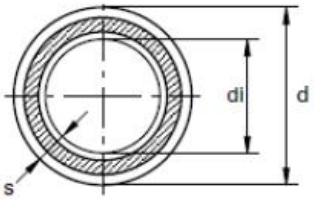
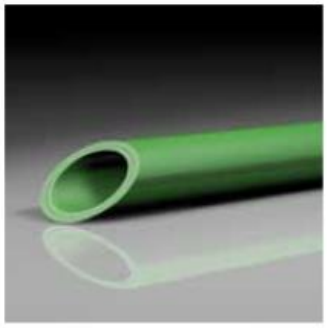
aquatherm green pipe - SDR 7,4 MF

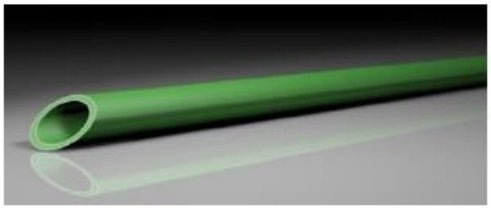
Structure of pipe:	MF = multilayer, with fibre reinforced
Material:	fusiolen PP-R
Pipe series:	SDR 7,4/S 3,2
Standards:	SKZ HR 3.28, ASTM F 2389, CSA B 137.11, ISO 21003
Colour:	green with 4 dark green stripes
Form supplied:	ø 20-125 mm straight legths 4 m ø 160-250 mm straight lengths 5,8 m
Packing Unit:	PU in meter
Application:	





Mechanically stabilized through a fibre mix integrated in the middle layer of the fusiolen® PP-R.

SDR	Art.-No.	Dimension d [mm]	Wall thickness s [mm]	Internal diameter di [mm]	Water content [l/m]	Weight [kg]	DN	PU [m]	Price € m/pc
7,4	Socket welding								
	70708	20	2,8	14,4	0,163	0,159	15	100	
	70710	25	3,5	18,0	0,254	0,247	20	100	
	70712	32	4,4	23,2	0,423	0,395	25	40	
	70714	40	5,5	29,0	0,660	0,610	32	40	
	70716	50	6,9	36,2	1,029	0,950	40	20	
	70718	63	8,6	45,8	1,647	1,490	50	20	
	70720	75	10,3	54,4	2,323	2,115	-	20	
	70722	90	12,3	65,4	3,358	3,030	65	12	
	70724	110	15,1	79,8	4,999	4,530	80	8	
	70726	125	17,1	90,8	6,472	6,211	-	4	
	Butt welding								
	70730	160	21,9	116,2	10,599	9,750	125	5,8	
	70734	200	27,4	145,2	16,558	15,005	150	5,8	
	70738	250	34,2	181,6	25,901	23,470	175	5,8	
		315-355	Dimensions 315 and 355 mm see aquatherm green pipe SDR 9 MF RP						



SUPPORT INTERVALS

aquatherm green pipe SDR 7,4 MF & blue pipe SDR 7,4 MF (faser composite pipe)
Table to determine support intervals in conjunction with temperature and outside diameter.

Difference in temperature DT [K]	Pipe diameter d (mm)														
	20	25	32	40	50	63	75	90	110	125	160	200	250	315	355
	Support intervals in cm														
0	120	140	160	180	205	230	245	260	290	320	330	335	345	355	360
20	90	105	120	135	155	175	185	195	215	240	240	2755	260	265	270
30	90	105	120	135	155	175	185	195	210	225	230	240	245	255	260
40	85	95	110	125	145	165	175	185	200	215	220	230	240	240	245
50	85	95	110	125	145	165	175	185	190	195	205	220	230	235	235
60	80	90	105	120	135	155	165	175	180	185	195	205	215	220	225
70	70	80	95	110	130	145	165	165	170	175	185	195	200	215	220

Pipe clamp distances of vertically installed pipes can be increased by 20 % of the tabular values, e.g. to multiply the tabular value by 1.2.

