

PRICE LIST 2025

STANDARD-PRODUCTS & ACCESSORIES

PREAMBLE

The new price list 2025 replaces all previous issues. This price-list contains only a choice of articles, which is of interest for a large clientele.

We expressly point out, that not all products listed, are standard products or in stock. Most of our articles are manufactured customized. Therefore, in regular cases, ordered products are excluded from exchange.

All prices indicated are net prices and are to be understood additional VAT. Delivery ex work, excluding packaging.

The minimum order value is 125 € for EU. For all other countries the minimum order value is 250 €. In case your order does not reach this amount we have to invoice an additional charge of 15 € (EU-countries) and 30 € (non EU-countries).

Special agreements on delivery and payment conditions are still valid. All orders are carried out according to our general terms of delivery and payment, which you can find at the following link <https://www.hilgenberg-gmbh.de/en/alb/agb> or you can request by phone/fax from our sales team.

In case you miss any products of earlier issues or you need other products or dimensions, we would be glad to submit you our special offer.

Other hints:



ONLINE REQUESTS

Request our **standard-products** easily in our new Website!

Also you can request our products with your individual dimensions. As specialist of glass, we provide advisory services to you, especially it is about your application.



Use the fast way

Clicking on the headings takes you to the product pages on our website. There you can easily send your inquiry to us using the inquiry form.

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GLASS CAPILLARIES

Capillaries made of borosilicate glass 3.3

www.hilgenberg.com



- Single circular
- Ends cut
- Minimum purchase: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
					100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.00 ± 0.05	0.580 ± 0.05	0.21	75	1408499	2.38 €	1.33 €	1.06 €	0.73 €	0.49 €	0.29 €
			100	1406119	2.29 €	1.27 €	0.93 €	0.65 €	0.43 €	0.26 €
			150	1405005	4.46 €	2.37 €	1.70 €	1.14 €	0.71 €	0.31 €
1.00 ± 0.05	0.722 ± 0.05	0.13	75	1409257	4.43 €	2.33 €	1.64 €	1.07 €	0.65 €	0.28 €
			100	1408409	4.44 €	2.33 €	1.62 €	1.06 €	0.64 €	0.26 €
			150	1408410	4.00 €	2.15 €	1.50 €	1.00 €	0.65 €	0.30 €
1.20 ± 0.05	0.696 ± 0.05	0.252	75	1409255	4.49 €	2.41 €	1.72 €	1.16 €	0.73 €	0.33 €
			100	1405012	4.52 €	2.44 €	1.78 €	1.22 €	0.79 €	0.35 €
			150	1406179	4.61 €	2.51 €	1.83 €	1.27 €	0.82 €	0.36 €
1.50 ± 0.05	0.870 ± 0.05	0.315	75	1409249	4.54 €	2.45 €	1.80 €	1.23 €	0.81 €	0.36 €
			100	1405063	4.54 €	2.48 €	1.80 €	1.23 €	0.81 €	0.33 €
			150	1405060	4.80 €	2.69 €	1.98 €	1.41 €	1.00 €	0.45 €
1.50 ± 0.05	1.050 ± 0.05	0.225	75	1409250	3.19 €	1.73 €	1.27 €	0.85 €	0.56 €	0.29 €
			100	1408411	4.54 €	2.45 €	1.80 €	1.23 €	0.81 €	0.36 €
			150	1408412	4.67 €	2.58 €	1.86 €	1.30 €	0.90 €	0.39 €
2.00 ± 0.10	1.000 ± 0.10	0.5	75	1405020	4.22 €	2.33 €	1.71 €	1.21 €	0.81 €	0.47 €
			100	1406180	4.31 €	2.41 €	1.80 €	1.29 €	0.92 €	0.56 €
			150	1405006	4.54 €	2.65 €	1.99 €	1.46 €	1.07 €	0.75 €
2.00 ± 0.10	1.160 ± 0.10	0.42	75	1409256	4.76 €	2.68 €	1.96 €	1.41 €	0.99 €	0.47 €
			100	1407425	4.94 €	2.82 €	2.12 €	1.59 €	1.15 €	0.50 €
			150	1408414	5.04 €	2.95 €	2.26 €	1.70 €	1.28 €	0.52 €
2.00 ± 0.10	1.400 ± 0.10	0.3	75	1405059	2.51 €	1.47 €	1.16 €	0.89 €	0.69 €	0.37 €
			100	1405076	4.76 €	2.67 €	1.96 €	1.40 €	0.97 €	0.43 €
			150	1408413	4.90 €	2.82 €	2.11 €	1.53 €	1.15 €	0.48 €
2.00 ± 0.10	1.600 ± 0.05	0.2	75	1422037	4.16 €	2.26 €	1.62 €	1.13 €	0.76 €	0.35 €
			100	1423037	4.21 €	2.31 €	1.70 €	1.18 €	0.80 €	0.36 €
			150	1425037	4.31 €	2.41 €	1.78 €	1.28 €	0.90 €	0.41 €
3.00 ± 0.15	2.400 ± 0.15	0.3	75	1422057	4.65 €	2.54 €	1.85 €	1.29 €	0.89 €	0.42 €
			100	1423057	4.93 €	2.82 €	2.11 €	1.53 €	1.14 €	0.69 €
			150	1425057	5.12 €	3.00 €	2.31 €	1.73 €	1.33 €	0.82 €



Capillaries made of borosilicate glass 3.3 for InVitro-fertilization

[WWW](#)



- Single circular
- Ends cut
- Minimum purchase: 1000 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1.000 pieces when ordering				
					1,000 pieces	2,000 pieces	3,000 pieces	5,000 pieces	10,000 pieces
0.250 ± 0.03	0.140 ± 0.030	0.055	120 ± 1	1409092	1,240.18 €	801.24 €	654.98 €	537.90 €	500.29 €
0.260 ± 0.03	0.130 ± 0.030	0.065	120 ± 1	1409091	807.20 €	617.82 €	554.77 €	504.25 €	466.26 €
0.268 ± 0.03	0.150 ± 0.030	0.059	120 ± 1	1409093	829.14 €	639.77 €	576.74 €	526.20 €	488.38 €
0.375 ± 0.01	0.161 ± 0.008	0.107	140 ± 1	1405084	802.55 €	613.20 €	550.15 €	499.62 €	461.80 €
0.405 ± 0.01	0.135 ± 0.010	0.135	140 ± 1	1408454	913.30 €	723.98 €	660.90 €	610.41 €	572.58 €
0.483 ± 0.02	0.145 ± 0.020	0.169	140 ± 1	1409271	821.88 €	632.51 €	569.46 €	518.59 €	480.79 €
0.536 ± 0.05	0.300 ± 0.010	0.118	140 ± 1	1405085	1.063.55 €	841.69 €	639.44 €	554.58 €	510.19 €
0.540 ± 0.05	0.162 ± 0.020	0.189	140 ± 1	1405097	769.38 €	580.02 €	516.95 €	466.10 €	428.28 €

Capillaries made of quartz glass

[WWW](#)



- Single circular
- Ends cut
- Minimum purchase: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering				
					100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces
1.0 ± 0.10	0.80 ± 0.10	0.1	75	1406785	9.29 €	6.66 €	4.91 €	4.83 €	2.49 €
			100	1406730	11.90 €	6.60 €	6.42 €	3.35 €	2.29 €
			150	1406786	17.27 €	9.54 €	6.74 €	4.85 €	3.29 €
1.0 ± 0.15	0.58 ± 0.15	0.21	75	1406784	9.28 €	8.78 €	4.91 €	4.83 €	2.49 €
			100	1406752	11.96 €	6.57 €	6.42 €	3.35 €	2.29 €
			150	1406774	17.39 €	9.54 €	7.70 €	4.86 €	3.29 €
1.2 ± 0.10	0.60 ± 0.10	0.3	75	1406787	9.31 €	8.82 €	4.97 €	4.86 €	2.58 €
			100	1406707	12.06 €	6.67 €	6.52 €	3.46 €	2.37 €
			150	1406788	17.50 €	9.71 €	6.58 €	4.99 €	3.46 €
1.2 ± 0.10	0.90 ± 0.10	0.15	75	1406721	9.23 €	8.73 €	6.34 €	4.83 €	2.47 €
			100	1406720	11.91 €	6.63 €	6.45 €	3.33 €	2.24 €
			150	1406789	17.31 €	12.50 €	10.15 €	7.33 €	4.38 €

Now also available with filament or alternatively with partition in different dimensions



