







DURAN® Tubing




Outside Diameter  mm	Wall Thickness  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents		Pallet Load	
			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
3 ±0.14	0.7 ±0.04	17	941	16.0	27	432.0
4 ±0.14	0.8 ±0.04	27	555	15.0	36	540.0
5 ±0.14	0.8 ±0.04	35	343	12.0	45	540.0
6 ±0.14	1.0 ±0.04	53	245	13.0	36	468.0
	1.5 ±0.08	71	211	15.0	36	540.0
7 ±0.14	1.0 ±0.04	63	190	12.0	45	540.0
	1.5 ±0.08	87	172	15.0	36	540.0
8 ±0.14	1.0 ±0.04	74	149	11.0	45	495.0
	1.5 ±0.08	102	147	15.0	36	540.0






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			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
9 ±0.14	1.0 ±0.04	84	119	10.0	45	450.0
	1.5 ±0.08	118	119	14.0	36	504.0
10 ±0.14	1.0 ±0.04	95	95	9.0	45	405.0
	1.5 ±0.08	134	90	12.0	45	540.0
	2.2 ±0.12	180	56	10.0	45	450.0
11 ±0.18	1.0 ±0.04	105	86	9.0	45	405.0
	1.5 ±0.10	150	73	11.0	45	495.0
	2.2 ±0.12	203	42	8.5	45	382.5
12 ±0.18	1.0 ±0.04	116	130	15.0	35	525.0
	1.5 ±0.10	165	67	11.0	45	495.0
	2.2 ±0.12	226	42	9.5	45	427.5
13 ±0.18	1.0 ±0.04	126	119	15.0	35	525.0
	1.5 ±0.10	181	55	10.0	45	450.0
	2.2 ±0.12	250	36	9.0	45	405.0
14 ±0.18	1.0 ±0.04	137	110	15.0	35	525.0
	1.5 ±0.10	197	46	9.0	45	405.0
	2.2 ±0.12	273	30	8.2	45	369.0
15 ±0.18	1.2 ±0.05	174	86	15.0	35	525.0
	1.8 ±0.09	250	56	14.0	35	490.0
	2.5 ±0.13	328	25	8.2	45	369.0
16 ±0.18	1.2 ±0.05	187	81	15.0	35	525.0
	1.8 ±0.09	268	49	13.1	35	458.5
	2.5 ±0.13	354	25	8.8	45	396.0
17 ±0.18	1.2 ±0.05	199	75	15.0	35	525.0
	1.8 ±0.09	287	49	14.0	35	490.0
	2.5 ±0.13	381	25	9.5	45	427.5
18 ±0.18	1.2 ±0.05	212	66	14.0	35	490.0
	1.8 ±0.09	306	49	15.0	35	525.0
	2.5 ±0.13	407	20	8.1	45	364.5
19 ±0.18	1.2 ±0.05	224	63	14.0	35	490.0
	1.8 ±0.09	325	42	13.7	35	479.5
	2.5 ±0.13	433	36	15.6	35	546.0
20 ±0.25	1.2 ±0.05	237	55	13.0	35	455.0
	1.8 ±0.10	344	36	12.4	35	434.0
	2.5 ±0.15	460	20	9.2	45	414.0

