	POWER OUTPUT	LENGTH	AREA AT $300 \text{ W/m}^2$	AREA AT 250 W/m <sup>2</sup>	AREA AT 200 W/m <sup>2</sup>
E 89 607 60	Multiflex 27	1 000 W	37 m	3.5 m <sup>2</sup>	4 m <sup>2</sup>	5 m <sup>2</sup>
E 89 607 62	Multiflex 27	1 300 W	46 m	4.5 m <sup>2</sup>	5 m <sup>2</sup>	6.5 m <sup>2</sup>
E 89 607 64	Multiflex 27	1 500 W	55 m	5 m <sup>2</sup>	6 m <sup>2</sup>	7.5 m <sup>2</sup>
E 89 607 66	Multiflex 27	1 850 W	68 m	6 m <sup>2</sup>	7.5 m <sup>2</sup>	9 m <sup>2</sup>
E 89 607 68	Multiflex 27	2 150 W	79 m	7 m <sup>2</sup>	8.5 m <sup>2</sup>	11 m <sup>2</sup>
E 89 607 70	Multiflex 27	2 700 W	99 m	9 m <sup>2</sup>	11 m <sup>2</sup>	13.5 m <sup>2</sup>
E 89 607 72	Multiflex 27	3 200 W	120 m	11 m <sup>2</sup>	13 m <sup>2</sup>	16 m <sup>2</sup>
E 89 607 74	Multiflex 27	3 650 W	132 m	12 m <sup>2</sup>	14.5 m <sup>2</sup>	18 m <sup>2</sup>
E 89 607 76	Multiflex 27	4 250 W	156 m	14 m <sup>2</sup>	17 m <sup>2</sup>	21.5 m <sup>2</sup>

For information on panelboards for control of ground installations, see section 11, *Control*. For information on our accessories, see section 17.





MI-60

#### Teknisk data

CABLE TYPE	Single conductor
FLEXIBLE COLD CABLE	3 m at each end
LOWEST INSTALLATION TEMP.	-5°C
CONNECTION VOLTAGE	400 V
MINIMUM BEND RADIUS	6 x cable diameter
ASPHALT'S WORKING TEMP.	max. 250°C
POWER	ca. 60 W/m
APPROVAL	CE

#### Ordering information

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For information on panelboards for control of ground installations, see section 11, *Control.* For information on our accessories, see section 17.

## Ebeco T-18

Self-regulated heating cable for ice & snow melting in down pipes and gutters

- Prevents damages occurring such as frost damage on roofs, downpipes and gutters and forming of icicles.
- Durable and hard-wearing cable.
- Can be cut and crossed for perfect fit.
- UV-protected.
- · Contains no PVC.
- 10 years guarantee.



#### **Technical specifications**

DIMENSION
MAX. OPERATING TEMPERATURE
LOWEST INSTALLATION TEMP.
VOLTAGE
MINIMUM BEND RADIUS
POWER AT +5°C IN AIR
POWER IN SNOW AND ICE
MAX. CONNECTION LENGTH AT 10A/16A
GUARANTEE
APPROVAL

10.5 x 6.0 mm 65°C -10°C 230 V 30 mm Approx. 18 W/m Approx. 30 W/m 50 m/80 m 10 years CE

#### Planning and service agreement

Ebeco offers complete planning assistance - everything from consulting to materials specifications and cost estimate. We also offer drawing assistance. Based on existing CAD-drawings, we draw the entire roof installation and supply complete drawings in dwg- or dxf-format.

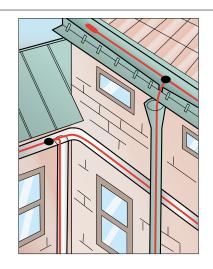
There is even the option of signing a service agreement. We make sure everything works as it should before winter arrives. Contact Ebeco for more information.

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ARTICLE NUMBER ARTICLE E 89 604 80 T-18 E 89 604 82 T-18 CT (for cardboard and asphalt roofs, etc.)

UNIT By the metre By the metre

For information on panelboards for control of roof installations, see section 11, *Control*. For information on our accessories, see section 17.



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## Frostvakt 25

Self-regulated heating cable for ice & snow melting in down pipes and gutters

- Frostvakt 25 is a mobile self regulating cable.
- Easy to install temporary or permanently
- In gutters the cable is fixed using Ebeco Clip (E 89 609 71 / E 89 609 72).
- Available in 6 differenth lengths with plug.
- Minimum bend radius 35 mm.
- Connection cable 4 m.