Capillaries made of soda lime glass



- for various laboratory application
- Single circular, both ends cut
- 30 mm up to 100 mm Length
- Minimum order: 1.000 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1.000 pieces when ordering					
					1,000 pieces	5,000 pieces	10,000 pieces	20,000 pieces	30,000 pieces	50,000 pieces
0.80	0.64	0.08	30	1410213	250.73 €	167.44 €	139.74 €	125.82 €	121.16 €	117.50 €
0.75	0.60	0.075	50	1411012	275.95 €	120.99 €	101.77 €	91.98 €	88.83 €	83.35 €
1.25	1.00	0.125	50	1411022	269.79 €	114.88 €	95.46 €	83.19 €	76.23 €	70.59 €
2.00	1.60	0.2	50	1411037	323.08 €	167.63 €	135.45 €	114.53 €	107.41 €	101.94 €
2.00	1.60	0.2	65	1411637	340.62 €	184.21 €	142.24 €	121.34 €	114.21 €	108.73 €
0.50	0.40	0.05	70	1411807	291.21 €	136.45 €	117.20 €	107.41 €	104.26 €	101.60 €
0.55	0.44	0.055	70	1411808	241.27 €	106.73 €	89.84 €	81.35 €	78.70 €	76.37 €
0.90	0.72	0.09	70	1411815	339.64 €	117.50 €	89.66 €	75.88 €	67.59 €	59.61 €
2.00	1.60	0.2	70	1411837	320.73 €	161.47 €	119.67 €	98.63 €	91.63 €	86.16 €
0.70	0.56	0.07	75	1412011	266.16 €	118.01 €	99.60 €	90.32 €	87.18 €	82.34 €
2.50	2.00	0.25	75	1412047	541.71 €	264.34 €	204.44 €	174.59 €	164.64 €	156.66 €
0.40	0.32	0.04	80	1412205	302.47 €	147.68 €	128.32 €	118.66 €	115.52 €	112.86 €
0.50	0.40	0.05	80	1412207	346.28 €	141.74 €	119.85 €	101.60 €	97.93 €	93.46 €
0.60	0.48	0.06	80	1412209	246.25 €	111.71 €	94.78 €	86.52 €	83.67 €	80.87 €
0.70	0.56	0.07	80	1412211	281.91 €	126.98 €	107.56 €	97.80 €	94.63 €	89.16 €
0.80	0.64	0.08	80	1412213	252.88 €	98.12 €	78.70 €	69.08 €	64.10 €	58.63 €
0.90	0.72	0.09	80	1412215	236.48 €	82.34 €	63.13 €	53.14 €	46.36 €	40.71 €
1.00	0.80	0.1	80	1412217	283.24 €	121.65 €	101.41 €	88.17 €	81.02 €	75.21 €
1.50	1.20	0.15	80	1412227	397.72 €	177.08 €	144.40 €	114.35 €	104.58 €	96.60 €
0.50	0.40	0.05	100	1413007	372.28 €	176.26 €	151.78 €	139.54 €	135.35 €	131.98 €
0.55	0.44	0.055	100	1413008	300.18 €	145.38 €	126.13 €	116.37 €	113.22 €	109.38 €
0.60	0.48	0.06	100	1413009	304.82 €	149.88 €	130.46 €	120.83 €	117.50 €	112.71 €
0.70	0.56	0.07	100	1413011	304.14 €	149.22 €	129.80 €	120.17 €	115.02 €	109.06 €
0.80	0.64	0.08	100	1413013	285.90 €	130.79 €	111.54 €	101.09 €	94.30 €	88.68 €
1.00	0.80	0.1	100	1413017	319.25 €	144.24 €	122.33 €	103.07 €	95.29 €	88.97 €
1.20	0.96	0.12	100	1413021	287.05 €	132.28 €	108.57 €	87.66 €	80.87 €	75.21 €
1.25	1.00	0.125	100	1413022	291.72 €	136.59 €	110.55 €	89.66 €	82.84 €	77.20 €
1.30	1.04	0.13	100	1413023	295.70 €	140.60 €	112.54 €	91.63 €	84.65 €	79.22 €
1.40	1.12	0.14	100	1413025	323.71 €	168.79 €	134.92 €	113.53 €	106.42 €	100.60 €
1.50	1.20	0.150	100	1413027	287.39 €	145.70 €	110.90 €	90.97 €	84.18 €	78.85 €
1.80	1.44	0.18	100	1413033	371.34 €	200.14 €	157.33 €	135.94 €	128.79 €	123.00 €
2.00	1.60	0.2	100	1413037	385.44 €	201.28 €	159.30 €	138.43 €	131.48 €	125.82 €



Capillaries made of soda lime glass [WWW](#)



- for various laboratory application
- Single circular, both ends cut
- > 120 mm Length
- Minimum order: 1.000 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1.000 pieces when ordering					
					1,000 pieces	5,000 pieces	10,000 pieces	20,000 pieces	30,000 pieces	50,000 pieces
0.75	0.60	0.075	120	1413812	294.68 €	139.74 €	120.35 €	108.89 €	101.94 €	96.44 €
0.80	0.64	0.08	120	1413813	294.02 €	139.09 €	119.67 €	106.23 €	99.11 €	93.46 €
0.90	0.72	0.09	120	1413815	273.76 €	118.85 €	99.43 €	82.34 €	75.39 €	69.90 €
1.00	0.80	0.1	120	1413817	304.33 €	149.22 €	129.14 €	108.38 €	101.41 €	95.95 €
1.20	0.96	0.12	120	1413821	295.86 €	141.09 €	110.73 €	89.84 €	83.01 €	77.35 €
0.60	0.48	0.06	150	1415009	325.06 €	170.13 €	150.71 €	141.09 €	135.76 €	130.13 €
0.90	0.72	0.09	150	1415015	267.83 €	113.03 €	93.79 €	73.87 €	67.10 €	61.46 €
1.00	0.80	0.1	150	1415017	282.44 €	127.34 €	103.91 €	83.19 €	76.23 €	70.74 €
1.20	0.96	0.12	150	1415021	303.00 €	147.89 €	112.71 €	91.98 €	85.02 €	79.53 €
1.40	1.12	0.14	150	1415025	327.54 €	165.28 €	122.51 €	101.09 €	93.97 €	88.32 €
2.00	1.60	0.2	150	1415037	417.13 €	201.28 €	159.30 €	138.43 €	131.48 €	125.82 €
0.40	0.32	0.04	160	1415405	334.49 €	179.75 €	160.32 €	150.71 €	147.55 €	144.40 €
0.50	0.40	0.05	160	1415407	314.29 €	179.75 €	162.82 €	154.34 €	151.36 €	146.53 €
1.00	0.80	0.1	200	1416817	339.98 €	185.04 €	151.21 €	130.46 €	123.51 €	117.85 €
1.35	1.08	0.135	200	1416824	348.28 €	170.93 €	129.28 €	108.57 €	101.60 €	96.13 €
0.90	0.72	0.09	230	1417415	674.27 €	259.52 €	199.83 €	160.98 €	151.02 €	141.24 €

Capillaries made of borosilicate glass 3.3 up to an outer diameter of 1.2 mm [WWW](#)



- Single circular, with filament
- Ends cut
- Minimum order: 100 Stück

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.00 ± 0.05	0.580 ± 0.05	0.21	0.1	75	1403575	3.97 €	2.10 €	1.46 €	0.96 €	0.57 €	0.26 €
				100	1403547	4.10 €	2.21 €	1.53 €	1.06 €	0.69 €	0.31 €
				150	1403550	4.16 €	2.26 €	1.62 €	1.13 €	0.73 €	0.35 €
1.00 ± 0.05	0.580 ± 0.05	0.21	0.133	75	1403571	4.43 €	2.33 €	1.64 €	1.07 €	0.65 €	0.29 €
				100	1403501	4.48 €	2.38 €	1.70 €	1.15 €	0.71 €	0.31 €
				150	1403517	4.54 €	2.45 €	1.78 €	1.23 €	0.80 €	0.36 €
1.00 ± 0.05	0.750 ± 0.05	0.125	0.1	75	1405218	4.43 €	2.35 €	1.64 €	1.07 €	0.68 €	0.29 €
				100	1405201	4.45 €	2.36 €	1.67 €	1.13 €	0.70 €	0.31 €
				150	1405208	4.48 €	2.41 €	1.71 €	1.15 €	0.73 €	0.33 €
1.00 ± 0.05	0.800 ± 0.05	0.1	0.1	75	1404523	4.39 €	2.29 €	1.60 €	1.01 €	0.61 €	0.25 €
				100	1404502	4.44 €	2.35 €	1.66 €	1.11 €	0.69 €	0.30 €
				150	1404503	4.46 €	2.37 €	1.70 €	1.14 €	0.71 €	0.33 €



Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Lenght (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.20 ± 0.05	0.696 ± 0.05	0.252	0.16	75	1403570	4.50 €	2.42 €	1.73 €	1.18 €	0.76 €	0.35 €
				100	1403526	4.54 €	2.45 €	1.80 €	1.23 €	0.81 €	0.37 €
				150	1403529	4.68 €	2.58 €	1.86 €	1.33 €	0.90 €	0.41 €
1.20 ± 0.05	0.764 ± 0.05	0.218	0.12	75	1406304	4.12 €	2.24 €	1.60 €	1.07 €	0.71 €	0.35 €
				100	1406301	4.19 €	2.29 €	1.66 €	1.15 €	0.77 €	0.37 €
				150	1406303	4.24 €	2.36 €	1.73 €	1.25 €	0.85 €	0.42 €
1.20 ± 0.05	0.900 ± 0.05	0.15	0.12	75	1405219	4.52 €	2.44 €	1.77 €	1.22 €	0.79 €	0.39 €
				100	1405202	4.64 €	2.52 €	1.84 €	1.28 €	0.85 €	0.45 €
				150	1405210	4.75 €	2.65 €	1.93 €	1.38 €	0.96 €	0.50 €
1.20 ± 0.05	0.960 ± 0.05	0.12	0.12	75	1403012	4.45 €	2.37 €	1.67 €	1.13 €	0.70 €	0.31 €
				100	1403003	4.48 €	2.41 €	1.71 €	1.15 €	0.73 €	0.35 €
				150	1403004	4.52 €	2.44 €	1.78 €	1.22 €	0.79 €	0.37 €