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Outside Diameter  mm	Wall Thickness  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents		Pallet Load	
			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
22 ±0.25	1.2 ±0.05	262	42	11.0	35	385.0
	1.8 ±0.10	382	30	11.5	35	402.5
	2.5 ±0.15	512	30	15.4	35	539.0
24 ±0.25	1.2 ±0.05	287	36	10.3	35	360.5
	1.8 ±0.10	420	25	10.5	35	367.5
	2.5 ±0.15	565	25	14.0	45	490.0
26 ±0.25	1.4 ±0.05	362	30	10.9	35	381.5
	2.0 ±0.10	504	25	12.6	35	441.0
	2.8 ±0.15	682	20	13.6	35	476.0
28 ±0.25	1.4 ±0.05	391	25	9.8	35	343.0
	2.0 ±0.10	546	20	11.0	35	385.0
	2.8 ±0.15	741	20	14.8	35	518.0
30 ±0.35	1.4 ±0.08	421	36	15.2	20	304.0
	2.0 ±0.10	588	16	9.4	35	329.0
	2.8 ±0.15	800	16	12.8	35	448.0
32 ±0.35	1.4 ±0.08	450	25	11.3	20	226.0
	2.0 ±0.10	630	16	10.1	35	353.5
	2.8 ±0.15	859	16	13.8	35	483.0
33 ±0.35	2.0 ±0.10	651	25	16.2	20	324.0
34 ±0.35	1.4 ±0.08	479	25	12.1	20	242.0
	2.0 ±0.10	672	16	10.8	35	378.0
	2.8 ±0.15	918	16	14.8	35	518.0
36 ±0.40	1.4 ±0.08	509	25	12.6	20	252.0
	2.0 ±0.10	714	25	18.0	20	360.0
	2.8 ±0.15	976	12	11.7	35	409.5
38 ±0.40	1.4 ±0.08	538	20	10.8	20	216.0
	2.0 ±0.10	756	20	15.0	20	300.0
	2.8 ±0.15	1 035	9	9.4	35	329.0
40 ±0.55	1.6 ±0.08	645	16	10.2	20	204.0
	2.3 ±0.12	911	16	14.6	20	292.0
	3.2 ±0.20	1 237	9	11.2	35	392.0
	5.0 ±0.40	1 838	9	16.5	28	462.0
42 ±0.55	1.6 ±0.08	679	16	10.9	20	218.0
	2.3 ±0.12	959	16	15.3	20	306.0
	3.2 ±0.20	1 304	9	11.7	35	409.5






DURAN® Tubing

Outside Diameter  mm	Wall Thickness  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents		Pallet Load	
			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
44 ±0.55	1.6 ±0.08	713	16	11.4	20	228.0
	2.3 ±0.12	1 007	16	16.0	20	320.0
	3.2 ±0.20	1 371	9	12.4	35	434.0
45 ±0.65	5.0 ±0.40	2 101	9	18.9	28	529.2
46 ±0.65	1.6 ±0.08	746	16	11.9	20	238.0
	2.3 ±0.12	1 056	9	9.5	35	332.5
	3.2 ±0.20	1 439	9	13.0	35	455.0
48 ±0.65	1.6 ±0.08	780	16	12.4	20	248.0
	2.3 ±0.12	1 104	16	17.6	20	352.0
	3.2 ±0.20	1 506	6	9.0	35	315.0








DURAN® Tubing






Outside Diameter	Wall Thickness	Weight per Tube Length approx. 1500mm	Carton Contents		Pallet Load	
 mm	 mm	 g	 Number of Tubes	Weight approx. kg	 Number of cartons	Weight approx. kg
50 ±0.70	1.8 ±0.12	911	12	10.9	20	218.0
	2.5 ±0.15	1 247	12	15.0	20	300.0
	3.5 ±0.25	1 709	12	20.5	20	410.0
	5.0 ±0.30	2 363	6	14.1	35	493.5
	7.0 ±0.50	3 161	6	19.0	28	532.0
52 ±0.70	9.0 ±0.65	3 876	6	23.2	21	487.2
	1.8 ±0.12	949	9	8.5	20	170.0
	2.5 ±0.18	1 300	9	11.7	20	234.0
54 ±0.70	3.5 ±0.25	1 783	9	16.0	20	320.0
	1.8 ±0.12	987	9	8.9	20	178.0
	2.5 ±0.18	1 352	9	12.2	20	244.0
55 ±0.70	3.5 ±0.25	1 856	9	16.7	20	334.0
	5.0 ±0.35	2 626	4	10.5	35	367.5
56 ±0.70	1.8 ±0.12	1 025	9	9.2	20	184.0
	2.5 ±0.18	1 405	9	12.6	20	252.0
	3.5 ±0.25	1 930	9	17.5	20	350.0
58 ±0.70	1.8 ±0.12	1 063	9	9.6	20	192.0
	2.5 ±0.18	1 457	9	13.1	20	262.0
	3.5 ±0.25	2 004	9	18.0	20	360.0