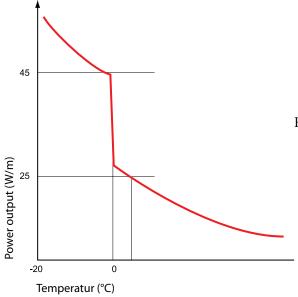


#### **Technical specifications**

DIMENSIONS	10,5 x 6,0 mm
MAX. OPERATIONAL TEMP.	65℃
LOWEST INSTALLATION TEMP	-10°C
VOLTAGE	230 V
MINIMUM BEND RADIUS	35 mm
POWER OUTPUT BY +5°C IN AIR	Ca 25 W/m
POWER OUTPUT IN SNOW AND ICE	Ca 45 W/m
APPROVAL	CE

#### Ordering information

ARTICLE NO	ARTICLE	LENGTH	POWER	
E 89 604 71	Ebeco Frostvakt 25	5 m	125 W	
E 89 604 72	Ebeco Frostvakt 25	8 m	200 W	
E 89 604 73	Ebeco Frostvakt 25	12 m	300 W	
E 89 604 74	Ebeco Frostvakt 25	16 m	400 W	
E 89 604 75	Ebeco Frostvakt 25	20 m	500 W	
E 89 604 76	Ebeco Frostvakt 25	25 m	625 W	



For information on our accessories, see section 17.

## *Ice detector ground & roof*

Regulation of snow melting installation for ground and roof

- Automatic monitoring for snow melting installations for ground and roof.
- Only activated when ice/snow is formed.
- Provides up to 80 percent energy saving compared to thermostat control.

#### Technical specifications

VOLTAGE POWER CONSUMPTION AMBIENT TEMPERATURE Ports: HEATING ON/OFF ALARM ON/OFF APPROVAL 230 VAC + 10%/-15% 50/60Hz 15 VA -20°C to +50°C

Relay 1 potential-free closing Relay 1 potential-free closing CE

ARTICLE NUMBER	ARTICLE
66 991 40	Sensor kit for roof installation
66 991 42	Sensor kit for ground installation
66 991 41	Control unit





For control of smaller installation (<5kW)

- Control via thermostat.
- Simple and user friendly.

## Panelboard with max-/min-thermostat

For control of smaller roof installation (max 4-5 kW)

- The device is only activated when there is a risk of ice formation.
- Control via two thermostats (max-/min).
- Ensures ice-free installation at low energy consumption.





## Panelboard with temp-/humidity control For advanced control of large installation (>5 kW)

- Control via a control unit, which takes both temperature and humidity into consideration.
- Saves up to 80% energy compared to a normal thermostat.
- Factory preset to a standard program, but can easily be reprogrammed to suit the object in question.
- Built-in operating time counter and monitoring of the sensors.
- Labelled with Energy Saver.



#### **Technical** Panelboard with Panelboard with Panelboard specifications with thermostat max-/min-thermostat temp-/humidity control

			ROOF	GROUND
VOLTAGE	230 V	230 V	230 V	400/230 V
LENGTH SENSOR CABLE	2.5 m	2.5 m	4 m	15 m
MAX. EXTENSION	50 m	50 m	50 m	50 m
HOUSING	IP55	IP55	IP55	IP55
THE SENSOR IS EXTENDED WITH	2x1.5 mm <sup>2</sup>	2x1.5 mm <sup>2</sup>	5x1.5 mm <sup>2</sup>	5x1.5 mm <sup>2</sup>
			2x1.5 mm <sup>2</sup>	4x1.5 mm <sup>2</sup>
SENSORS	Temp.sensor	2 pcs temp. sensors	Temp. sensor and	Temp/humidity sen-
			temp/humidity sensor*	sor and ice detector*
APPROVAL	CE	CE	CE	CE

All panelboards come fully assembled and include main switch, earth fault relay, alarm contact and fuses. Sometimes several small boards can be better than one big one. Another option is a master board with a slave board. Contact Ebeco for assistance with the best solution. We help with planning and work with drawings in CAD-environment.

\* The panelboards with temp-/moisture control come without sensors and must therefore be supplemented with a sensor kit depending on the panelboard's field of application.

