



Insulation

Material

The aquatherm ti pipe systems are insulated with PUR-rigid foam. This polyurethane foam is made of Polyol and Isocyanate and meets the functional requirements of the EN 253. The foam is homogeneous with an average cell size of max. 0,5 mm.

For the professional insulation of the pipe and fitting connections, insulation jackets made of PUR-rigid foam are available for the aquatherm ti pipe system, coated with shrink sockets resulting in a permanent connection with the casing pipes.

Material parameters

Technical data	PUR
Cell gas Cyclopentane	> 8 %
Core density	> 60 kg/m ³
Closed cell	> 88 %
Water absorption	< 10 % (Vol)
Compression strength 10 % deformation	> 0,3 N/mm ²
Shearing resistance	> 0,12 N/mm ²
Tangent shearing resistance	> 0,20 N/mm ²
Thermal conductivity at 50° C	< 0,03 W/mK



Loss of heat energy

Type of pipe	Heat loss at average temperature 40°C in W/m	Heat loss at average temperature 50° C in W/m	Heat loss at average temperature 65° C in W/m
aquatherm blue pipe SDR 11 MF & MF OT			
32 mm	6,86	8,57	11,14
40 mm	6,92	8,65	11,24
50 mm	8,87	11,08	14,41
63 mm	10,1	12,62	16,41
75 mm	10,99	13,74	17,86
90 mm	11,8	14,75	19,17
110 mm	11,27	14,08	13,81
125 mm	11,43	14,29	18,57
160 mm	14,83	18,54	24,1
200 mm	14,6	15,25	23,73
250 mm	14,15	17,69	23
315 mm	18,3	22,88	29,74
aquatherm green pipe SDR 9 MF RP			
32 mm	6,71	8,38	10,9
40 mm	6,77	8,47	11,01
50 mm	8,62	10,78	14,01
63 mm	9,79	12,24	15,92
75 mm	10,61	13,27	17,25
90 mm	11,38	14,22	18,49
110 mm	10,88	13,59	17,67
125 mm	11,03	13,79	17,93
160 mm	14,17	17,71	23,03
200 mm	13,96	17,44	22,68
250 mm	13,55	16,93	22,02



Loss of cooling energy

Type of pipe	Cooling energy loss at F: -12°C R: -6°C AT: 26°C in W/m	Cooling energy loss at F: 6°C R: 12°C AT: 26°C in W/m	Cooling energy loss at F: 15°C R: 18°C AT: 26°C in W/m
aquatherm blue pipe SDR 11 MF & MF OT			
32 mm	5,88	2,86	1,6
40 mm	5,94	2,89	1,61
50 mm	7,65	3,72	2,08
63 mm	8,75	4,25	2,37
75 mm	9,54	4,64	2,59
90 mm	10,26	4,98	2,79
110 mm	9,8	4,76	2,66
125 mm	9,94	4,83	2,7
160 mm	13,03	6,33	3,54
200 mm	12,81	6,22	3,48
250 mm	12,4	6,02	3,37
315 mm	16,23	7,88	4,41
aquatherm blue pipe SDR 17,6 MF			
160 mm	13,46	6,54	3,65
200 mm	13,22	6,42	3,59
250 mm	12,79	6,21	3,47
315 mm	16,89	8,21	4,59

F = flow, R = return, AT = ambient temperature