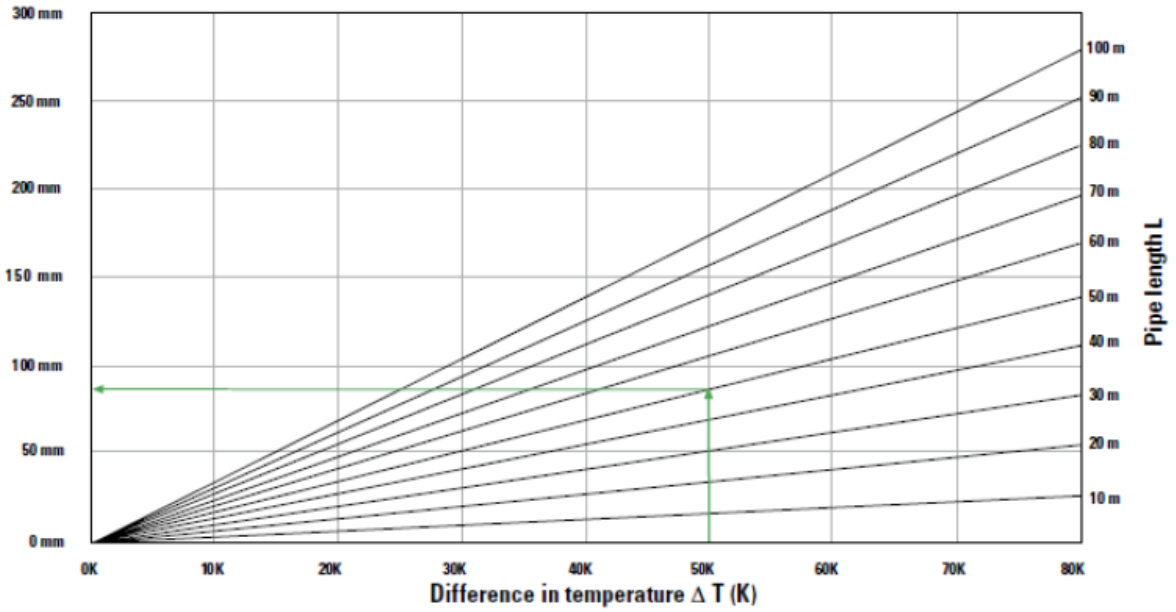
aquatherm green pipe MF (faser composite pipe)

aquatherm blue pipe MF (faser composite pipe)

Due to the integration and positive bond of the different materials, the aquatherm-faser composite pipes offers much higher stability. The linear expansion reduces its value to $^1/_5$ of the mere PP-pipes.

Linear expansion ΔL in [mm]: aquatherm-faser composite pipes - a = 0.035 mm / mK

Pipe length	Difference in temperature $\Delta T = T_{operating\ temperature} - T_{installation\ temperature}$							
	10 K	20 K	30 K	40 K	50 K	60 K	70 K	80 K
	Linear expansion DL (mm)							
10 m	4	7	11	14	18	21	25	28
20 m	7	14	21	28	35	42	49	56
30 m	11	21	32	42	53	63	74	84
40 m	14	28	42	56	70	84	98	112
50 m	18	35	53	70	88	105	123	140
60 m	21	42	63	84	105	126	147	168
70 m	25	49	74	98	123	147	172	196
80 m	28	56	84	112	140	168	196	224
90 m	32	63	95	126	158	189	221	252
100 m	35	70	105	140	175	210	245	280