#### Ordering information

		1	
ARTICLE NO	ARTICLE	ARTICLE NO	ARTICLE
E 89 600 00	Panel board with thermostat 1x13 A, IP30	E 89 600 63	Panel board 12x13 A, temp/moisture control IP55
E 89 600 01	Panel board with thermostat 1x16 A, IP30	E 89 600 64	Panel board 12x16 A, temp/moisture control IP55
E 89 600 02	Panel board with thermostat 3x13 A, IP30	E 89 600 65	Panel board 12x20 A, temp/moisture control IP55
E 89 600 03	Panel board with thermostat 3x16 A, IP30	E 89 600 75	Panel board 12x25 A, temp/moisture control IP55
E 89 600 04	Panel board with thermostat 3x20 A, IP30		
		E 89 600 66	Panel board 15x13 A, temp/moisture control IP55
E 89 600 05	Panel board with thermostat 1x13 A, JFB, IP55	E 89 600 67	Panel board 15x16 A, temp/moisture control IP55
E 89 600 06	Panel board with thermostat 1x16 A, JFB, IP55	E 89 600 68	Panel board 15x20 A, temp/moisture control IP55
E 89 600 07	Panel board with thermostat 1x20 A , JFB, IP55	E 89 600 76	Panel board 15x25 A, temp/moisture control IP55
E 89 600 10	Panel board with thermostat 3x13 A, JFB, IP55	E 89 600 69	Panel board 18x13 A, temp/moisture control IP55
E 89 600 11	Panel board with thermostat 3x16 A, JFB, IP55	E 89 600 70	Panel board 18x16 A, temp/moisture control IP55
		E 89 600 71	Panel board 18x20 A, temp/moisture control IP55
E 89 600 08	Panel board 1x13 A max-/min-thermostat IP55	E 89 600 77	Panel board 18x25 A, temp/moisture control IP55
E 89 600 09	Panel board 1x16 A max-/min-thermostat IP55		
		66 991 40	Sensor kit for roof installation
E 89 600 12	Panel board 3x13 A max-/min-thermostat IP55	66 991 42	Sensor package for ground installation
E 89 600 13	Panel board 3x16 A max-/min-thermostat IP55		
E 89 600 54	Panel board 3x13 A, temp/moisture control, IP55		
E 89 600 55	Panel board 3x16 A, temp/moisture control, IP55		
E 89 600 56	Panel board 3x20 A, temp/moisture control, IP55		
E 89 600 72	Panel board 3x25 A, temp/moisture control, IP55		
E 89 600 57	Panel board 6x13 A, temp/moisture control, IP55		
E 89 600 58	Panel board 6x16 A, temp/moisture control, IP55		
E 89 600 59	Panel board 6x20 A, temp/moisture control, IP55		
E 89 600 73	Panel board 6x25 A, temp/moisture control, IP55		
E 89 600 60	Panel board 9x13 A, temp/moisture control, IP55		
E 89 600 61	Panel board 9x16 A, temp/moisture control, IP55		
E 89 600 62	Panel board 9x20 A, temp/moisture control, IP55		
E 89 600 74	Panel board 9x25 A, temp/moisture control, IP55		

The panelboards E 89 600 54 - 71 come without sensors and must therefore be supplemented with 66 991 40 or 66 991 42, depending on the panelboard's field of application.

## *Timer Snowmat*

Time switch for control of Snowmat

- Control for snow melting mat.
- Simple and user friendly.

#### **Technical specifications**

VOLTAGE	230 V 50 Hz
BREAKING CAPACITY	16 A
HOUSING	IP 44
OPERATION TIME	1-12 hours
APPROVAL	CE

#### Ordering information

ARTICLE NO E 18 970 77 ARTICLE Timer Snowmat



### Concrete curing loops



## Ebeco Concrete curing loops (BHS)

Heating cable for concrete curing

- Accelerates curing and makes quicker form removal possible.
- Can be reactivated for efficient drying.
- Easy and quick to lay.
- Comes with 2 m connection cable with attachment plug of type CEE or Schuko.



#### **Technical specifications**

CABLE TYPE COLD CABLE LENGTH VOLTAGE LOWEST INSTALLATION TEMP. MINIMUM BEND RADIUS POWER OUTPUT CONNECTOR	2-wire type 2 m 230 V -10°C 50 mm Approx. 40 W/m CEE-device or Schuko.
APPROVAL	CE

Approximate power re	quirement BHS			
WALLS Form construction	NORTHERN SCAND Power (W/m <sup>2</sup> )	INAVIA C/c-distance (cm)	SOUTHERN SCANDIN Power (W/m <sup>2</sup> )	
Plywood (12 mm) + 50 mm plastic foam	100	38	75	50
Steel + 50 mm plastic foam	150	25	100	38
Steel with poor isolation Plywood (12mm) uninsulated	200	20	150	25
Steel uninsulated	-	-	200	20

ARTICLE NUMBER	ARTICLE	LENGTH	POWER OUTPUT	CONNECTOR
E 89 604 90	BHS	85 m	3 500 W	CEE-connector
E 89 604 96	BHS	85 m	3 500 W	Schuko
E 89 604 92	BHS	35 m	1 400 W	CEE-connector
E 89 604 93	BHS	35 m	1 400 W	Schuko
E 89 604 94	BHS	20 m	735 W	Schuko
E 89 604 95	BHS	10 m	380 W	Schuko
E 89 604 97	BHS	3.3 m	130 W	Schuko

## Ebeco Pillar heater

Heating cables for curing pillars and walls

- Accelerates curing and makes quicker form removal possible.
- For repeated use.
- Standard: 4 cables at 4 m. Can also be ordered specially in other cable lengths.
- Equipped with earth fault relay, operation indicator lamp and rubber cable with attachment plug.



#### **Technical specifications**

	CABLE LENGTH WARM CABLE LENGTH VOLTAGE LOWEST INSTALLATION TEMP. MINIMUM BEND RADIUS POWER OUTPUT TOTAL POWER OUTPUT HOUSING EARTH FAULT RELAY CONNECTOR APPROVAL	4 x 4 m 3 m 230 V -10℃ 40 mm 30 W/m 360 W IP55 25/0.3 A 10 A CE
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#### Approximate power requirement Pillar

WALLS Form construction	NORTHERN SCAN Power (W/m <sup>2</sup> )	NDINAVIA C/c-distance (cm)	SOUTHERN SCANDINAN Power (W/m <sup>2</sup> )	/IA C/c-distance (cm)
Plywood (12 mm) + 50 mm plastic foam	100	30	75	40
Steel + 50 mm plastic foam	150	20	100	30
Steel with poor isolation Plywood (12mm) uninsulated	200	15	150	20
Steel uninsulated	-	-	200	15

ARTICLE NUMBER	ARTICLE	LENGTH	POWER OUTPUT
E 89 604 98	Ebeco Pillar heater	4 x 4 m	360 W
E 89 604 99	Spare cable Pillar heater	4 m	90 W

## Frost guard base plate



## Ebeco Frost guard base plate Heating cable for base plate

- Protects base plates against frost heave during the construction phase.
- Easy to install.
- Is laid in sand layers on the pit bottom.
- Controlled manually or with thermostat.



