



VARMO FORM GRAFITE

Datasheet **VARMO FORM GRAFITE**

Thermoformed insulating panels with graphite

Contents

DESCRIPTION	3
ADVANTAGES	3
FIELDS OF APPLICATION	4
DIMENSIONAL FEATURES	5
STRATIGRAPHY	6
TECHNICAL DATA	7
PHYSICAL FEATURES	7
DURABILITY AND FIRE RESISTANCE	8
THERMAL RESISTANCE	8

Thermoformed insulating panels with graphite

VARMO FORMGRAFITE



DESCRIPTION

VARMO FORM insulating panels, made with solid bosses in sintered expanded polystyrene with graphite, are ideal for the construction of radiant heating systems. It is a versatile and resistant system. The use of this particular material, formed from classic expanded polystyrene processed with graphite, makes it possible to achieve unparalleled levels of thermal insulation, even with minimal thickness. The interlocking rigid coating film in HIPS laminated polystyrene acts as a vapor barrier, and gives the bosses mechanical strength; it is also equipped with an undercut to ensure the stable position of the pipe and prevent horizontal and vertical movements. The installation is facilitated thanks to the lateral overlap with pressure coupling that guarantees a perfect seal against thermal bridges and self-leveling screeds. It is designed for applications with pipe diameter 16 and 17 and multiple 50 mm pitch. It complies with the regulations in force regarding thermal insulation and with UNI EN 13163 of 2009 and UNI EN 1264-4 standards; it has CE marking. Recommendations: the panel must always be protected from direct sunlight and stored in a dry, ventilated place, away from heat sources and open flames.

ADVANTAGES

- Graphite makes it possible to achieve unparalleled levels of thermal insulation, even with minimal thicknesses
- Quick and easy to install
- No limitation in the choice of coatings
- Can be laid on pre-existing pavements
- Perfect sealing to thermal bridges and self-levelling screeds
- Immediate walkability of the floor after installation

FIELDS OF APPLICATION

APPLICATIONS



Underfloor heating



Wet solution



Cement screed (40-45mm above bosses/pipe)

