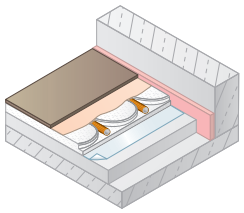
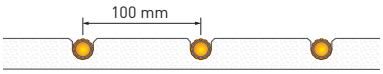
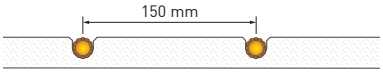
7.5 Modular floor heating



- **Floor covering: tiles, ceramic and natural stone coverings, thermal resistance d/λ = 0.01 m²K/W**
- Max. flow temperature = 50 °C
- Max. length of VarioProFile pipe 11.6x1.5 Laser per heating circuit incl. supply pipe: 80 m (e.g. 6.5 m² heating circuit and 15 m supply pipe with 100 mm pipe spacing), pressure loss according to Variotherm dimensioning software
- Pipe requirement [m/m²] = 1/pipe spacing [m]



t_v/t_r [°C]	t_{mH} [°C]	Heat output [W/m²] at room temperature ...					T_0 [°C] (at T_r = 20 °C)
		... 15 °C	... 18 °C	... 20 °C	... 22 °C	... 24 °C	
30/20	25.0	55	39	27	16	-	23
30/25	27.5	69	53	41	30	19	24
35/25	30.0	83	67	55	44	33	25
35/28	31.5	92	75	64	53	41	26
35/30	32.5	97	81	69	58	47	26
37.5/32.5	35.0	111	94	83	72	61	28
40/30	35.0	111	94	83	72	61	28
40/35	37.5	125	108	97	86	75	29
45/35	40.0	139	122	111	100	89	30
45/40	42.5	153	136	125	114	103	32
50/40	45.0	167	150	139	128	117	33
50/45	47.5	181	164	153	142	131	34



Not recommended for living and barefoot areas!

t_f/t_r [°C]	t_{mH} [°C]	Heat output [W/m²] at room temperature ...					T_0 [°C] (at T_r = 20 °C)
		... 15 °C	... 18 °C	... 20 °C	... 22 °C	... 24 °C	
30/20	25.0	46	32	23	14	-	22
30/25	27.5	58	44	35	25	16	23
35/25	30.0	70	56	46	37	28	24
35/28	31.5	77	63	53	44	35	25
35/30	32.5	82	67	58	49	39	25
37.5/32.5	35.0	93	79	70	60	51	26
40/30	35.0	93	79	70	60	51	26
40/35	37.5	105	91	82	72	63	28
45/35	40.0	117	103	93	84	75	29
45/40	42.5	128	114	105	96	86	30
50/40	45.0	140	126	117	107	98	31
50/45	47.5	152	138	128	119	110	32

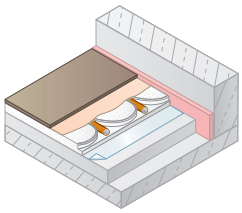
t_{mH} = mean heating circuit water temperature = $\frac{t_f + t_r}{2}$ [°C]

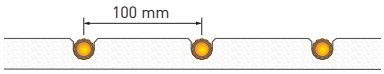
T_0 = mean surface temperature [°C]

T_r = Room temperature [°C]

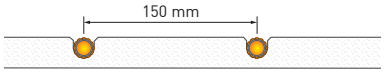
t_f/t_r = flow/return temperature [°C]

- **Floor covering: thin parquet floor, laminate and carpets, thermal resistance d/λ = 0.075 m²K/W**
- Max. flow temperature = 50 °C
- Max. length of VarioProFile pipe 11.6x1.5 Laser per heating circuit incl. supply pipe: 80 m (e.g. 6.5 m² heating circuit and 15 m supply pipe with 100 mm pipe spacing), pressure loss according to Variotherm dimensioning software
- Pipe requirement [m/m²] = 1/pipe spacing [m]





t_f/t_r [°C]	t_{mH} [°C]	Heat output [W/m²] at room temperature ...					T_0 [°C] (at T_r = 20 °C)
		... 15 °C	... 18 °C	... 20 °C	... 22 °C	... 24 °C	
30/20	25.0	44	30	22	13	-	22
30/25	27.5	55	42	33	24	15	23
35/25	30.0	66	53	44	35	26	24
35/28	31.5	72	59	50	42	33	25
35/30	32.5	77	64	55	46	37	25
37.5/32.5	35.0	88	75	66	57	48	26
40/30	35.0	88	75	66	57	48	26
40/35	37.5	99	86	77	68	59	27
45/35	40.0	110	97	88	79	70	28
45/40	42.5	121	108	99	90	81	29
50/40	45.0	132	119	110	101	92	30
50/45	47.5	143	130	121	112	103	31



Not recommended for living and barefoot areas!

t_f/t_r [°C]	t_{mH} [°C]	Heat output [W/m²] at room temperature ...					T_0 [°C] (at T_r = 20 °C)
		... 15 °C	... 18 °C	... 20 °C	... 22 °C	... 24 °C	
30/20	25.0	37	26	18	11	-	22
30/25	27.5	47	36	28	20	13	23
35/25	30.0	56	45	37	30	22	23
35/28	31.5	62	51	43	36	28	24
35/30	32.5	66	55	47	39	32	24
37.5/32.5	35.0	75	64	56	49	41	25
40/30	35.0	75	64	56	49	41	25
40/35	37.5	85	74	66	58	51	26
45/35	40.0	94	83	75	68	60	27
45/40	42.5	104	93	85	77	70	28
50/40	45.0	113	102	94	87	79	29
50/45	47.5	123	112	104	96	89	30

t_{mH} = mean heating circuit water temperature = $\frac{t_f + t_r}{2}$ [°C]

T_0 = mean surface temperature [°C]

T_r = Room temperature [°C]

t_f/t_r = flow/return temperature [°C]