#### **Technical specifications**

CABLE TYPE	2-wire type
COLD CABLE LENGTH	2 m
VOLTAGE	2 m 230 V
LOWEST INSTALLATION TEMP.	-10°C
MINIMUM BEND RADIUS	50 mm
APPROVAL	CE

Dimensioning				
LAYING DEPTH from the upper edge of the concrete plate (cm)	C/c-distance (cm)	Power (W/m <sup>2</sup> )	Covered area with Ebeco FGP 135 m (m <sup>2</sup> )	Covering area with Ebeco FGP 225 m (m <sup>2</sup> )
80 - 100	120	17	118	235
60 - 80	100	20	100	200
30 - 60	90	22	91	182
20 - 30	80	25	80	160
15 - 20	70	30	67	133
Min. 15	60	35	57	114

ARTICLE NUMBER	ARTICLE	LENGTH	POWER OUTPUT	VOLTAGE
E 89 604 88	FGP	235 m	4 000 W	400 V
E 89 604 89	FGP	135 m	2 200 W	230 V

Ebeco Heating mat A heating system for thawing frozen ground and keeping it warm

- Hard-wearing heating mat of PVC-lined nylon.
- Insulating material on one side provides extra efficiency.
- Eyelets on the sides for attaching alternative suspension.
- Mobile and easy to move.
- Can handle the toughest requirements and environments.
- Normally thaws up to 30 cm in 24 hours on sandy soil.



#### **Technical specifications**

MATERIAL INSULATION VOLTAGE POWER OUTPUT CONNECTION CABLE COMES WITH **APPROVAL** 

PVC-lined nylon 10 mm non-porous plastic foam 230 V ca 300 W/m<sup>2</sup> 2.5 m Overheating protection and earthed attachment plug CE

ARTICLE NUMBER	ARTICLE	SIZE	POWER OUTPUT
E 89 605 03	Ebeco Heating mat	3,0 x 1,0 m	1000 W
E 89 605 07	Ebeco Heating mat	5,8 x 0,8 m	1500 W
E 89 605 00	Ebeco Heating mat with hole	1 x 1 m	330 W
	(hole diameter 195 mm)		







# Ebeco Ceiling heating foil Ceiling heating for indoor heating

- Provides even and pleasant warmth throughout the whole room.
- Mounted above the ceiling.
- The heat is regulated with a thermostat.

#### **Technical specifications**

THICKNESS	0.2 mm
FOIL	Metal foil shrink-wrapped in plastic film
MELTING POINT	180°C
POWER OUTPUT	150 W/m <sup>2</sup>
VOLTAGE	230 V or 48 V
CONNECTION CAPLE	2 m
CONNECTION CABLE	2 m
APPROVAL	CE

