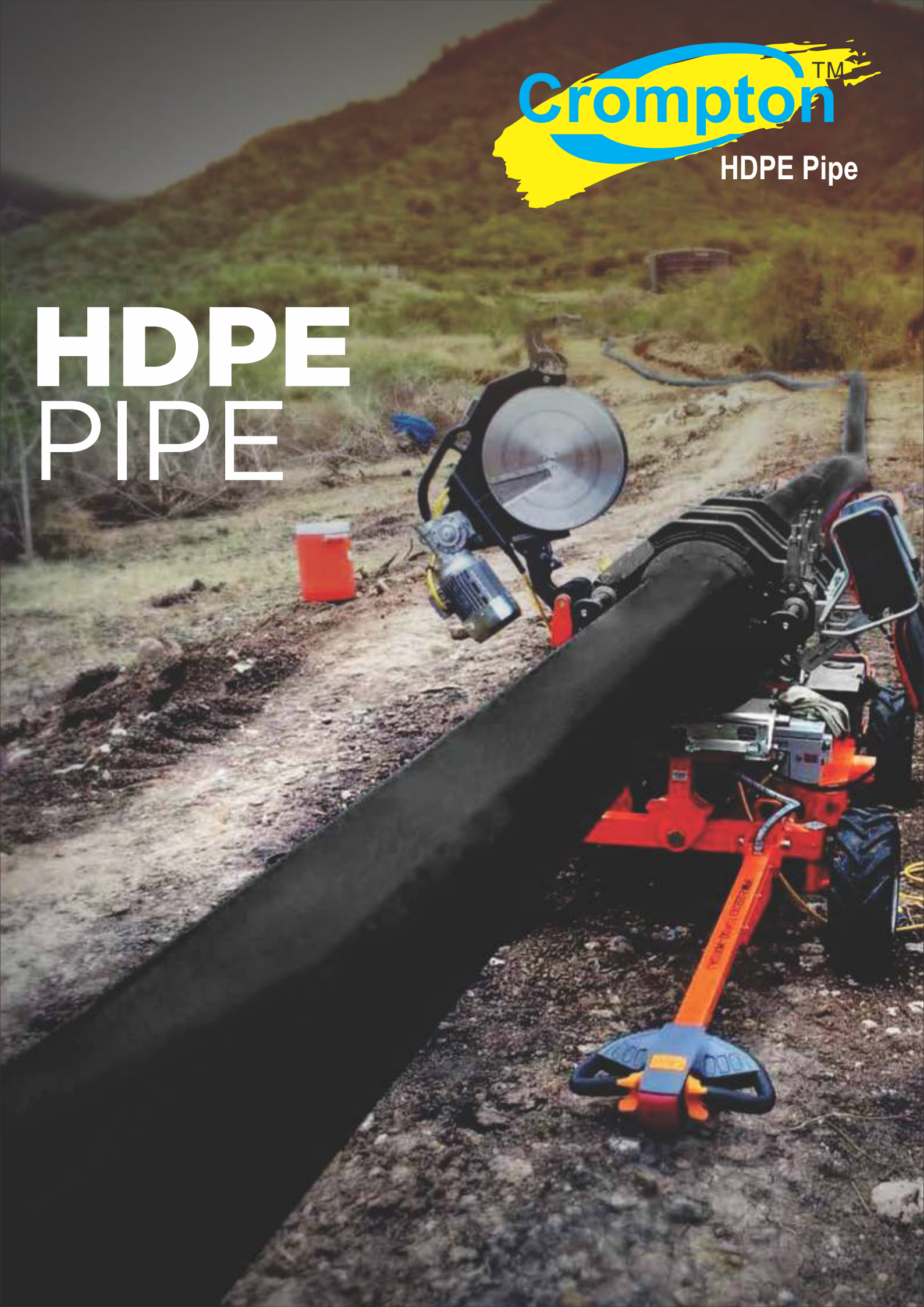




Crompton<sup>TM</sup>

HDPE Pipe

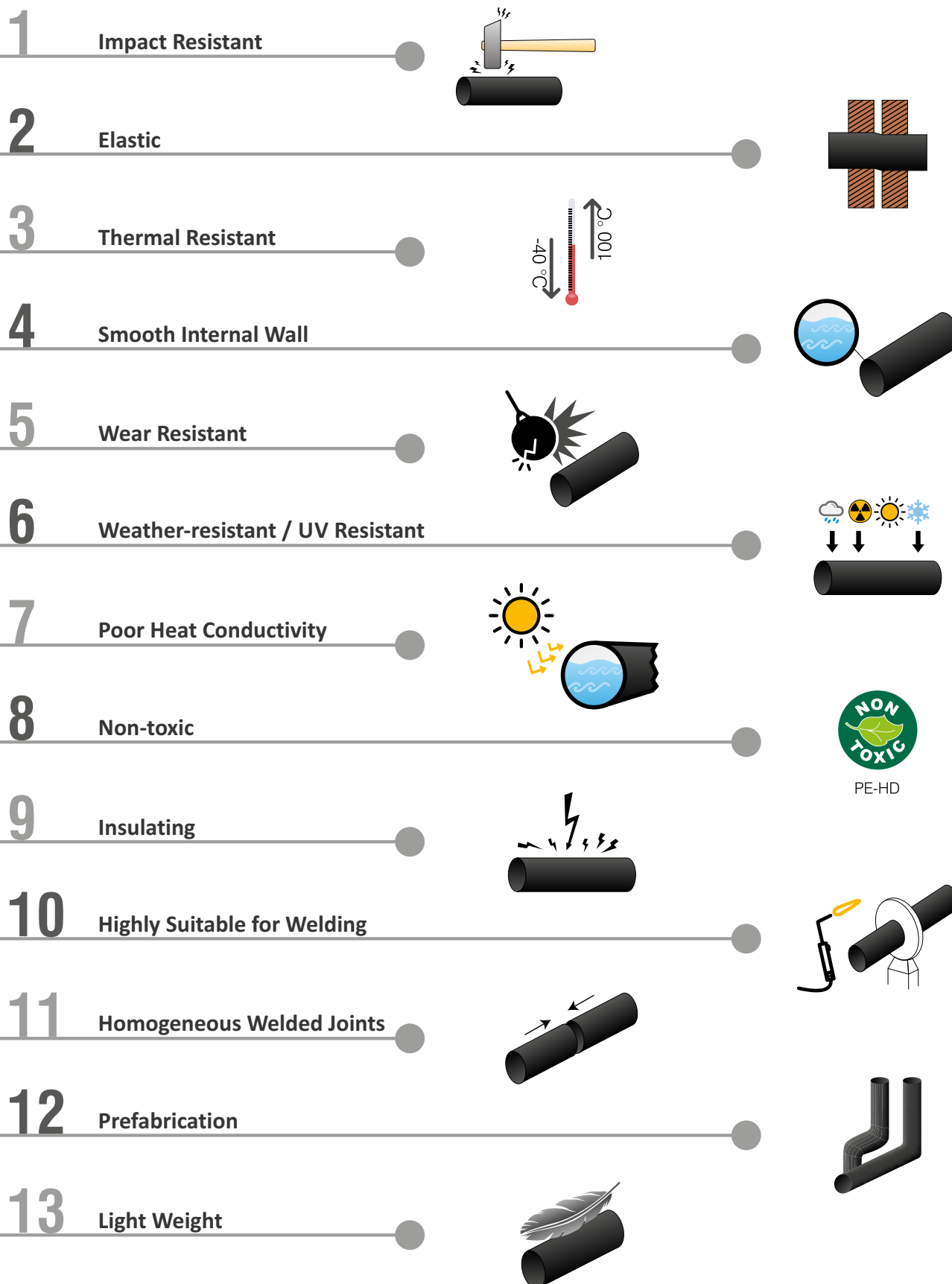
# HDPE PIPE





## Characteristics of HDPE:

The figure summarizes many of the key characteristics of the HDPE like:



NOTE: Drawings are for illustration purpose only.

**CROMPTON** supplies a wide range of fittings used in HDPE piping industry, this range includes fittings for butt welded, Electro-Fusion welded and flanged connections.

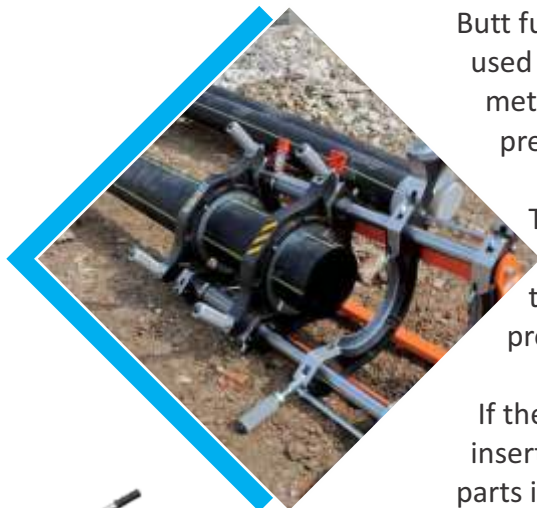
These butt-welded fittings are of two types, moulded (injected) fittings and segmented fittings. The difference lies in the method of manufacturing. Moulded fittings are manufactured by injection moulding and segmented fittings are manufactured using HDPE pipes of the same class and standard using automatic welding machines that give no room for error to produce a homogeneous product. The high tech methods used for welding ensures the strongest joints.