PERMISSIBLE WORKING PRESSURE - POTABLE WATER

Fluid transported: water acc. to DIN 2000

Temperature	Service life	aquatherm green pipe SDR 11 S / aquatherm lilac pipe SDR 11 S		aquatherm green pipe SDR 7,4 S		aquatherm green pipe SDR 6 S / aquatherm green pipe SDR 7,4 MS		aquatherm green pipe SDR 7,4 MF		aquatherm green pipe SDR 9 MF RP	
		Permissible working pressure in bar and (psi)									
		bar	(psi)	bar	(psi)	bar	(psi)	bar	(psi)	bar	(psi)
20 °C 68 °F	1	15,0	(218)	23,8	(345)	30,0	(435)	28,6	(415)	25,0	(363)
	5	14,1	(205)	22,3	(323)	28,1	(408)	26,8	(389)	24,2	(351)
	10	13,7	(199)	21,7	(315)	27,3	(396)	26,1	(379)	23,9	(347)
	25	13,3	(193)	21,1	(306)	26,5	(384)	25,3	(367)	23,5	(341)
	50	12,9	(187)	20,4	(296)	25,7	(373)	24,5	(355)	23,1	(335)
30 °C 86 °F	1	12,8	(186)	20,2	(293)	25,5	(370)	24,3	(352)	21,7	(315)
	5	12,0	(174)	19,0	(276)	23,9	(347)	22,8	(331)	21,0	(305)
	10	11,6	(168)	18,3	(265)	23,1	(335)	22,0	(319)	20,6	(299)
	25	11,2	(162)	17,7	(257)	22,3	(323)	21,3	(309)	20,2	(293)
	50	10,9	(158)	17,3	(251)	21,8	(316)	20,7	(300)	20,0	(290)
Potable water (cold) / Potable water (warm)	40 °C 104 °F	1		17,1	(248)	21,5	(312)	20,5	(297)	18,7	(271)
		5		16,0	(232)	20,2	(293)	19,2	(278)	18,0	(261)
		10		15,6	(226)	19,6	(284)	18,7	(271)	17,7	(257)
		25		15,0	(218)	18,8	(273)	18,0	(261)	17,4	(252)
		50		14,5	(210)	18,3	(265)	17,5	(254)	17,0	(247)
	50 °C 122 °F	1		14,5	(210)	18,3	(265)	17,5	(254)	15,9	(231)
		5		13,5	(196)	17,0	(247)	16,2	(235)	15,3	(222)
		10		13,1	(190)	16,5	(239)	15,7	(228)	15,1	(219)
		25		12,6	(183)	15,9	(231)	15,2	(220)	14,8	(215)
		50		12,2	(177)	15,4	(223)	14,7	(213)	14,5	(210)
	60 °C 140 °F	1		12,2	(177)	15,4	(223)	14,7	(213)	13,5	(196)
		5		11,4	(165)	14,3	(207)	13,7	(199)	13,0	(189)
		10		11,0	(160)	13,8	(200)	13,2	(191)	12,8	(186)
		25		10,5	(152)	13,3	(193)	12,6	(183)	12,5	(181)
		50		10,1	(146)	12,7	(184)	12,1	(175)	12,3	(178)
	65 °C 149 °F	1		11,6	(168)	14,6	(212)	13,9	(202)	12,4	(180)
		5		10,8	(157)	13,6	(197)	12,9	(187)	11,9	(173)
		10		10,4	(151)	13,1	(190)	12,5	(181)	11,7	(170)
		25		10,0	(145)	12,6	(183)	12,0	(174)	11,4	(165)
		50		8,8	(128)	11,1	(161)	10,6	(154)	11,2	(162)
	70 °C 158 °F	1		10,3	(149)	13,0	(189)	12,4	(180)	11,4	(165)
		5		9,5	(138)	11,9	(173)	11,4	(165)	10,9	(158)
		10		9,3	(135)	11,7	(170)	11,1	(161)	10,7	(155)
		25		8,0	(116)	10,1	(146)	9,6	(139)	10,5	(152)
		30		7,0	(102)	8,8	(128)	9,3	(135)	10,3	(149)
		50		6,7	(97)	8,5	(123)	8,1	(117)	10,2	(148)
		Faser and Stabi composite pipe: high working stress at lower wall thickness and higher flow rate									

SDR = Standard Dimension Ratio (diameter/wall thickness ratio)
S = single layer
MS = multilayer stabi - integrated aluminium-layer
MF = multilayer faser
MF RP = multilayer faser - raised pressure (resistance)

The determination of the allowable pressures resulted from the specific conditions to which pipe system components in the drinking water domestic installation are exposed to. Limiting factors such as increased flow rates, the use of disinfectants, increased content of oxygen, etc. were considered by the use of the appropriate safety factors.
For fittings of butt-welded pipe segments a reduction factor of 0.75 (reduction of the table values by 25%) is effective.