#### Ordering information

ARTICLE NO	) article	SURFACE OUTPUT	POWER OUTPUT	SIZE	ARTICLE NO	ARTICLE	SURFACE OUTPUT	POWER OUTPUT	SIZE
34 001 98	Ceiling foil 230 V	$150  W/m^2$	135 W	30 x 300 cm	34 003 13	Ceiling foil 230 V	$150 \text{W/m}^2$	135 W	120 x 75 cm
34 002 00	Ceiling foil 230 V	$150 \text{W/m}^2$	185 W	30 x 410 cm	34 003 15	Ceiling foil 230 V	$150 \text{W/m}^2$	185 W	120 x 105 cm
34 002 05	Ceiling foil 230 V	$150 \text{W/m}^2$	210 W	30 x 460 cm	34 003 20	Ceiling foil 230 V	$150 \text{W/m}^2$	210 W	120 x 115 cm
34 002 10	Ceiling foil 230 V	$150 \text{W/m}^2$	245 W	30 x 540 cm	34 003 25	Ceiling foil 230 V	$150 \text{W/m}^2$	245 W	120 x 135 cm
34 002 15	Ceiling foil 230 V	$150 \text{W/m}^2$	280 W	30 x 620 cm	34 003 30	Ceiling foil 230 V	$150 \text{W/m}^2$	280 W	120 x 155 cm
34 002 20	Ceiling foil 230 V	$150 \text{W/m}^2$	315 W	30 x 700 cm	34 003 35	Ceiling foil 230 V	$150 \text{W/m}^2$	315 W	120 x 175 cm
					34 003 40	Ceiling foil 230 V	$150 \text{W/m}^2$	360 W	120 x 200 cm
34 002 23	Ceiling foil 230 V	$150 \text{W/m}^2$	135 W	60 x 150 cm	34 003 45	Ceiling foil 230 V	$150 \text{W/m}^2$	420 W	120 x 230 cm
34 002 25	Ceiling foil 230 V	$150  W/m^2$	185 W	60 x 205 cm	34 003 50	Ceiling foil 230 V	150 W/m <sup>2</sup>	490 W	120 x 270 cm
34 002 30	Ceiling foil 230 V	150 W/m <sup>2</sup>	210 W	60 x 230 cm	34 003 55	Ceiling foil 230 V	150 W/m <sup>2</sup>	570 W	120 x 315 cm
34 002 35	Ceiling foil 230 V	$150  W/m^2$	245 W	60 x 270 cm	34 003 60	Ceiling foil 230 V	150 W/m <sup>2</sup>	630 W	120 x 350 cm
34 002 40	Ceiling foil 230 V	$150  W/m^2$	280 W	60 x 310 cm	34 003 65	Ceiling foil 230 V	150 W/m <sup>2</sup>	720 W	120 x 400 cm
34 002 45	Ceiling foil 230 V	150 W/m <sup>2</sup>	315 W	60 x 350 cm	34 003 70	Ceiling foil 230 V	150 W/m <sup>2</sup>	840 W	120 x 460 cm
34 002 50	Ceiling foil 230 V	150 W/m <sup>2</sup>	360 W	60 x 400 cm	34 003 75	Ceiling foil 230 V	150 W/m <sup>2</sup>	980 W	120 x 540 cm
34 002 55	Ceiling foil 230 V	$150  W/m^2$	420 W	60 x 460 cm					
34 002 60	Ceiling foil 230 V	150 W/m <sup>2</sup>	490 W	60 x 540 cm	34 004 00	Ceiling foil 48 V	150 W/m <sup>2</sup>	55 W	30 x 120 cm
34 002 65	Ceiling foil 230 V	150 W/m <sup>2</sup>	570 W	60 x 630 cm	34 004 05	Ceiling foil 48 V	150 W/m <sup>2</sup>	70 W	30 x 160 cm
					34 004 10	Ceiling foil 48 V	150 W/m <sup>2</sup>	80 W	30 x 180 cm
34 002 68	Ceiling foil 230 V	150 W/m <sup>2</sup>	135 W	90 x 100 cm	34 004 15	Ceiling foil 48 V	150 W/m <sup>2</sup>	110 W	30 x 240 cm
34 002 70	Ceiling foil 230 V	150 W/m <sup>2</sup>	185 W	90 x 140 cm	34 004 20	Ceiling foil 48 V	150 W/m <sup>2</sup>	130 W	30 x 290 cm
34 002 75	Ceiling foil 230 V	150 W/m <sup>2</sup>	210 W	90 x 155 cm					
34 002 80	Ceiling foil 230 V	150 W/m <sup>2</sup>	245 W	90 x 180 cm	34 004 25	Ceiling foil 48 V	150 W/m <sup>2</sup>	55 W	60 x 60 cm
34 002 85	Ceiling foil 230 V	150 W/m <sup>2</sup>	280 W	90 x 205 cm	34 004 30	Ceiling foil 48 V	150 W/m <sup>2</sup>	110 W	60 x 120 cm
34 002 90	Ceiling foil 230 V	150 W/m <sup>2</sup>	315 W	90 x 235 cm	34 004 35	Ceiling foil 48 V	150 W/m <sup>2</sup>	140 W	60 x 160 cm
34 002 95	Ceiling foil 230 V	150 W/m <sup>2</sup>	360 W	90 x 270 cm	34 004 40	Ceiling foil 48 V	150 W/m <sup>2</sup>	160 W	60 x 180 cm
34 003 00	Ceiling foil 230 V	$150 \mathrm{W/m^2}$	420 W	90 x 310 cm	34 004 45	Ceiling foil 48 V	$150 \text{W/m}^2$	220 W	60 x 240 cm
34 003 05	Ceiling foil 230 V	$150  W/m^2$	490 W	90 x 360 cm	34 004 50	Ceiling foil 48 V	$150 \text{W/m}^2$	260 W	60 x 290 cm
34 003 10	Ceiling foil 230 V	150 W/m <sup>2</sup>	570 W	90x 420 cm					

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### Industrial applications

Many years of experience and a wide product range

- Heating cable for frost protection, keeping pipes and tanks warm.
- Wide product range of both series resistance and self-regulated heating cables.
- Many years of experience in custom designing complete solutions, including assembly and control.



Heating cables have a wide range of applications within different industries. The most common applications are frost protection and keeping pipes and tanks warm.

#### Frost protection

Frost protection can be, for example, a simple drinking water pipe, process water pipes, protection of sprinkler systems or sewage pipes.

#### Keeping warm

Keeping things warm entails higher temperatures than frost protection. Then heating cable compensates for losses through out the insulation. It can be a matter of maintaining of a few degrees up to maintaining temperatures of 150°C for asphalt plants. Depending on the design of the plant and processing temperatures, a choice is made between different cables with temperature resistance suitable for the purpose.