## Fusion Machines

**CROMPTON** supplies fusion machines for the jointing of HDPE pipes and fittings. All the fusion machines are designed and built according to International standards.

### Butt-Fusion Machines:

For jointing HDPE pipes it is the most common method used for pipes to be jointed, having bigger diameters (larger than 90mm) for many reasons including cost, simplicity, strength of joints, etc.



Butt fusion is used to joint pipes with one another or with the fittings. It is also used for manufacturing segmented fittings. This reliable and strong jointing method withstands the pressure changes and flow conversions critical pressure performance.

The main parts of a butt-fusion machine consists of machine body, hydraulic unit, heater and milling cutter. The clamps are used to fasten the pipes firmly and assure they will not move or slip during the welding process.

If the pipe diameter is smaller than clamps, then it will be necessary to use inserts to make sure that pipe will be firmly fastened. These inserts are metal parts in the shape of arcs that are fixed in the inner periphery of the clamps.



### Facts & Benefits of Butt-Fusion:

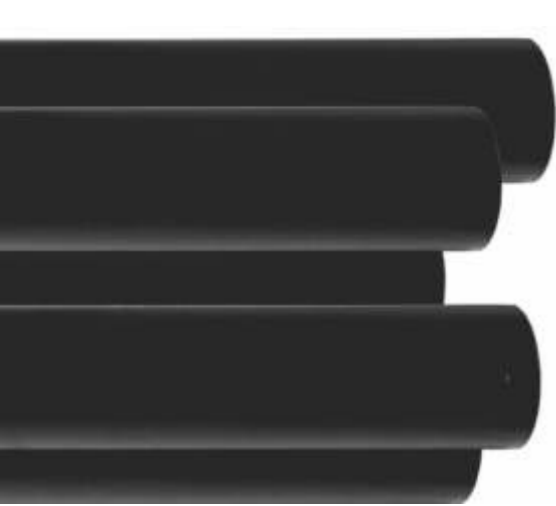
- ♦ Visual inspection is possible during the welding process.
- ♦ Uniform heating and melting under pressure makes the joint stronger and durable.
- ♦ Jointing of pipes and fittings of different SDRs are not advisable.
- ♦ Proper heating and cooling before and after jointing is important for getting the best results.
- ♦ Butt-fusion joints make pipe system stronger due to formation of beads during the welding process.
- ♦ Beads formed during butt-fusion states the quality of jointing.
- ♦ HDPE pipe fused joints are self-restraining and usually do not require thrust blocks which also nullifies the probability of water leakage.
- ♦ Using a butt-fusion method does not only eliminate the requirements of extra material or support but also
- ♦ gives a cost-effective and long-life solution.