DURAN® Tubing

Outside Diameter	Wall Thickness	Weight per Tube Length approx. 1500mm	Carton Contents		Pallet Load	
 mm	 mm	 g	 Number of Tubes	Weight approx. kg	 Number of cartons	Weight approx. kg
60 ±0.80	2.2 ±0.18	1 336	9	12.0	20	240.0
	3.2 ±0.20	1 910	9	17.2	20	344.0
	4.2 ±0.30	2 462	4	9.8	35	343.0
	5.0 ±0.35	2 888	4	11.5	35	402.5
	7.0 ±0.50	3 897	4	15.6	35	546.0
65 ±0.80	9.0 ±0.65	4 821	4	19.3	28	540.4
	2.2 ±0.18	1 451	8	11.7	20	234.0
	3.2 ±0.20	2 077	4	8.3	35	290.5
	4.2 ±0.30	2 682	4	10.7	35	374.5
70 ±0.90	5.0 ±0.35	3 151	4	12.6	35	441.0
	2.2 ±0.18	1 567	8	12.5	15	187.5
	3.2 ±0.20	2 245	4	9.0	35	315.0
	4.2 ±0.30	2 903	4	11.6	35	406.0
	5.0 ±0.35	3 414	4	13.6	35	476.0
75 ±0.90	7.0 ±0.50	4 632	4	18.5	35	647.5
	9.0 ±0.65	5 766	4	23.1	21	485.1
	2.2 ±0.18	1 682	8	13.5	15	202.5
	3.2 ±0.20	2 413	4	9.7	20	194.0
	4.2 ±0.30	3 123	4	12.5	20	250.0
80 ±1.20	5.0 ±0.35	3 676	4	14.7	20	294.0
	2.5 ±0.18	2 035	4	8.2	20	164.0
	3.5 ±0.25	2 812	4	11.3	20	226.0
	5.0 ±0.40	3 939	4	15.8	20	316.0
85 ±1.20	9.0 ±0.70	6 712	4	26.8	20	536.0
	2.5 ±0.18	2 166	4	8.7	20	174.0
	3.5 ±0.25	2 996	4	12.0	20	240.0
	5.0 ±0.40	4 201	4	16.8	20	336.0
90 ±1.20	2.5 ±0.18	2 298	4	9.2	20	184.0
	3.5 ±0.25	3 180	4	12.7	20	254.0
	5.0 ±0.40	4 464	4	17.9	20	358.0
	7.0 ±0.50	6 102	3	18.3	15	274.5
95 ±1.40	9.0 ±0.70	7 657	3	23.0	15	345.0
	2.5 ±0.18	2 429	4	9.7	20	194.0
	3.5 ±0.25	3 364	4	13.4	20	268.0
	5.0 ±0.40	4 726	4	18.9	20	378.0

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			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
100 ±1.40	2.5 ±0.18	2 560	4	10.3	20	206.0
	3.0 ±0.20	3 056	4	12.1	9	108.9
	3.5 ±0.25	3 547	3	10.7	12	128.4
	5.0 ±0.40	4 989	3	15.0	12	180.0
	7.0 ±0.50	6 838	3	20.5	12	246.0
	9.0 ±0.70	8 602	3	25.8	12	309.6
105 ±1.50	3.0 ±0.20	3 214	3	9.6	12	115.2
	5.0 ±0.40	5 252	3	15.8	12	189.6
110 ±1.50	3.0 ±0.30	3 372	3	10.1	12	121.2
	5.0 ±0.50	5 514	3	16.5	12	198.0
	7.0 ±0.70	7 573	3	22.7	12	272.4
115 ±1.50	3.0 ±0.30	3 529	4	14.1	9	126.9
	5.0 ±0.50	5 777	2	11.6	15	174.0
	7.0 ±0.70	7 940	2	15.9	15	238.5
120 ±1.50	3.0 ±0.30	3 687	4	14.7	9	132.3
	5.0 ±0.50	6 039	2	12.1	15	181.5
	7.0 ±0.70	8 308	2	16.6	15	249.0
	9.0 ±0.90	10 493	2	21.0	15	315.0
125 ±1.50	5.0 ±0.50	6 302	2	12.6	15	189.0
	9.0 ±0.90	10 965	2	21.9	15	328.5
130 ±1.60	3.0 ±0.30	4 002	4	16.0	9	144.0
	5.0 ±0.50	6 565	2	13.1	15	196.5
	7.0 ±0.70	9 043	2	18.1	15	271.5
	9.0 ±0.90	11 438	2	22.9	15	343.5
135 ±1.60	5.0 ±0.50	6 827	2	13.7	15	205.5
	7.0 ±0.70	9 411	2	18.8	15	282.0
140 ±1.70	3.0 ±0.30	4 317	4	17.3	9	155.7
	5.0 ±0.50	7 090	2	14.2	15	213.0
	7.0 ±0.70	9 779	2	19.6	15	294.0
145 ±1.70	5.0 ±0.50	7 352	2	14.7	15	220.5