#### Heating

When keeping things warm is required the power requirement is higher, making the time it takes to heat things up very important.

Ebeco has a wide range of heating cables, both series resistance and self-regulated. Which heating cable type is most suitable depends on what the object looks like. We at Ebeco have many years experience in calculating and designing heating cables for industrial purposes. We can thus, depending on object type, size and heat requirement, in each individual case design a complete installation with the heating cable solution best suitable to the installation, including accessories for assembly and a control panel with appropriate controls.

Contact Ebeco for a custom designed heating cable solution specifically for your needs.

#### Ordering information

FIELD OF APPLICATION	ARTICLE
Frost protection	Contact Ebeco for a quote
Keeping warm	Contact Ebeco for a quote
Heating	Contact Ebeco for a quote



### Ebeco Pew foil

For careful and efficient heating of churches

- Extremely energy saving heating system, which protects the church's effects.
- Makes the people in the church warm instead of the premises.
- ${\boldsymbol{\cdot}}$  The heating foil is installed on the underside and rear of the pew
- Only switched on when there are activities in the church.
- Fast-acting system.



#### **Technical specifications**

pprox. 0.3 mm
5°C
30 V
50/300 mm
$00 \text{ W/m}^2$
E

#### Ordering information

ARTICLE NUMBER	ARTICLE	WIDTH	POWER OUTPUT	UNIT
66 000 64	Ebeco Pew foil 230 V	30 cm (tot. width 35 cm)	200 W/m², 60 W/m	By the metre

For information on our accessories, see section 17, Accessories.

### Thermostat accessories

#### **Extension frame**

Ebeco's thermostats EB-Therm are intended for recessed or surface mounting. For surface mounting, use the extension frame. The extension frame fits all EB-Therm-models.

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 85 816 69	Extension frame EB-Therm	81x81x29 mm

#### Front Cover

The thermostats' original colour is polar white. The Front Cover accessory makes it possible to change colour to match existing frame systems. Frame is not included in the package.

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 85 816 11	Front Cover EB-Therm 355 Antracit for Exxact	81x81x40 mm
E 85 816 12	Front Cover EB-Therm 355 Metallic for Exxact	81x81x40 mm
E 85 816 13	Front Cover EB-Therm 355 Aluminium for Elko Plus	81x81x40 mm
E 85 816 14	Front Cover EB-Therm 355 Black for Elko Plus	81x81x40 mm



If the existing frame does not cover the hole, the thermostat is mounted on a backplate. Backplate is adapted to Eljo Trend frame-system and available in the colours polar white, aluminium and bronze.

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 85 816 97	Backplate polar white	86x86x6 mm
E 85 816 98	Backplate aluminium	86x86x6 mm
E 85 816 99	Backplate bronze	86x86x6 mm



#### Sensor cable

Sensor cable to thermostat. Included in the thermostat package.

ARTICLE NUMBER	ARTICLE	LENGTH	The said of
E 85 816 71	Sensor cable	3.0 m	

#### Flexible conduit

Flexible conduit for the thermostat's sensor cable.

ARTICLE NUMBER	ARTICLE	LENGTH	
E 89 605 41	Flexible conduit for the thermostat sensor	2.5 m	

#### Ebeco Adapter

Adapter to ease the handling of the transition between the connection box and the flexible conduit when installing a thermostat.

ARTICLE NUMBER	ARTICLE	LENGTH	
E 89 605 51	Adapter for the flexible conduit	10-13 mm	

### Accessories Adhesive, glue and filler

### Adhesive, glue and filler

#### Fixing tape

Fixing tape used when laying Ebeco Cable Kit. The tape is enough for approx. 4 m<sup>2</sup>.

ARTICLE NUMBER	ARTICLE	DIMENSIONS	
E 89 605 45	Fixing tape	15 mm x 20 m	

#### Glue sticks

Glue sticks which are used when laying heating cables. Application temperature 120°C. Open time 30 seconds.

ARTICLE NUMBER	ARTICLE
E 16 474 38	Glue sticks 1.8 kg (ca 100 pcs)

#### Glue gun

Ebeco Glue gun 230 VAC 50 Hz 23/80 W Warm-up time 10 minutes. Glueing capacity up to 16 g/min. Melting temperature approx. 140°C. Approval: CE

ARTICLE NUMBER ARTICLE E 16 474 37 Ebeco Glue gun

#### Primer +

Primer + is used for laying Cable Kit, Cable Board or Thermoflex Kit on existing floor (chip/plaster board or concrete). Enough for approx. 25 m<sup>2</sup>.

ARTICLE NUMBER ARTICLE E 89 605 50 Primer +, 1 litre

#### Tile adhesive

Adesilex P4. Used when laying Ebeco Cable Board. Enough for approx.  $1.5 \text{ m}^2$  when fixating insulation board, filling grooves and fitting tiles.

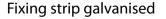
ARTICLE NUMBER ARTICLE E 89 601 84 Tile adhesive Adesilex P4, 20 kg











Accessories

Used for laying of Multiflex heating cable and Ebeco Snowmelt.