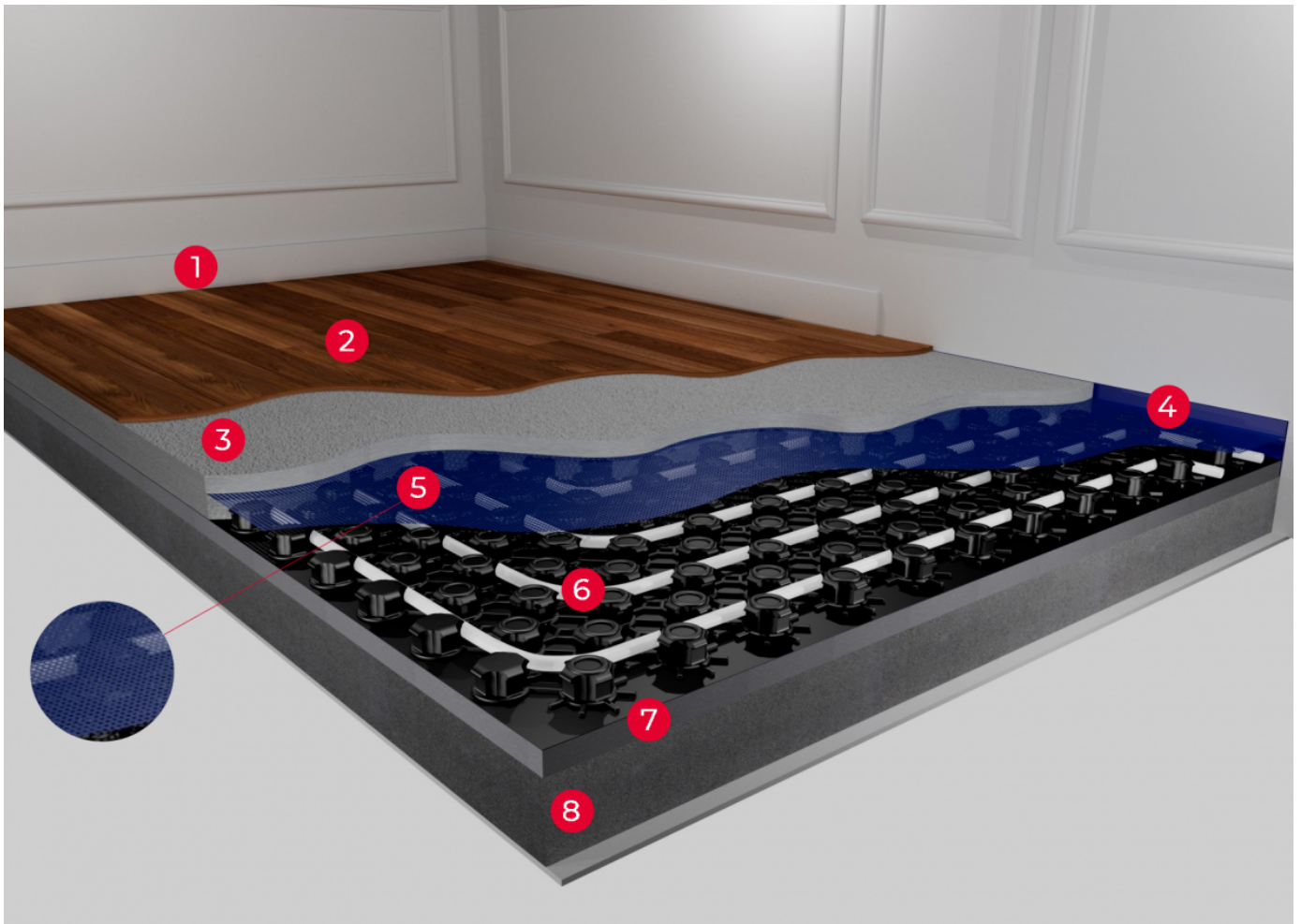


Self-levelling screed (thickness 20-25mm)

DIMENSIONAL FEATURES

Code	Usable panel dimensions (mm)	Total panel dimensions (mm)	Pcs per pack	Packaging m ²	Packaging type
PI00VGN321022H	1400x800	1450x850	22	24.64	cardboard box
PI00VGN452322H	1400x800	1450x850	14	15.68	cardboard box
PI00VGN603822H	1400x800	1450x850	10	11.2	cardboard box
PI00VGN674522H	1400x800	1450x850	9	10.08	cardboard box
PI00VGN826022H	1400x800	1450x850	7	7.84	cardboard box

STRATIGRAPHY



LEGEND	DESCRIPTION
1	Skirting boards
2	Covering
3	Screed
4	PERIMETER EDGING
5	Fibreglass mesh
6	Pipe
7	Varmo Form Grafite insulating panel
8	Floor slab

TECHNICAL DATA

Code	Insulation thickness mm	Embossing height mm	Total panel thickness mm	Panel surface m ²	Pipe diameter mm
PI00VGN321022H	10	22	32	1.12	16-17
PI00VGN452322H	23	22	45	1.12	16-17
PI00VGN603822H	38	22	60	1.12	16-17
PI00VGN674522H	45	22	67	1.12	16-17
PI00VGN826022H	60	22	82	1.12	16-17

PHYSICAL FEATURES

	Reference standard	EPS / Class	VARMO FORM GRAFITE (all codes)
Declared thermal conductivity λ_D [W/mK]	UNI EN 12667	150	0.030
Declared thermal conductivity λ_D [W/mK]	UNI EN 12667	200	0.030
Compressive strength at 10% strain σ_{10} [kPa]	UNI EN 826	150 / CS(10)150	150
Compressive strength at 10% strain σ_{10} [kPa]	UNI EN 826	200 / CS(10)200	200
Long-term water absorption WLT [%]	UNI EN 12087	150 / WL(T)0,5	4.0
Long-term water absorption WLT [%]	UNI EN 12087	200 / WL(T)2,0	6.5
Tolerance dim. thickness dN [mm]	UNI EN 823	/ T(2)	± 2
Dim. stability at 23°C / 50% R.H. $\Delta\epsilon_l$; $\Delta\epsilon_d$	UNI EN 1603	/ DS(N)2	0.2
Water vapour diffusion resistance of EPS μ	UNI EN 12086	150 / Z 50-90	50-90
Water vapour diffusion resistance of EPS μ	UNI EN 12086	200 / Z 30-70	30-70
HIPS water vapour diff. res. μ	UNI EN 12086		10.000

DURABILITY AND FIRE RESISTANCE

	Reference standard	VARMO FORM GRAFITE (all codes)
Durability of thermal cond. against heat, atm. agents, degradation, ageing.	UNI EN 13163	The thermal conductivity of EPS does not change over time
Reaction to fire	EN ISO 11925-2 + EC1	EUROCLASS - E - UNI EN 13501
Fire resistance against heat, atmospheric agents, degradation, ageing.	UNI EN 13163	The fire behaviour of EPS does not change over time

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THERMAL RESISTANCE

	Thermal res. R _{0,ins} [m ² K/W]
PI00VGN321022H	0,33 / EPS 200
PI00VGN452322H	0,77 / EPS 150
PI00VGN603822H	1,27 / EPS 150
PI00VGN674522H	1,50 / EPS 150
PI00VGN826022H	2,00 / EPS 150



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