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Outside Diameter  mm	Wall Thickness  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents		Pallet Load	
			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
150 ±1.80	3.0 ±0.30	4 632	2	9.3	12	111.6
	5.0 ±0.50	7 615	2	15.2	12	182.4
	7.0 ±0.70	10 514	2	21.0	12	252.0
	9.0 ±0.90	13 329	2	26.7	12	320.4
155 ±1.80	5.0 ±0.50	7 877	2	15.8	12	189.6
160 ±1.80	5.0 ±0.50	8 140	2	16.3	12	195.6
	7.0 ±0.80	11 249	2	22.5	12	270.0
165 ±1.80	5.0 ±0.50	8 403	2	16.8	12	201.6
	7.0 ±0.80	11 617	2	23.2	12	278.4
170 ±1.80	5.0 ±0.50	8 665	2	17.3	12	207.6
	7.0 ±0.80	11 984	2	24.0	12	288.0
	9.0 ±1.00	15 219	1	15.2	20	304.0
180 ±2.00	5.0 ±0.50	9 190	1	9.2	20	184.0
	7.0 ±0.80	12 720	1	12.7	20	254.0
	9.0 ±1.10	16 165	1	16.2	20	324.0



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Outside Diameter  mm	Wall Thickness  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents		Pallet Load	
			Number of Tubes	Weight approx. kg	Number of cartons	Weight approx. kg
190 ±2.10	5.0 ±0.50	9 716	1	9.7	20	194.0
	7.0 ±0.80	13 455	1	13.5	20	270.0
200 ±2.40	5.0 ±0.80	10 241	1	10.2	20	204.0
	7.0 ±1.00	14 190	1	14.2	20	284.0
	9.0 ±1.20	18 055	1	18.1	20	362.0
215 ±2.50	7.0 ±1.10	15 293	1	15.3	9	137.7
	9.0 ±1.20	19 473	1	19.5	9	175.5
225 ±2.70	7.0 ±1.10	16 028	1	16.0	9	144.0
	9.0 ±1.30	20 418	1	20.4	9	183.6
240 ±2.90	9.0 ±1.30	21 836	1	21.8	9	196.2
250 ±3.00	5.0 ±0.80	12 867	1	12.9	9	116.1
	7.0 ±1.10	17 866	1	17.9	9	161.1
	9.0 ±1.30	22 782	1	22.8	9	205.2
270 ±3.00	5.0 ±0.80	13 917	1	13.9	9	125.1
	7.0 ±1.10	19 337	1	19.3	9	173.7
	9.0 ±1.30	24 672	1	24.7	9	222.3
300 ±3.80	5.0 ±0.80	15 492	1	15.5	9	139.5
	7.0 ±1.20	21 542	1	21.5	9	193.5
	9.0 ±1.40	27 508	1	27.5	9	247.5
315 ±3.90	7.0 ±1.20	22 645	1	22.6	9	203.4
	9.0 ±1.40	28 926	1	28.9	9	260.1
325 ±4.00	9.0 ±1.40	29 871	1	29.9	4	119.6
	10.0 ±1.40	33 085	1	33.0	9	297.0
350 ±4.00	5.0 ±0.80	18 118	1	18.1	4	72.4
365 ±4.50	7.0 ±1.40	26 321	1	26.3	4	105.2
400 ±5.00	6.0 ±1.50	24 829	1	24.8	4	99.2
415 ±5.00	7.0 ±1.50	29 997	1	30.0	4	120.0
420 ±5.00	10.0 ±2.00	43 063	1	43.1	4	172.4