# High Density Polyethylene Piping Solution

PIPE SIZES & CORRESPONDING WALL THICKNESS AT DIFFERENT SDRS IS AS FOLLOWS

SDR		SDR 41			SDR 33			SDR 26			SDR 21			SDR 17			SDR 13.6			SDR 11			SDR 9			SDR 7.4			SDR 6		
Nominal Pressure , PN Bar																Nominal Pressure , PN Bar															
PE 63		PN 2			PN 2.5			PN 3.2			PN 4			PN 5			PN 6			PN 8											
PE 80		PN 2.5			PN 3.5			PN 4			PN 5			PN 6			PN 8			PN 10			PN 12.5			PN 16			PN 20		
PE 100		PN 3			PN 4			PN 5			PN 6			PN 8			PN 10			PN 12.5			PN 16			PN 20					
Size	Toler	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW	W.T (mm)		UW
OD mm	OD on	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m	Min	Max	kg/m
16	0.3																						1.8	2.1	0.084	2.2	2.5	0.099	2.7	3.1	0.117
20	0.3																			1.9	2.2	0.113	2.3	2.6	0.132	2.7	3.1	0.152	3.4	3.8	0.181
25	0.3																1.9	2.2	.0144	2.3	2.6	0.169	2.8	3.2	0.202	3.4	3.8	0.236	4.2	4.7	0.280
32	0.3													1.9	2.2	0.188	2.4	2.7	0.230	2.9	3.3	0.274	3.6	4.1	0.332	4.4	4.9	0.389	5.4	6.0	0.459
40	0.4										1.9	2.2	0.238	2.4	2.7	0.292	3	3.4	0.361	3.7	4.2	0.436	4.5	5.1	0.517	5.4	6.0	0.599	6.7	7.5	0.715
50	0.4							2.0	2.3	0.315	2.4	2.7	0.370	3.0	3.4	0.458	3.7	4.2	0.556	4.6	5.2	0.676	5.6	6.3	0.802	6.8	7.6	0.943	8.4	9.3	1.114
60	0.4							2.5	2.9	0.498	3.0	3.4	0.585	3.7	4.2	0.713	4.7	5.3	0.886	5.8	6.5	1.069	7.0	7.8	1.258	8.6	9.6	1.499	10.5	11.7	1.761
75	0.5	1.9	2.2	0.457	2.3	2.6	0.543	2.9	3.3	0.681	3.6	4.1	0.837	4.5	5.1	1.030	5.6	6.3	1.256	6.9	7.7	1.511	8.4	9.3	1.790	10.2	11.3	2.112	12.5	13.9	2.494
90	0.6	2.2	2.5	0.630	2.8	3.2	0.798	3.5	4.0	0.989	4.3	4.8	1.189	5.3	5.9	1.445	6.7	7.4	1.788	8.2	9.1	2.151	10.0	11.1	2.563	12.2	13.5	3.031	15.0	16.6	3.584
110	0.7	2.7	3.1	0.949	3.4	3.8	1.171	4.3	4.8	1.467	5.3	6	1.802	6.5	7.3	2.174	8.1	9	2.651	10	11.1	3.207	12.3	13.6	3.842	14.9	16.5	4.526	18.4	20.3	5.362
125	0.8	3.1	3.5	1.228	3.8	4.3	1.497	4.8	5.4	1.869	6.0	6.7	2.303	7.4	8.2	2.794	9.2	10.2	3.419	11.4	12.7	4.160	13.9	15.4	4.942	16.9	18.7	5.833	20.9	23.1	6.927
140	0.9	3.5	4.0	1.562	4.3	4.8	1.884	5.4	6.0	2.340	6.7	7.5	2.884	8.3	9.2	3.510	10.3	11.4	4.283	12.8	14.2	5.220	15.6	17.3	6.213	19.0	21.0	7.337	23.4	25.8	8.679
160	1.0	3.9	4.4	1.977	4.9	5.5	2.460	6.2	6.9	3.072	7.7	8.6	3.782	9.5	10.6	4.606	11.8	13.1	5.615	14.6	16.2	6.806	17.8	19.7	8.095	21.7	24.0	9.579	26.7	29.5	11.329
180	1.1	4.4	4.9	2.492	5.5	6.2	3.113	7.0	7.8	3.903	8.6	9.6	4.753	10.6	11.8	5.778	13.3	14.7	7.103	16.4	18.1	8.581	20.0	22.1	10.226	24.4	26.9	12.101	30.0	33.1	14.316
200	1.2	4.9	5.5	3.06	6.1	6.8	3.815	7.7	8.6	4.778	9.6	10.7	5.889	11.8	13.1	7.136	14.7	16.3	8.740	18.2	20.1	10.584	22.3	24.6	12.653	2\1	29.9	14.938	33.4	36.8	17.690
225	1.4	5.5	6.2	3.918	6.9	7.7	4.857	8.7	9.7	6.068	10.8	12	7.442	13.3	14.7	9.029	16.6	18.4	11.099	20.5	22.7	13.428	25.0	27.6	15.973	30.5	33.7	18.927	37.5	41.4	22.375
250	1.5	6.1	6.8	4.801	7.6	8.5	5.952	9.7	10.8	7.510	12.0	13.3	9.176	14.7	16.3	11.108	18.4	20.3	13.640	22.8	25.2	16.577	27.8	30.7	19.734	33.8	37.3	23.300	41.7	46.0	27.628
280	1.7	6.9	7.7	6.084	8.5	9.5	7.454	10.8	12.0	9.358	13.4	14.8	11.458	16.5	18.3	13.964	20.6	22.8	17.130	25.5	28.2	20.774	31.2	34.4	24.781	37.9	41.8	29.250	46.7	51.5	34.652
315	1.9	7.7	8.6	7.643	9.6	10.7	9.456	12.2	13.5	11.866	15.0	16.6	14.447	18.6	20.6	17.694	23.2	25.6	21.670	28.7	31.7	26.286	35.0	38.6	31.290	42.6	47.0	36.997	52.5	57.9	43.832
355	2.2	8.7	9.7	9.723	10.8	12	11.972	23.7	15.2	15.040	16.9	18.7	18.345	20.9	23.1	22.391	26.1	28.8	27.481	32.3	35.6	33.315	39.5	43.6	39.808	48.0	52.9	46.964	59.2	65.2	55.670
400	2.4	9.8	10.9	12.325	12.2	13.5	15.204	15.4	17.0	19.001	19.1	21.1	23.336	23.6	26.1	28.490	29.5	32.6	35.011	36.4	40.1	42.289	44.5	49.1	50.519	54.1	59.6	59.623	66.7	73.5	70.682



# *AquaFlo*<sup>®</sup>