Capillaries made of borosilicate glass 3.3 with outer diameter > 1.2 mm



- Single circular. with filament
- Ends cut
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Lenght (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.50 ± 0.05	0.870 ± 0.05	0.315	0.15	75	1403574	4.52 €	2.45 €	1.78 €	1.22 €	0.80 €	0.43 €
				100	1403542	4.64 €	2.54 €	1.84 €	1.29 €	0.85 €	0.37 €
				150	1403549	4.75 €	2.65 €	1.94 €	1.38 €	0.96 €	0.42 €
1.50 ± 0.05	0.870 ± 0.05	0.315	0.2	75	1403573	4.52 €	2.44 €	1.78 €	1.21 €	0.79 €	0.33 €
				100	1403512	4.78 €	2.67 €	1.94 €	1.38 €	0.96 €	0.47 €
				150	1403530	4.86 €	2.76 €	2.03 €	1.47 €	1.07 €	0.49 €
1.50 ± 0.05	1.124 ± 0.05	0.188	0.15	75	1405215	4.15 €	2.25 €	1.61 €	1.13 €	0.73 €	0.39 €
				100	1405203	4.21 €	2.31 €	1.67 €	1.18 €	0.80 €	0.45 €
				150	1405207	4.30 €	2.38 €	1.78 €	1.28 €	0.90 €	0.50 €
1.50 ± 0.05	1.177 ± 0.05	0.162	0.15	75	1403013	4.52 €	2.44 €	1.78 €	1.22 €	0.80 €	0.39 €
				100	1403005	4.65 €	2.54 €	1.84 €	1.28 €	0.85 €	0.42 €
				150	1403001	4.74 €	2.64 €	1.93 €	1.36 €	0.96 €	0.48 €
1.50 ± 0.05	1.200 ± 0.05	0.15	0.15	75	1404524	4.12 €	2.24 €	1.60 €	1.07 €	0.71 €	0.35 €
				100	1404501	4.18 €	2.29 €	1.64 €	1.15 €	0.77 €	0.37 €
				150	1404519	4.24 €	2.36 €	1.72 €	1.23 €	0.83 €	0.42 €
2.00 ± 0.10	1.160 ± 0.10	0.42	0.267	75	1403569	5.04 €	2.95 €	2.26 €	1.70 €	1.27 €	0.56 €
				100	1403513	5.21 €	3.09 €	2.37 €	1.83 €	1.40 €	0.60 €
				150	1403531	5.65 €	3.59 €	2.86 €	2.31 €	1.90 €	0.77 €
2.00 ± 0.10	1.600 ± 0.10	0.2	0.2	75	1408018	4.70 €	2.61 €	1.91 €	1.34 €	0.92 €	0.47 €
				100	1404506	4.80 €	2.71 €	1.99 €	1.45 €	1.01 €	0.52 €
				150	1404518	4.94 €	2.86 €	2.18 €	1.61 €	1.21 €	0.64 €
3.00 ± 0.15	1.740 ± 0.15	0.63	0.3	75	1403543	5.36 €	3.25 €	2.58 €	1.99 €	1.59 €	0.77 €
				100	1403551	5.69 €	3.62 €	2.93 €	2.35 €	1.82 €	0.93 €
				150	1403552	6.24 €	4.18 €	3.47 €	2.90 €	2.02 €	1.16 €



In addition to the standard geometry of a simple, round cross-section with various wall thicknesses, special geometries that include flat, square and triangular capillaries are also available. Here, you will find a selection of the different capillary profiles that we offer as standard. The selection of profiles we have already manufactured for our customers goes far beyond this, however – everything from the simple, round tube to the repeat bundling of multi-channel capillaries.

Are you looking for something in particular, a combination tailored specifically to your requirements? Talk to us today!



Theta-profile capillaries made of borosilicate glass 3.3 [www](#)



- Capillaries with internal septum
- Ends cut
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Septum (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.50 ± 0.05	1.05 ± 0.05	0.225	0.165	75	1401010	5.19 €	3.09 €	2.36 €	1.82 €	1.38 €	0.95 €
				100	1401016	5.46 €	3.33 €	2.63 €	2.02 €	1.61 €	1.14 €
				150	1401019	6.10 €	3.93 €	3.25 €	2.69 €	2.27 €	1.67 €
2.00 ± 0.15	1.40 ± 0.15	0.3	0.22	75	1401046	5.53 €	3.59 €	2.97 €	2.42 €	2.03 €	1.53 €
				100	1401021	5.90 €	3.99 €	3.36 €	2.88 €	2.48 €	1.93 €
				150	1401025	7.27 €	5.30 €	4.67 €	4.16 €	3.74 €	3.00 €

Theta cross-section-capillaries made of Borosilicate glass 3.3 [www](#)



- with crossed septum
- Ends cut
- Minimum order: 100 pieces



Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Septum (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.00 ± 0.10	0.70 ± 0.10	0.15	0.044	100	1401730	15.33 €	9.54 €	6.49 €	4.10 €	2.25 €	0.90 €
2.00 ± 0.10	1.40 ± 0.10	0.3	0.088	100	1401731	10.89 €	7.91 €	7.25 €	4.92 €	2.73 €	1.33 €
3.00 ± 0.20	2.20 ± 0.20	0.4	0.12	100	1401728	10.97 €	9.19 €	6.24 €	3.97 €	3.29 €	1.80 €

Rectangular capillaries made of borosilicate glass 3.3 [www](#)



- with two parallel walls
- Minimum order: 25 pieces

HIGHLIGHT PRODUCT

Outer Dimension (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering				
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces
2.0 x 1.00	~ 0.110	80	25 Stück	1470640	9.55 €	5.74 €	4.81 €	3.89 €	3.53 €
4.2 x 1.25	~ 0.125	80	25 Stück	1408963	11.23 €	7.14 €	5.24 €	4.60 €	3.98 €
5.0 x 1.32	~ 0.220	80	25 Stück	1470641	11.19 €	7.53 €	5.53 €	4.74 €	4.28 €
6.5 x 1.40	~ 0.160	80	25 Stück	1408964	11.23 €	7.66 €	5.99 €	4.84 €	4.42 €



Multiple bundled capillaries made of Borosilicate glass 3.3

[www](#)



- dual
- Ends cut
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1.000 pieces	10.000 pieces
1.20 ± 0.05	0.600 ± 0.05	0.3	0.12	75	1402837	4.93 €	2.84 €	2.15 €	1.60 €	1.16 €	0.68 €
				100	1402810	5.22 €	3.09 €	2.37 €	1.82 €	1.36 €	0.81 €
				150	1402813	5.48 €	3.40 €	2.69 €	2.12 €	1.71 €	1.01 €
1.50 ± 0.05	0.750 ± 0.05	0.375	0.15	75	1402838	5.27 €	3.18 €	2.48 €	1.93 €	1.48 €	0.90 €
				100	1402806	5.58 €	3.51 €	2.80 €	2.26 €	1.84 €	1.14 €
				150	1402819	6.16 €	4.04 €	3.33 €	2.77 €	2.35 €	1.46 €
1.50 ± 0.05	0.870 ± 0.05	0.315	0.15	75	1402839	5.13 €	3.01 €	2.33 €	1.78 €	1.35 €	0.79 €
				100	1402817	5.48 €	3.35 €	2.65 €	2.08 €	1.64 €	0.97 €
				150	1402818	5.86 €	3.78 €	3.03 €	2.51 €	2.09 €	1.28 €



- triple bundled
- Ends cut
- Minimum order: 100 pieces

[www](#)

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1.000 pieces	10.000 pieces
1.20 ± 0.05	0.695 ± 0.05	0.253	0.12	75	1402920	5.13 €	3.20 €	2.61 €	2.10 €	1.72 €	1.22 €
				100	1402917	5.69 €	3.73 €	3.09 €	2.58 €	2.18 €	1.59 €
				150	1402916	6.26 €	4.41 €	3.74 €	3.25 €	2.86 €	2.12 €



- quadruple bundled
- Ends cut
- Minimum order: 100 pieces

[www](#)

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1.000 pieces	10.000 pieces
1.20 ± 0.05	0.600 ± 0.05	0.3	0.12	75	1405118	5.25 €	3.15 €	2.44 €	1.90 €	1.47 €	0.81 €
				100	1405102	5.51 €	3.36 €	2.67 €	2.09 €	1.66 €	0.83 €
				150	1405106	5.90 €	3.80 €	3.11 €	2.52 €	1.96 €	1.07 €



Our bundled capillaries come in a wide variety of combinations. There are various diameters to choose from, with a choice between solid rods or fibres, with and without filament. We will be more than happy to provide you with a version that best meets your requirements.