ARTICLE NUMBER	ARTICLE	LENGTH
E 89 603 91	Fixing strip galvanised	10 m
E 89 609 68	Fixing strip galvanised	25 m



#### Glue cartridge T-18

Used for laying of Ebeco T-18, heating cables for frost protection of gutters and downpipes. Enough for approx. 50 m cable.

ARTICLE NUMBER	ARTICLE
E 16 472 18	Glue cartridge T18 ESSTack

#### Lashed wire BHS

Used when laying	Ebeco Concrete curing	oops (BHS). Enough for approx. 12 m <sup>2</sup> .	
ARTICLE NUMBER	ARTICLE	LENGTH	
E 06 249 27	Lashed wire	12 m	

DIMENSIONS

1 x 10 m (roll)

0.8 x 1.2 m

#### Plaster net

For armouring when applying filler in wetrooms or installing Ebeco Cable Kit on wooden joist frames.

ARTICLE NUMBERARTICLEE 89 603 94Plaster netE 89 603 92Plaster net

#### Foil glue

Used when laying Ebeco Foil 48V. Enough for approx. 4-8 m<sup>2</sup>.

ARTICLE NUMBER ARTICLE E 89 601 90 Foil glue, 1 litre

#### Fixing tape for foil

Used when laying Ebeco Foil.

ARTICLE NUMBER ARTICLE E 89 605 46 Fixing tape for foil DIMENSIONS 38 mm x 33 m

#### Metal cable carrier

For installation of heating cable in wooden joist frames.

ARTICLE NUMBERARTICLEDIMENSIONSE 89 603 90Metal cable carrier70x15x15 mm (folded)









### **Accessories** Earth fault relay & underfloor heating caravan



### Earth fault relay

#### Earth fault relay

Earth fault relay for DIN-mounting

ARTICLE NUMBER ARTICLE E 21 643 06 Earth fault relay 25 A/2-pol/30 mA

#### Cover for earth fault relay

Housing IP40.

ARTICLE NUMBER ARTICLE E 21 800 02 Cover for earth fault relay





### Accessories underfloor heating caravan

#### Transformer

Transformer is for connection to Ebeco Foil 48 V. Supplied with cable stand.

ARTICLE NUMBER	ARTICLE
E 52 070 21	Transformer 250 VA, cable stand, 230 V/42-48 V
E 52 070 24	Transformer 350 VA, cable stand, 230 V/42-48 V
E 52 070 26	Transformer 500 VA, cable stand, 230 V/42-48 V
E 52 070 29	Transformer 720 VA, cable stand, 230 V/42-48 V

#### Crimping tool

Used when fitting Ebeco Foil to connect cables with terminals.

ARTICLE NUMBER	ARTICLE
E 89 606 90	Crimping tool Ebeco Foil

#### Accessory kit Ebeco Foil 48 V

Complete accessory kit for fitting Ebeco Foil 48 V. Enough for approx. 15 pcs foil.

ARTICLE NUMBER ARTICLE 66 001 20 Accessory kit for Ebeco Foil 48 V







### Accessories Ebeco Foil

#### Crimping tool

Used when fitting Ebeco Foil to connect cables with terminals.

ARTICLE NUMBER	ARTICLE
E 89 606 90	Crimping tool Ebeco Foil

#### Connection/end kits

Material which is used when laying Ebeco Foil to connect the installation cables with the foil.

ARTICLE NUMBER	ARTICLE
E 89 606 79	Connection/end kit Ebeco Foil MINI (for 4 pcs foils)
E 89 606 80	Connection/end kit Ebeco Foil MAXI (for 10 pcs foils)

#### Single-core double-insulated

Double-insulated installation cable. Used when laying Ebeco Foil.

ARTICLE NUMBER	ARTICLE	LENGTH
E 03 766 03	Single-core double-insulated cable, blue 1.5 mm <sup>2</sup>	25 m
E 03 766 13	Single-core double-insulated cable, black 1.5 mm <sup>2</sup>	25 m

#### Fixing tape for foil.

Used when laying Ebeco Foil.

ARTICLE NUMBER	ARTICLE	DIMENSIONS	<b>GRECO</b>
E 89 605 46	Fixing tape for foil	38 mm x 33 m	www.ebeco.com

#### Foil glue

Used when laying Ebeco Foil 48V. Enough for approx. 4-8 m<sup>2</sup>.

ARTICLE NUMBER ARTICLE E 89 601 90 Foil glue, 1 litre

#### Ebeco Foil-cart

Used when measuring Ebeco Foil.

ARTICLE NUMBER ARTICLE 66 000 50 Ebeco Foil-cart

#### Terminal

Used when laying Ebeco Foil to connect the installation cables with the foil. Bought by piece.

ARTICLE NUMBER	ARTICLE
E 89 606 74	Terminal, 2.5-6 mm <sup>2</sup>
05 21 95	Terminal, 1.25-2 mm <sup>2</sup>













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### Accessories Accessories frost protection roof



### Accessories frost protection roof

#### Connection/end kit T-18

Complete kit for mounting of Ebeco T-18/T-18 CT. Heating cable sign included.