Standard length: 1500 mm

Special lengths of tubing (depending on outside diameter and wall thickness) are available upon request between 1000 and 10000 mm.

Glass cut to a length of 0.3 mm and longer available on inquiry.

DURAN® Capillary

Outside Diameter  mm	Inside Diameter  mm	Weight per Tube Length approx. 1500mm  g	Carton Contents	
			Number of Tubes	Weight approx. kg
4 ±0.18	0.8 ±0.08	40	250	10.0
	0.4 ±0.08	65	154	10.0
5 ±0.18	0.6 ±0.08	65	154	10.0
	0.8 ±0.08	64	156	10.0
	1.2 ±0.08	62	161	10.0
6 ±0.18	0.4 ±0.08	94	104	10.0
	0.8 ±0.08	93	108	10.0
	1.2 ±0.08	91	110	10.0
	1.7 ±0.10	87	115	10.0
	2.2 ±0.10	82	122	10.0
	2.7 ±0.10	75	133	10.0
7 ±0.20	0.8 ±0.08	127	79	10.0
	1.2 ±0.08	125	80	10.0
	1.7 ±0.10	121	83	10.0
	2.2 ±0.10	116	86	10.0
	2.7 ±0.10	110	91	10.0
8 ±0.20	3.0 ±0.10	105	95	10.0
	0.8 ±0.08	166	60	10.0
	1.2 ±0.08	164	61	10.0
	1.7 ±0.10	160	63	10.0
	2.2 ±0.10	155	65	10.0
9 ±0.20	2.7 ±0.10	149	67	10.0
	3.0 ±0.10	144	69	10.0
	0.8 ±0.08	211	47	10.0
	1.2 ±0.08	209	48	10.0
	1.7 ±0.10	205	49	10.0
9 ±0.20	2.2 ±0.10	200	50	10.0
	2.7 ±0.10	194	52	10.0
	3.0 ±0.10	189	53	10.0