- quintuple bundled
- Ends cut
- Minimum order: 100 pieces

[www](http://www.hilgenberg.com)

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.20 ± 0.05	0.672 ± 0.05	0.264	0.12	75	1405317	5.18 €	3.28 €	2.65 €	2.15 €	1.77 €	1.11 €
				100	1405302	5.53 €	3.66 €	3.01 €	2.52 €	2.12 €	1.34 €
				150	1405303	6.16 €	4.24 €	3.64 €	3.12 €	2.51 €	1.72 €



- sevenfold bundled
- Ends cut
- Minimum order: 100 pieces

[www](http://www.hilgenberg.com)

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Filament-Ø (mm)	Length (mm)	Code no.	Price per 1 piece when ordering					
						100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	10,000 pieces
1.00 ± 0.05	0.560 ± 0.05	0.22	0.1	75	1406809	5.61 €	3.53 €	2.84 €	2.29 €	1.85 €	1.14 €
				100	1406801	6.15 €	3.96 €	3.25 €	2.68 €	2.26 €	1.36 €
				150	1406802	6.63 €	4.50 €	3.83 €	3.24 €	2.61 €	1.72 €

There are plenty of options when it comes to ordering our bundled capillaries. Unlike multi-capillaries, the hollow spaces between the bundled capillaries are not filled. Channels and gaps are created from the bundling of assorted simple capillaries. It is possible to combine various diameters, wall thicknesses and rods, as well as capillaries with or without filament.



Multi-capillaries



Multiple bundle capillaries



9-fold capillary

This multi channel capillary is shaped by the symmetrically arranged in tiers capillaries with their 9 channels. The single channels are manufactured with solid walls. can also be shaped thinner. The capillaries are applicable in the electrophysiology and electrochemistry.

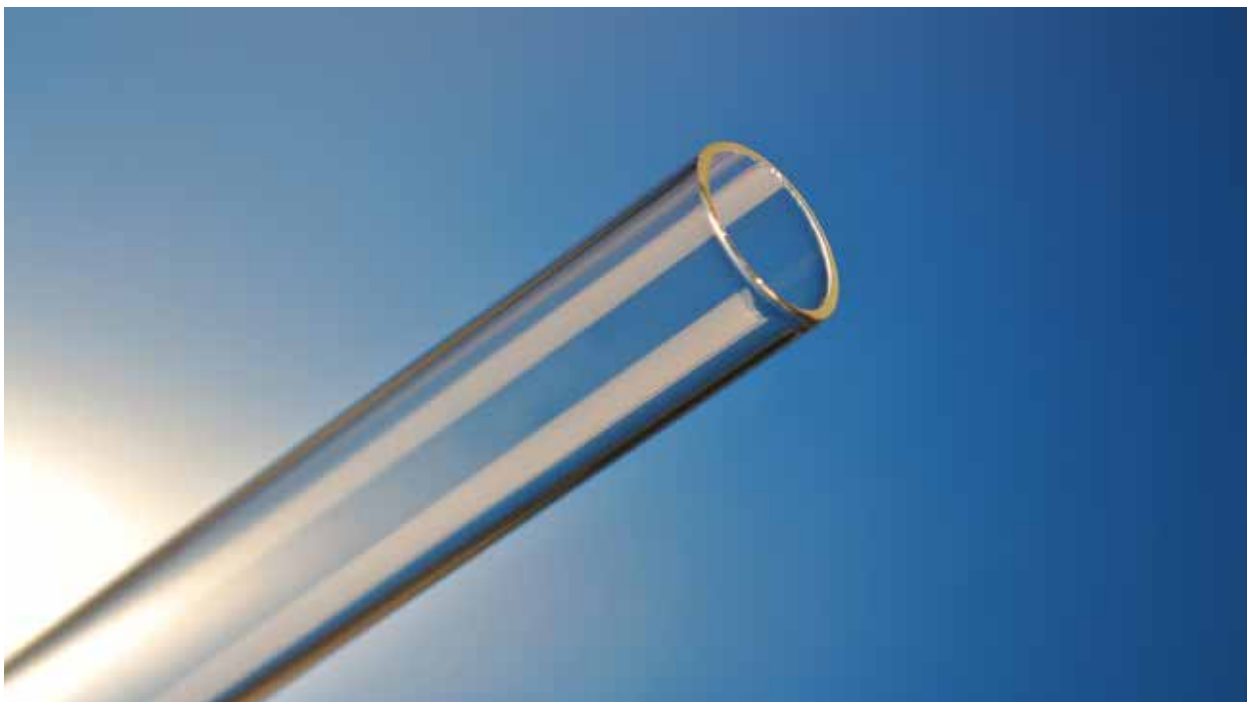
Thin walled tubes made of borosilicate glass 3.3

[www.hilgenberg.com](#)

HIGHLIGHT PRODUCT

- for measuring cells used for research on extra large molecules
- wall thickness < 0.1 mm
- Minimum order: 25 pieces

Outside- Ø (mm)	Wall thick- ness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
1.1	0.05	100	25 Stück	1470263	6.63 €	5.67 €	4.71 €	3.79 €	3.62 €	3.55 €
2.1	0.05	100	25 Stück	1409364	6.68 €	5.78 €	4.83 €	3.86 €	3.74 €	3.72 €
3.8	0.05	100	25 Stück	1409363	6.86 €	5.96 €	4.95 €	3.98 €	3.81 €	3.79 €
4.1	0.05	80	25 Stück	1409346	6.96 €	6.03 €	5.06 €	4.03 €	3.86 €	3.81 €
4.7	0.1	100	25 Stück	1409365	8.45 €	7.29 €	6.10 €	4.87 €	4.70 €	4.67 €
5.2	0.1	100	25 Stück	1409366	9.25 €	8.00 €	6.68 €	5.36 €	5.13 €	5.09 €
6.0	0.05	100	25 Stück	1471153	12.26 €	10.48 €	9.26 €	7.58 €	6.28 €	5.36 €



The distinctiveness of these capillaries is their very thin wall-thickness in relation to their diameter. The extremely thin walls lead to the special feature of these capillaries to be deformed easily. Additional features linked to the thin wall-thickness are minimal optical distortion as well as very low absorption for a wide range of radiation. This feature is used e.g. for the construction of optical measuring cells.

Advantages

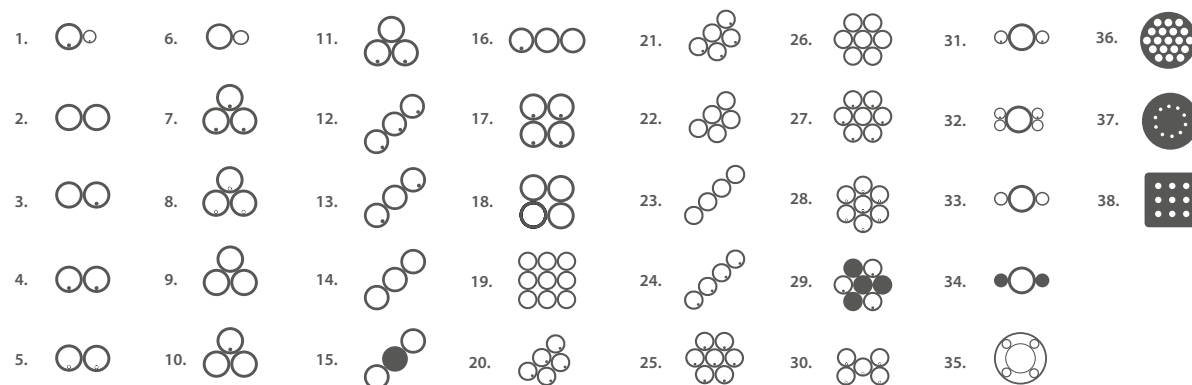
- Low absorption of radiation
- Low optical distortion
- Very low weight of the components'
- Easy to process via laser (cut to length, cut in half, outline-cut)
- Mechanically flexible, easily deformed

Capillary profiles (single)



- | | | |
|--|--|---|
| 1. single. circular. thin-walled | 10. theta cross-section profile | 18. six-jagged profile. circular inside. without filament |
| 2. single. circular. standard wall | 11. single. square. standard wall thickness | 19. three-jagged profile. circular inside. without filament |
| 3. single. circular. thick-walled | 12. flat capillary-profile | 20. triangular profile with hole |
| 4. single. circular. very thick-walled | 13. oval capillary-profile. thin-walled | 21. triangular capillary profile. thin-walled |
| 5. single. circular. with hollow filament | 14. oval capillary-profile | 22. triangular capillary profile |
| 6. single. circular. with solid filament | 15. 2-hole capillary profile | |
| 7. theta profile. circular. with internal septum | 16. 4-hole capillary profile | |
| 8. theta profile with filaments on inner wall | 17. internal profile. circular outside. without filament | |
| 9. theta profile with filaments on outer wall | | |

Capillary profiles (multiple)