ARTICLE NUMBER ARTICLE E 89 604 11 Connection/end kit T-18

#### Splice kit

Complete kit for splicing of Ebeco T-18/T-18 CT.

ARTICLE NUMBERARTICLEE 89 604 12Splice kit T-18

#### Glue cartridge T-18

Used for laying of Ebeco T-18, heating cables for frost protection of gutters and downpipes. Enough for approx. 50 m cable.

ARTICLE NUMBER ARTICLE E 16 472 18 Glue cartridge T18 ESSTack

#### Mounting bracket T-18

Used for laying of Ebeco T-18/T-18 CT to relieve the heating cable when descending downpipes/roof.

ARTICLE NUMBER ARTICLE E 89 609 62 Mounting bracket T-18

#### Heating cable sign

Notifies that heating cable is installed.ARTICLE NUMBERARTICLEE 89 609 63Heating cable sign (included in E 89 604 11)

#### Ebeco Gel

Sealing compound for 2 junction boxes. Hardens in 10 min at 20°C. Must be mixed at temperatures greater than -10 °C. Can be removed. Non-poisonous, protective gloves not require, avoid however eye contact. Max 1,000 V IP68 170 g.

ARTICLE NUMBER ARTICLE E 07 968 02 Ebeco Gel

#### Ebeco Clip

Used to attach the heating cable to the gutter. Fit clips one metre apart in the gutter

ARTICLE NUMBER	ARTICLE	PACKNING
E 89 609 71	Ebeco Clip white	10-pack
E 89 609 72	Ebeco Clip black	10-pack













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### Accessories Accessories frost protection pipes

EBECO SSS

### Accessories frost protection pipes

#### Connection /end kit F-10

Complete kit for fitting Ebeco F-10. Heating cable sign included.

ARTICLE NUMBER	ARTICLE
E 89 604 08	Connection/end kit F-10

#### Splice kit

Complete kit for splicing Ebeco F-10.

ARTICLE NUMBERARTICLEE 89 604 12Splice kit F-10

#### Additions kit F-10

Used for interior laying of Ebeco F-10. Thread R15/R20.

ARTICLE NUMBER ARTICLE E 89 604 10 Additions kit F-10

#### Stand for cable drum

Facilitates work when laying Ebeco F-10-cable.

ARTICLE NUMBERARTICLEE 89 604 15Stand for cable drum.

#### Warning adhesive

Notifies that heating cable is installed on pipe.

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 89 609 64	Warning adhesive	100 mm x 33 m

#### T-joint of pipe

Used for interior laying of Ebeco F-10. Fits E 89 604 10.

ARTICLE NUMBER	ARTICLE
E 89 604 16	T-joint of pipe 25 mm/R15
E 89 604 17	T-joint of pipe 32 mm/R15
E 89 604 18	T-joint of pipe 40 mm/R15

#### Heating cable sign

Notifies that heating cable is installed.

ARTICLE NUMBER	ARTICLE
E 89 609 63	Heating cable sign (included in E 89 604 08)











### Other

#### Ebeco Cable Guard

Cable Guard is used during the entire installation process with all types of heating cables and for any repairs. Cable Guard warns if the cable is broken or there is a short-circuit to earth.

ARTICLE NUMBER ARTICLE E 42 000 18 Ebeco Cable Guard

#### Aluminium tape

Used when fitting heating cables, mainly industrial plants. Withstands heat up to 150°C.

ARTICLE NUMBER	ARTICLE	DIMENSIONS	
E 89 609 70	Aluminium tape	50 mm x 46 m	

#### Glass fibre tape

Used when fitting heating cables, mainly industrial plants. Withstands heat up to 70°C.

ARTICLE NUMBER	ARTICLE	DIMENSIONS	
E 89 609 67	Glass fibre tape	19 mm x 50 m	

#### Warning adhesive

Used to notify that heating cable is installed on pipe.

ARTICLE NUMBER	ARTICLE	DIMENSIONS
E 89 609 64	Warning adhesive	100 mm x 33 m

#### Fixing strips corrosion-resistant

Used when fitting heating cables in industrial plants.

ARTICLE NUMBER ARTICLE E 89 609 69 Fixing strips corrosion-resistant

LENGTH 25 m

#### Repair kit Universal

Complete kit for splicing all of Ebeco's series resistance heating cables.

ARTICLE NUMBER ARTICLE E 89 605 97 Repair kit Universal

#### Transformer

Transformer is for connection to Ebeco Foil 48 V. Supplied with cable stand.

ARTICLE NUMBER	ARTICLE
E 52 070 21	Transformer 250 VA, cable stand, 230 V/42-48 V
E 52 070 24	Transformer 350 VA, cable stand, 230 V/42-48 V
E 52 070 26	Transformer 500 VA, cable stand, 230 V/42-48 V
E 52 070 29	Transformer 720 VA, cable stand, 230 V/42-48 V

#### Connection/end kit FR-30

Connection kit for frost protection cable for cold storage door frames, FR-30

ARTICLE NUMBER	ARTICLE
E 89 604 05	Connection/end kit FR-30















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