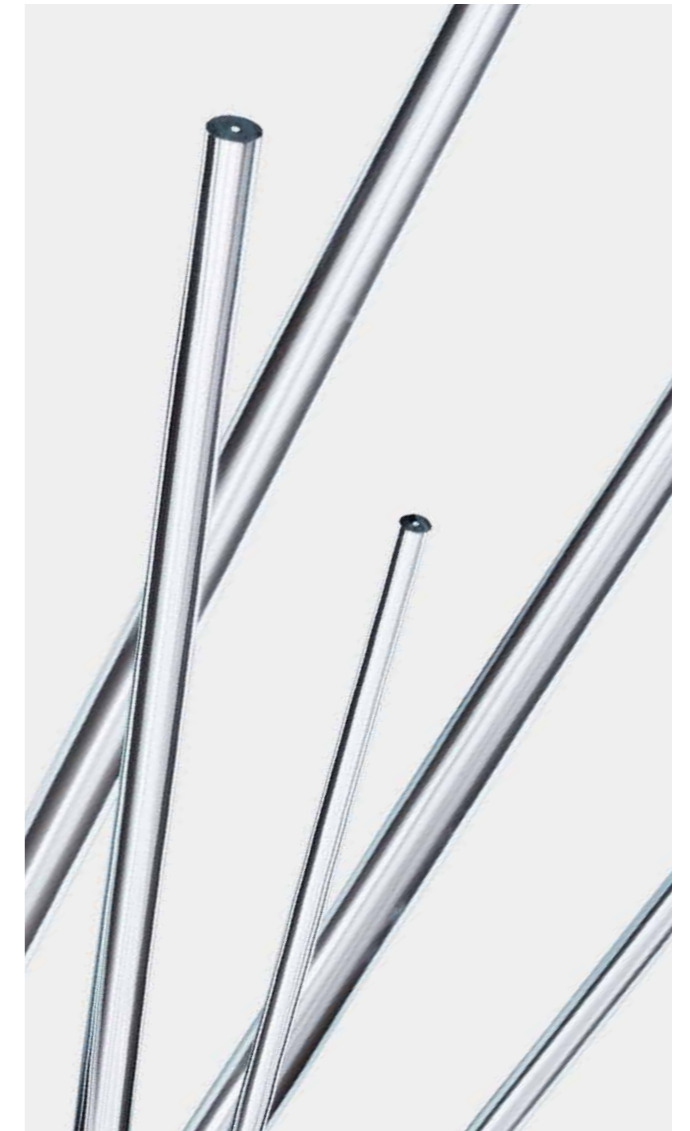


Quantity of capillaries per pallet:

Number of cartons: 55

Weight: ca. 550.0 kg

Standard length: 1500 mm



DURAN®

Rod

Diameter mm	Weight / Length Length approx. 1500mm g	Carton Contents		Pallet Load		
		Number of Rods	Weight approx. kg	Number of cartons	Weight approx. kg	
3	±0.14	24	529	12.5	44	550.0
4	±0.14	42	298	12.5	44	550.0
5	±0.14	66	183	12.0	44	528.0
6	±0.14	95	140	13.2	44	580.8
7	±0.14	129	98	12.6	44	554.4
8	±0.20	168	80	13.4	44	589.6
9	±0.20	213	63	13.4	44	589.6
10	±0.20	263	45	11.8	44	519.2
12	±0.20	378	35	13.2	44	580.8
14	±0.30	515	24	12.4	44	545.6
16	±0.30	672	20	13.4	36	482.4
18	±0.40	851	20	17.0	27	459.0
20	±0.40	1 050	16	16.8	27	453.6
22	±0.45	1 271	12	15.3	36	550.8
24	±0.45	1 512	12	18.2	27	491.4
26	±0.55	1 775	9	16.0	27	432.0
28	±0.80	2 059	9	18.5	27	449.5
30	±0.80	2 363	6	14.2	36	511.2



Standard length: 1500mm

DURAN® Borosilicate Glass 3.3

Physical and Chemical Properties

Physical Properties

Coefficient of mean linear thermal expansion α (20°C; 300°C) acc. to DIN ISO 7991	$3.3 \cdot 10^{-6} \text{ K}^{-1}$	
Transformation temperature T_g	525 °C	
Temperature of the glass at viscosity η in dPa · s:	10 ¹³ (annealing point)	560 °C
	10 ^{7.6} (softening point)	825 °C
	10 ⁴ (working point)	1260 °C
Density ρ at 25 °C	2.23 g · cm ⁻³	
Modulus of elasticity E (Young's modulus)	$63 \cdot 10^3 \text{ N} \cdot \text{mm}^{-2}$	
Poisson's ratio μ	0.20	
Thermal Conductivity λ_w at 90 °C	1.2 W · m ⁻¹ · K ⁻¹	
Temperature for the specific electrical resistance of 10 ⁸ $\Omega \cdot \text{cm}$ (DIN 52 326) t_{k100}	250 °C	
Logarithm of the electric volume resistivity ($\Omega \cdot \text{cm}$)	at 250 °C	8
	at 350 °C	6.5
Dielectric properties (1 MHz, 25 °C)	Dielectric constant (permittivity) ϵ	4.6
	Dielectric loss factor (dissipation factor) $\tan \delta$	$37 \cdot 10^{-4}$
Refractive index ($\lambda = 587.6 \text{ nm}$) n_d	1.473	
Stress-optical coefficient (DIN 52 314) K	$4.0 \cdot 10^{-6} \text{ mm}^2 \cdot \text{N}^{-1}$	

Chemical Composition

SiO ₂	B ₂ O ₃	Na ₂ O + K ₂ O	Al ₂ O ₃
81	13	4	2

main components in approx. weight %