- | | |
|--|--|
| 1. dual. different diameters. with solid filaments | 21. quintuple bundle. same diameters. with only 4 filaments |
| 2. dual. same diameters. without filaments | 22. quintuple bundle. same diameters. without filaments |
| 3. dual. same diameters. with only one filament | 23. quadruple parallel. same diameters. without filaments |
| 4. dual. same diameters. with filaments | 24. quadruple parallel. same diameters. with filaments |
| 5. dual. same diameters. with hollow filaments | 25. sevenfold bundle. same diameters. with filaments |
| 6. piggybag-profile | 26. sevenfold bundle. same diameters. without filaments |
| 7. triple bundle. same diameters. with filaments | 27. sevenfold bundle. same diameters. with only 6 filaments |
| 8. triple bundle. same diameters. with hollow filaments | 28. sevenfold bundle. same diameters. with hollow filaments |
| 9. triple bundle. same diameters. without filaments | 29. threesome and foursome geometry. bundled. with filaments |
| 10. triple bundle. same diameters. with only one filament | 30. quintuple bundle. same diameters. in X-array with hollow filaments |
| 11. triple bundle. same diameters. with only 2 filaments | 31. triple bundle. different diameters. with filaments outside |
| 12. triple parallel. same diameters. with filaments | 32. quintuple bundle. different diameters. in x-array with only 2 filaments |
| 13. triple parallel. same diameters. with only 2 filaments | 33. triple bundle. different diameters. with flanking capillaries. without filaments |
| 14. triple parallel. same diameters. without filaments | 34. triple bundle. different diameters. with flanking rods |
| 15. triple parallel. same diameters. with center rod | 35. 1+4 internal geometry. circular. without filaments |
| 16. triple. same diameters. with only one filament | 36. multi-channel capillary profile |
| 17. quadruple bundle. same diameters. with filaments | 37. multi-channel capillary profile (circular) |
| 18. quadruple bundle. same diameters. without filaments | 38. multi-channel capillary profile (square) |
| 19. ninefold bundle. same diameters. without filaments | |
| 20. quintuple bundle. same diameters. with filaments | |

TUBES & CYLINDERS

Tubes made of borosilicate glass 3.3 www.hilgenberg.com

- Minimum order: 1 Packaging Unit (PU)

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Weight per 1 piece (g)	Number of pieces in box (pieces)	Weight of box (kg) = 1 PU	Weight per pallet (kg)	Code no.	Price per 1 kg when ordering 1 PU
4.0 ± 0.15	0.8 ± 0.04	1500 ± 20	27	400	10.8	453.6	1201501	19.13 €
5.0 ± 0.15	0.8 ± 0.04	1500 ± 20	35	256	9	441	1201502	19.13 €
6.0 ± 0.15	1.0 ± 0.04	1500 ± 20	53	170	9	441	1201503	17.22 €
6.0 ± 0.15	1.5 ± 0.10	1500 ± 20	71	170	12.1	423.5	1201504	17.22 €
7.0 ± 0.15	1.0 ± 0.04	1500 ± 20	63	121	7.6	425.6	1201505	17.22 €
7.0 ± 0.15	1.5 ± 0.10	1500 ± 20	87	121	10.5	441	1201506	17.22 €
8.0 ± 0.15	1.0 ± 0.04	1500 ± 20	74	100	7.4	414.4	1201507	17.22 €
8.0 ± 0.15	1.5 ± 0.10	1500 ± 20	102	100	10.2	428.4	1201508	17.22 €
9.0 ± 0.15	1.0 ± 0.04	1500 ± 20	84	81	6.8	380.8	1201509	17.22 €
9.0 ± 0.15	1.5 ± 0.10	1500 ± 20	118	81	9.6	403.2	1201510	17.22 €
10.0 ± 0.15	1.0 ± 0.04	1500 ± 20	95	64	6.1	341.6	1201500	17.22 €
10.0 ± 0.15	1.5 ± 0.10	1500 ± 20	134	64	8.6	421.4	1201511	13.35 €
10.0 ± 0.15	2.2 ± 0.15	1500 ± 20	180	64	11.5	402.5	1201512	13.35 €
10.0 ± 0.30	3.5 ± 0.25	1500 ± 20	239	64	15.3	428.4	1201619	13.35 €
11.0 ± 0.20	1.0 ± 0.04	1500 ± 20	105	121	12.7	444.5	1201513	13.35 €
11.0 ± 0.20	1.5 ± 0.10	1500 ± 20	150	121	18.2	455	1201514	13.35 €
11.0 ± 0.20	2.2 ± 0.15	1500 ± 20	203	50	10.2	428.4	1201515	13.35 €
12.0 ± 0.20	1.0 ± 0.04	1500 ± 20	116	100	11.6	406	1201516	13.35 €
12.0 ± 0.20	1.5 ± 0.10	1500 ± 20	166	100	16.6	415	1201517	13.35 €
12.0 ± 0.20	2.2 ± 0.15	1500 ± 20	227	49	11.1	466.2	1201518	13.35 €
12.0 ± 0.30	3.5 ± 0.15	1500 ± 20	313	49	15.3	428.4	1201620	13.35 €
13.0 ± 0.20	1.0 ± 0.04	1500 ± 20	126	81	10.2	357	1201519	13.35 €
13.0 ± 0.20	1.5 ± 0.10	1500 ± 20	181	81	14.7	441	1201520	13.35 €
13.0 ± 0.20	2.2 ± 0.15	1500 ± 20	250	81	20.3	406	1201521	13.35 €
14.0 ± 0.20	1.0 ± 0.04	1500 ± 20	137	64	8.8	308	1201522	13.35 €
14.0 ± 0.20	1.5 ± 0.10	1500 ± 20	197	64	12.6	441	1201523	13.35 €
14.0 ± 0.20	2.2 ± 0.15	1500 ± 20	273	64	17.5	437.5	1201524	13.35 €
15.0 ± 0.20	1.2 ± 0.05	1500 ± 20	174	49	8.5	297.5	1201525	13.35 €
15.0 ± 0.20	1.8 ± 0.10	1500 ± 20	250	49	12.3	430.5	1201526	13.35 €
15.0 ± 0.20	2.5 ± 0.15	1500 ± 20	328	49	16.1	402.5	1201527	13.35 €
16.0 ± 0.20	1.2 ± 0.05	1500 ± 20	187	49	9.2	322	1201528	13.35 €
16.0 ± 0.20	1.8 ± 0.10	1500 ± 20	269	49	13.2	462	1201529	13.35 €
16.0 ± 0.20	2.5 ± 0.15	1500 ± 20	355	49	17.4	435	1201530	13.35 €
16.0 ± 0.25	3.5 ± 0.40	1500 ± 20	460	49	22.5	450	1201621	13.35 €
17.0 ± 0.20	1.2 ± 0.05	1500 ± 20	199	36	7.2	252	1201531	13.35 €
17.0 ± 0.20	1.8 ± 0.10	1500 ± 20	288	36	10.4	364	1201532	13.35 €
17.0 ± 0.20	2.5 ± 0.15	1500 ± 20	381	36	13.7	411	1201533	13.35 €
18.0 ± 0.20	1.2 ± 0.05	1500 ± 20	212	36	7.6	266	1201534	13.35 €
18.0 ± 0.20	1.8 ± 0.10	1500 ± 20	306	36	11	385	1201535	13.35 €
18.0 ± 0.20	2.5 ± 0.15	1500 ± 20	407	36	14.7	441	1201536	13.35 €



Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Weight per 1 piece (g)	Number of pieces in box (pieces)	Weight of box (kg) = 1 PU	Weight per pallet (kg)	Code no.	Price per 1 kg when ordering 1 PU
19.0 ± 0.20	1.2 ± 0.05	1500 ± 20	224	64	14.3	286	1201537	13.35 €
19.0 ± 0.20	1.8 ± 0.10	1500 ± 20	325	64	20.8	416	1201538	13.35 €
19.0 ± 0.20	2.5 ± 0.15	1500 ± 20	433	36	15.6	468	1201539	13.35 €
20.0 ± 0.25	1.2 ± 0.05	1500 ± 20	237	49	11.6	278.4	1201540	13.35 €
20.0 ± 0.25	1.8 ± 0.10	1500 ± 20	344	49	16.9	405.6	1201541	13.35 €
20.0 ± 0.25	2.5 ± 0.15	1500 ± 20	460	49	22.5	450	1201542	13.35 €
20.0 ± 0.30	4.0 ± 0.40	1500 ± 20	673	36	24.2	484	1201622	13.35 €
22.0 ± 0.25	1.2 ± 0.05	1500 ± 20	262	36	9.4	225.6	1201543	13.35 €
22.0 ± 0.25	1.8 ± 0.10	1500 ± 20	382	36	13.8	331.2	1201544	13.35 €
22.0 ± 0.25	2.5 ± 0.15	1500 ± 20	512	36	18.4	441.6	1201545	13.35 €
24.0 ± 0.25	1.2 ± 0.05	1500 ± 20	288	36	10.4	249.6	1201546	13.35 €
24.0 ± 0.25	1.8 ± 0.10	1500 ± 20	420	36	15.1	362.4	1201547	13.35 €
24.0 ± 0.25	2.5 ± 0.15	1500 ± 20	565	36	20.3	406	1201548	13.35 €
24.0 ± 0.30	4.0 ± 0.40	1500 ± 20	841	25	21	420	1201623	13.35 €
26.0 ± 0.25	1.4 ± 0.05	1500 ± 20	362	36	13	260	1201549	13.35 €
26.0 ± 0.25	2.0 ± 0.10	1500 ± 20	504	36	18.1	362	1201550	13.35 €
26.0 ± 0.25	2.8 ± 0.15	1500 ± 20	683	36	24.6	393.6	1201551	13.35 €
28.0 ± 0.25	1.4 ± 0.05	1500 ± 20	391	25	9.8	235.2	1201552	13.35 €
28.0 ± 0.25	2.0 ± 0.10	1500 ± 20	546	25	13.7	328.8	1201553	13.35 €
28.0 ± 0.25	2.8 ± 0.15	1500 ± 20	741	25	18.5	444	1201554	13.35 €
28.0 ± 0.30	4.0 ± 0.40	1500 ± 20	1009	16	16.1	402.5	1201624	13.35 €
30.0 ± 0.40	1.4 ± 0.10	1500 ± 20	421	36	15.2	228	1201555	16.39 €
30.0 ± 0.40	2.0 ± 0.15	1500 ± 20	588	36	21.2	318	1201556	16.39 €
30.0 ± 0.40	2.8 ± 0.20	1500 ± 20	800	25	20	400	1201557	16.39 €
30.0 ± 0.60	4.0 ± 0.40	1500 ± 20	1093	16	17.5	437.5	1201645	16.39 €
32.0 ± 0.40	1.4 ± 0.10	1500 ± 20	450	25	11.3	226	1201558	16.39 €
32.0 ± 0.40	2.0 ± 0.15	1500 ± 20	631	25	15.8	316	1201559	16.39 €
32.0 ± 0.40	2.8 ± 0.20	1500 ± 20	859	25	21.5	430	1201560	16.39 €
32.0 ± 0.60	4.0 ± 0.40	1500 ± 20	1177	16	18.8	658	1201625	16.39 €
33.0 ± 0.40	2.0 ± 0.15	1500 ± 20	652	27	17.6	281.6	1203662	16.39 €
34.0 ± 0.40	1.4 ± 0.10	1500 ± 20	480	16	7.7	184.8	1201561	16.39 €
34.0 ± 0.40	2.0 ± 0.15	1500 ± 20	673	16	10.8	259.2	1201562	16.39 €
34.0 ± 0.40	2.8 ± 0.20	1500 ± 20	918	16	14.7	352.8	1201563	16.39 €
36.0 ± 0.45	1.4 ± 0.10	1500 ± 20	509	16	8.1	194.4	1201564	16.39 €
36.0 ± 0.45	2.0 ± 0.15	1500 ± 20	715	16	11.4	273.6	1201565	16.39 €
36.0 ± 0.45	2.8 ± 0.20	1500 ± 20	977	16	15.6	374.4	1201566	16.39 €
36.0 ± 0.60	4.0 ± 0.40	1500 ± 20	1345	16	21.5	430	1201626	16.39 €
38.0 ± 0.45	1.4 ± 0.10	1500 ± 20	538	16	8.6	172	1201567	16.39 €
38.0 ± 0.45	2.0 ± 0.15	1500 ± 20	757	16	12.1	242	1201568	16.39 €
38.0 ± 0.45	2.8 ± 0.20	1500 ± 20	1036	16	16.6	332	1201569	16.39 €
40.0 ± 0.60	1.6 ± 0.10	1500 ± 20	646	16	10.3	206	1201570	16.39 €
40.0 ± 0.60	2.3 ± 0.20	1500 ± 20	911	16	14.6	292	1201571	16.39 €
40.0 ± 0.60	3.2 ± 0.30	1500 ± 20	1237	16	19.8	396	1201572	16.39 €
40.0 ± 0.60	5.0 ± 0.40	1500 ± 20	1845	9	16.6	498	1201646	16.39 €



Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Weight per 1 piece (g)	Number of pieces in box (pieces)	Weight of box (kg) = 1 PU	Weight per pallet (kg)	Code no.	Price per 1 kg when ordering 1 PU
42.0 ± 0.60	1.6 ± 0.10	1500 ± 20	679	16	10.9	218	1201573	16.39 €
42.0 ± 0.60	2.3 ± 0.20	1500 ± 20	960	16	15.4	308	1201574	16.39 €
42.0 ± 0.60	3.2 ± 0.30	1500 ± 20	1305	16	20.9	418	1201575	16.39 €
44.0 ± 0.60	1.6 ± 0.10	1500 ± 20	713	16	11.4	171	1201576	16.39 €
44.0 ± 0.60	2.3 ± 0.20	1500 ± 20	1008	16	16.1	241.5	1201577	16.39 €
44.0 ± 0.60	3.2 ± 0.30	1500 ± 20	1372	16	22	330	1201578	16.39 €
44.0 ± 0.80	4.5 ± 0.40	1500 ± 20	1868	9	16.8	420	1201628	16.39 €
45.0 ± 0.70	5.0 ± 0.40	1500 ± 20	2109	9	19	456	1201647	16.39 €
46.0 ± 0.70	1.6 ± 0.10	1500 ± 20	747	16	12	180	1201579	16.39 €
46.0 ± 0.70	2.3 ± 0.20	1500 ± 20	1056	16	16.9	253.5	1201580	16.39 €
46.0 ± 0.70	3.2 ± 0.30	1500 ± 20	1439	16	23	345	1201581	16.39 €
48.0 ± 0.70	1.6 ± 0.10	1500 ± 20	780	9	7	168	1201582	16.39 €
48.0 ± 0.70	2.3 ± 0.20	1500 ± 20	1105	9	9.9	237.6	1201583	16.39 €
48.0 ± 0.70	3.2 ± 0.30	1500 ± 20	1507	9	13.6	326.4	1201584	16.39 €
50.0 ± 0.70	1.8 ± 0.15	1500 ± 20	912	12	10.9	174.4	1201585	18.57 €
50.0 ± 0.70	2.5 ± 0.20	1500 ± 20	1248	12	15	240	1201586	18.57 €
50.0 ± 0.70	3.5 ± 0.30	1500 ± 20	1710	9	15.4	396.6	1201587	18.57 €
50.0 ± 0.70	5.0 ± 0.40	1500 ± 20	2363	9	21.3	426	1201629	18.57 €
50.0 ± 0.70	7.0 ± 0.60	1500 ± 20	3174	9	28.6	686.4	1201648	18.57 €
52.0 ± 0.80	1.8 ± 0.15	1500 ± 20	950	12	11.4	182.4	1201588	18.57 €
52.0 ± 0.80	2.5 ± 0.20	1500 ± 20	1300	12	15.6	249.6	1201589	18.57 €
52.0 ± 0.80	3.5 ± 0.30	1500 ± 20	1784	9	16.1	322	1201590	18.57 €
52.0 ± 0.80	5.0 ± 0.40	1500 ± 20	2478	9	22.3	446	1201649	18.57 €
54.0 ± 0.80	1.8 ± 0.15	1500 ± 20	987	9	8.9	178	1201591	18.57 €
54.0 ± 0.80	2.5 ± 0.20	1500 ± 20	1353	9	12.2	244	1201592	18.57 €
54.0 ± 0.80	3.5 ± 0.30	1500 ± 20	1857	9	16.7	334	1201593	18.57 €
54.0 ± 0.80	5.0 ± 0.40	1500 ± 20	2575	9	23.2	464	1201650	18.57 €
55.0 ± 0.80	5.0 ± 0.40	1500 ± 20	2627	9	23.6	472	1201651	18.57 €
56.0 ± 0.80	1.8 ± 0.15	1500 ± 20	1025	12	12.3	172.2	1201594	18.57 €
56.0 ± 0.80	2.5 ± 0.20	1500 ± 20	1406	12	16.9	236.6	1201595	18.57 €
56.0 ± 0.80	3.5 ± 0.30	1500 ± 20	1931	9	17.4	348	1201596	18.57 €
56.0 ± 0.80	5.0 ± 0.40	1500 ± 20	2680	9	24.1	482	1201652	18.57 €
58.0 ± 0.80	1.8 ± 0.15	1500 ± 20	1063	12	12.8	179.2	1201597	18.57 €
58.0 ± 0.80	2.5 ± 0.20	1500 ± 20	1458	12	17.5	245	1201598	18.57 €
58.0 ± 0.80	3.5 ± 0.30	1500 ± 20	2005	4	8	280	1201599	18.57 €
58.0 ± 0.80	5.0 ± 0.40	1500 ± 20	2794	4	11.2	392	1201653	18.57 €
60.0 ± 0.90	2.2 ± 0.20	1500 ± 20	1336	12	16	224	1201600	18.57 €
60.0 ± 0.90	3.2 ± 0.25	1500 ± 20	1910	12	22.9	320.6	1201601	18.57 €
60.0 ± 0.90	4.2 ± 0.40	1500 ± 20	2463	4	9.9	346.5	1201654	18.57 €
60.0 ± 0.90	5.0 ± 0.40	1500 ± 20	2890	4	11.6	406	1201631	18.57 €
60.0 ± 0.90	7.0 ± 0.60	1500 ± 20	3912	4	15.6	546	1201655	18.57 €
60.0 ± 0.90	9.0 ± 0.70	1500 ± 20	4840	4	19.4	679	1201656	18.57 €
65.0 ± 0.90	2.2 ± 0.20	1500 ± 20	1452	8	11.6	162.4	1201602	18.57 €
65.0 ± 0.90	3.2 ± 0.25	1500 ± 20	2078	8	16.6	232.4	1201603	18.57 €
65.0 ± 0.90	4.2 ± 0.40	1500 ± 20	2683	8	21.5	301	1201657	18.57 €
65.0 ± 0.90	5.0 ± 0.40	1500 ± 20	3153	4	12.6	441	1201634	18.57 €



Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Weight per 1 piece (g)	Number of pieces in box (pieces)	Weight of box (kg) = 1 PU	Weight per pallet (kg)	Code no.	Price per 1 kg when ordering 1 PU
70.0 ± 1.00	2.2 ± 0.20	1500 ± 20	1567	8	12.5	150	1201604	18.57 €
70.0 ± 1.00	3.2 ± 0.25	1500 ± 20	2246	8	18	216	1201605	18.57 €
70.0 ± 1.00	4.2 ± 0.40	1500 ± 20	2904	8	23.2	278.4	1201658	18.57 €
70.0 ± 1.00	5.0 ± 0.40	1500 ± 20	3415	4	13.7	328.8	1201659	18.57 €
70.0 ± 1.00	7.0 ± 0.60	1500 ± 20	4650	4	18.6	446.4	1201660	18.57 €
70.0 ± 1.00	9.0 ± 0.70	1500 ± 20	5788	4	23.2	556.8	1201661	18.57 €
75.0 ± 1.00	2.2 ± 0.20	1500 ± 20	1683	4	6.7	160.8	1201606	18.57 €
75.0 ± 1.00	3.2 ± 0.25	1500 ± 20	2414	4	9.7	232.8	1201607	18.57 €
75.0 ± 1.00	4.2 ± 0.40	1500 ± 20	3125	4	12.5	300	1201662	18.57 €
75.0 ± 1.00	5.0 ± 0.40	1500 ± 20	3678	4	14.7	352.8	1201616	18.57 €
80.0 ± 1.30	2.5 ± 0.20	1500 ± 20	2036	4	8.1	162	1201608	18.57 €
80.0 ± 1.30	3.5 ± 0.30	1500 ± 20	2814	4	11.3	226	1201609	18.57 €
80.0 ± 1.30	5.0 ± 0.50	1500 ± 20	3941	4	15.8	316	1201617	18.57 €
80.0 ± 1.30	9.0 ± 0.80	1500 ± 20	6737	4	26.9	538	1201663	18.57 €
85.0 ± 1.30	2.5 ± 0.2	1500 ± 20	2167	4	8.7	174	1201610	18.57 €
85.0 ± 1.30	3.5 ± 0.3	1500 ± 20	2998	4	12	240	1201611	18.57 €
85.0 ± 1.30	5.0 ± 0.3	1500 ± 20	4203	4	16.8	336	1201618	18.57 €
90.0 ± 1.30	2.5 ± 0.2	1500 ± 20	2299	4	9.2	138	1201664	18.57 €
90.0 ± 1.30	3.5 ± 0.3	1500 ± 20	3181	4	12.7	190.5	1203714	18.57 €
90.0 ± 1.30	5.0 ± 0.3	1500 ± 20	4466	4	17.9	268.5	1201665	18.57 €
90.0 ± 1.30	7.0 ± 0.7	1500 ± 20	6126	4	24.5	367.5	1201666	18.57 €
90.0 ± 1.30	9.0 ± 0.8	1500 ± 20	7686	4	30.7	460.5	1201667	18.57 €
95.0 ± 1.30	2.5 ± 0.2	1500 ± 20	2430	4	9.7	145.5	1201668	18.57 €
95.0 ± 1.30	3.5 ± 0.3	1500 ± 20	3365	4	13.5	202.5	1201669	18.57 €
95.0 ± 1.30	5.0 ± 0.3	1500 ± 20	4729	4	18.9	283.5	1201670	18.57 €
100.0 ± 1.50	2.5 ± 0.2	1500 ± 20	2561	3	7.7	123.2	1201671	22.87 €
100.0 ± 1.50	3.0 ± 0.2	1500 ± 20	3058	3	9.2	147.2	1201672	22.87 €
100.0 ± 1.50	3.5 ± 0.3	1500 ± 20	3549	3	10.6	169.6	1203716	22.87 €
100.0 ± 1.50	5.0 ± 0.5	1500 ± 20	4992	3	15	240	1201673	22.87 €
100.0 ± 1.50	7.0 ± 0.7	1500 ± 20	6864	3	20.6	329.6	1201674	22.87 €
100.0 ± 1.50	9.0 ± 0.8	1500 ± 20	8635	3	25.9	414.4	1201675	22.87 €
105.0 ± 1.70	3.0 ± 0.3	1500 ± 20	3216	3	9.6	153.6	1201676	22.87 €
105.0 ± 1.70	5.0 ± 0.5	1500 ± 20	5254	3	15.8	252.8	1201677	22.87 €
110.0 ± 1.7	3.0 ± 0.3	1500 ± 20	3373	3	10.1	141.4	1201678	22.87 €
110.0 ± 1.7	5.0 ± 0.5	1500 ± 20	5517	3	16.6	232.4	1201679	22.87 €
110.0 ± 1.7	7.0 ± 0.8	1500 ± 20	7602	3	22.8	319.2	1201680	22.87 €
115.0 ± 1.7	3.0 ± 0.3	1500 ± 20	3531	3	10.6	148.4	1201681	22.87 €
115.0 ± 1.7	5.0 ± 0.5	1500 ± 20	5780	3	17.3	242.2	1201682	22.87 €
115.0 ± 1.7	7.0 ± 0.8	1500 ± 20	7971	3	23.9	334.6	1201683	22.87 €
120.0 ± 1.7	3.0 ± 0.4	1500 ± 20	3689	3	11.1	155.4	1201684	22.87 €
120.0 ± 1.7	5.0 ± 0.6	1500 ± 20	6042	3	18.1	253.4	1201685	22.87 €
120.0 ± 1.7	7.0 ± 0.8	1500 ± 20	8340	3	25	350	1201686	22.87 €
120.0 ± 1.7	9.0 ± 0.9	1500 ± 20	10533	1	10.5	367.5	1201687	22.87 €
125.0 ± 1.7	3.0 ± 0.4	1500 ± 20	3846	3	11.5	161	1201688	22.87 €
125.0 ± 1.7	5.0 ± 0.5	1500 ± 20	6305	3	18.9	264.6	1201689	22.87 €
125.0 ± 1.7	9.0 ± 0.9	1500 ± 20	11008	1	11	385	1201690	22.87 €



Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Weight per 1 piece (g)	Number of pieces in box (pieces)	Weight of box (kg) = 1 PU	Weight per pallet (kg)	Code no.	Price per 1 kg when ordering 1 PU
130.0 ± 1.8	3.0 ± 0.5	1500 ± 20	4004	2	8	112	1201691	22.87 €
130.0 ± 1.8	5.0 ± 0.6	1500 ± 20	6568	2	13.1	183.4	1201692	22.87 €
130.0 ± 1.8	7.0 ± 0.9	1500 ± 20	9078	2	18.2	254.8	1201693	22.87 €
130.0 ± 1.8	9.0 ± 0.9	1500 ± 20	11482	1	11.5	402.5	1201694	22.87 €
135.0 ± 1.8	3.0 ± 0.5	1500 ± 20	4161	2	8.3	116.2	1201695	22.87 €
135.0 ± 1.8	5.0 ± 0.6	1500 ± 20	6831	2	13.7	191.8	1201696	22.87 €
135.0 ± 1.8	7.0 ± 0.9	1500 ± 20	9447	2	18.9	264.6	1201697	22.87 €
140.0 ± 1.9	3.0 ± 0.5	1500 ± 20	4319	2	8.6	103.2	1201698	22.87 €
140.0 ± 1.9	5.0 ± 0.6	1500 ± 20	7093	2	14.2	170.4	1201699	22.87 €
140.0 ± 1.9	7.0 ± 0.9	1500 ± 20	9816	2	19.6	235.2	1208100	22.87 €
145.0 ± 1.9	3.0 ± 0.5	1500 ± 20	4477	2	9	108	1208101	22.87 €
145.0 ± 1.9	5.0 ± 0.6	1500 ± 20	7356	2	14.7	176.4	1208102	22.87 €
150.0 ± 2.0	3.0 ± 0.5	1500 ± 20	4634	1	4.6	110.4	1208103	23.77 €
150.0 ± 2.0	5.0 ± 0.6	1500 ± 20	7619	1	7.6	182.4	1208104	23.77 €
150.0 ± 2.0	7.0 ± 0.9	1500 ± 20	10554	1	10.6	254.4	1208105	23.77 €
150.0 ± 2.0	9.0 ± 1.0	1500 ± 20	13380	1	13.4	321.6	1208106	23.77 €
155.0 ± 2.0	5.0 ± 0.7	1500 ± 20	7881	1	7.9	221.2	1208107	23.77 €
160.0 ± 2.0	5.0 ± 0.7	1500 ± 20	8144	1	8.1	194.4	1208108	23.77 €
160.0 ± 2.0	7.0 ± 1.0	1500 ± 20	11292	1	11.3	271.2	1208109	23.77 €
165.0 ± 2.0	5.0 ± 0.7	1500 ± 20	8407	1	8.4	168	1208110	23.77 €
165.0 ± 2.0	7.0 ± 1.0	1500 ± 20	11661	1	11.7	234	1208111	23.77 €
170.0 ± 2.0	5.0 ± 0.7	1500 ± 20	8699	1	8.7	174	1208112	23.77 €
170.0 ± 2.0	7.0 ± 1.0	1500 ± 20	12030	1	12	240	1208113	23.77 €
170.0 ± 2.0	9.0 ± 1.1	1500 ± 20	15278	1	15.3	306	1208114	23.77 €
180.0 ± 2.2	5.0 ± 0.7	1500 ± 20	9226	1	9.2	138	1208115	23.77 €
180.0 ± 2.2	7.0 ± 1.0	1500 ± 20	12768	1	12.8	192	1208116	23.77 €
180.0 ± 2.2	9.0 ± 1.2	1500 ± 20	16227	1	16.2	243	1208117	23.77 €

Hilgenberg provides glass tubes and cylinders made from various types of glass – either in full length or cut to size with subsequent edge treatment. We can manufacture a product that meets your requirements in almost any length from 1 to 2000 mm.

We also make precision glass tubes and cylinders with calibrated internal diameters and cylindrically ground outer surfaces – technically polished on request.



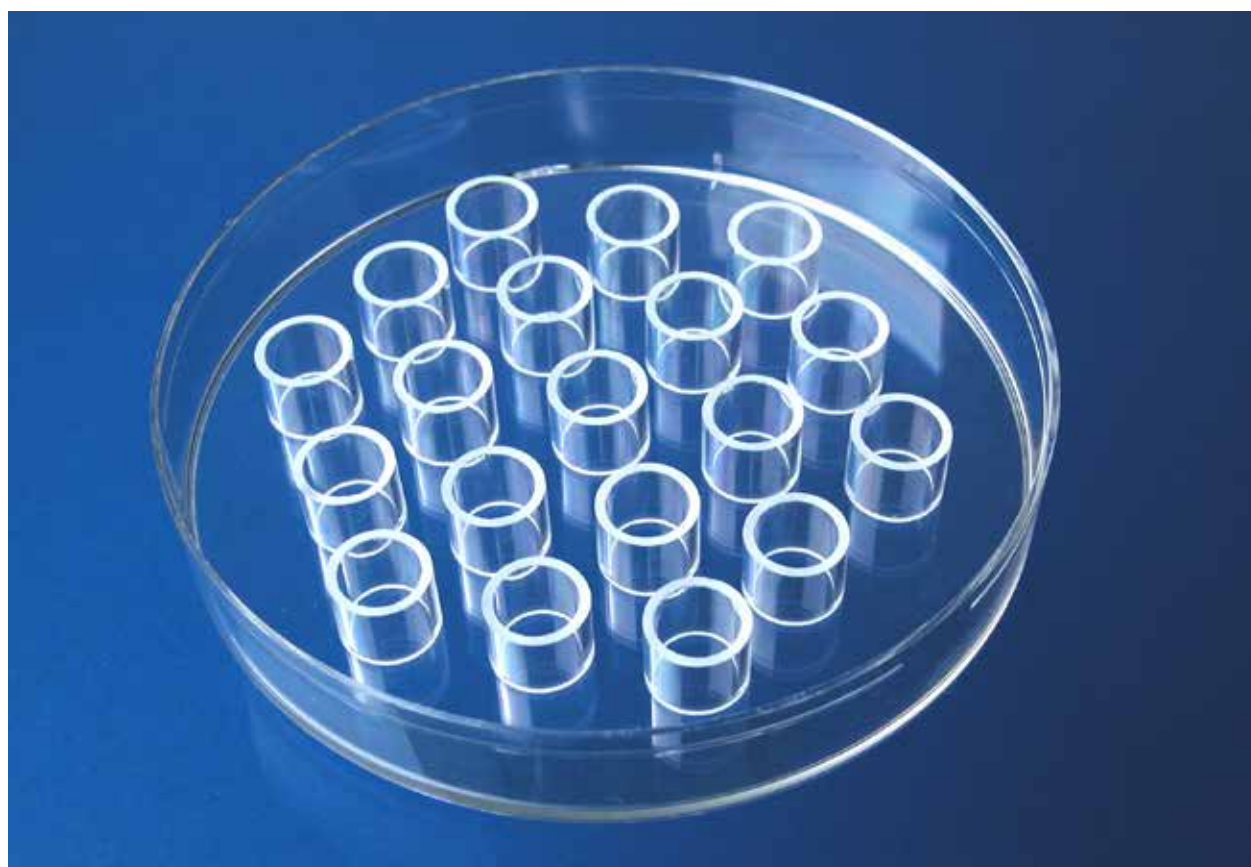
TIP: On request we manufacture for you the tubes, also blanks with custom ends and in other sorts of glass.

Cloning cylinders

www.hilgenberg.com

- made of borosilicate glass 3.3
- ground edges
- Minimum order: 100 pieces

Height (mm)	Outside-Ø (mm)	Wall thickness (mm)	packed per	Code no.	Price per 1000 pieces when ordering					
					100 pieces	500 pieces	1,000 pieces	2,000 pieces	3,000 pieces	5,000 pieces
8	6	1	100 Stück	1980004	1,045.38 €	513.25 €	446.74 €	418.21 €	399.22 €	389.70 €
8	8	1	100 Stück	1980003	1,520.51 €	988.39 €	921.83 €	883.82 €	874.37 €	864.84 €
8	10	1	100 Stück	1980005	1,672.57 €	1,140.43 €	1,073.86 €	1,035.88 €	1,026.43 €	1,016.86 €
10	10	1	100 Stück	1740174	1,948.16 €	1,415.98 €	1,349.49 €	1,311.47 €	1,301.96 €	1,007.37 €



Cloning cylinders or rings are ideally suited for separate cloning of individual cells or cell groups on a single nutrient solution. A specific cell or cell group is separated from the other cells in the nutrient solution, simply by placing the cloning ring over it. The rings are made of high-grade borosilicate glass, which can be sterilized thermally without any problems. The ring faces are ground perfectly flat, which allows them to be fixed to e.g. the bottom of a Petri dish, using a suitable grease. Subsequently, the nutrient solution can be filled into the ring. The grease provides a seal between the ring and the Petri dish, whereby the precise, flat end ensures that very little grease is required to provide an optimum seal. The same applies for Petri dishes, which already contain a nutrient solution – here, the seal is provided by simply pressing the ring into the solution and down to the floor of the dish.

Materials

- Borosilicate glass (e. g. DURAN®, PYREX®, SIMAX®)

Dimensions

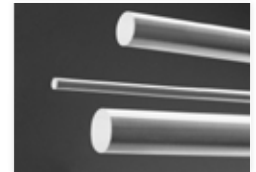
- Diameters: 4 - 20 mm
- Wall thicknesses: 0.5 - 2.8 mm

RODS & FIBERS

Glass rods and fibres made of borosilicate glass 3.3



- for fixing samples and filling of Mark-tubes
- ends cut
- Minimum order: 100 pieces



Diameter (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
				100 pieces	200 pieces	300 pieces	500 pieces	1,000 pieces	5,000 pieces
0.1	100	100 Stück	7347700	2.90 €	2.12 €	1.92 €	1.73 €	1.55 €	1.42 €
0.2	100	100 Stück	7347701	2.52 €	1.65 €	1.35 €	1.11 €	0.97 €	0.90 €
0.3	100	100 Stück	7347705	2.22 €	1.36 €	1.07 €	0.93 €	0.73 €	0.61 €
0.4	100	100 Stück	7347710	1.92 €	1.25 €	1.00 €	0.82 €	0.69 €	0.54 €
0.5	100	100 Stück	7347715	1.93 €	1.29 €	1.01 €	0.83 €	0.70 €	0.49 €
0.6	100	100 Stück	7347720	2.04 €	1.35 €	1.27 €	0.96 €	0.81 €	0.52 €
0.7	100	100 Stück	7347725	1.82 €	1.07 €	0.90 €	0.69 €	0.52 €	0.41 €
0.8	100	100 Stück	7347730	1.83 €	1.13 €	0.93 €	0.70 €	0.56 €	0.45 €
0.9	100	100 Stück	7347735	1.85 €	1.15 €	0.96 €	0.73 €	0.60 €	0.49 €
1.0	100	100 Stück	7347740	1.91 €	1.22 €	0.99 €	0.81 €	0.65 €	0.54 €
2.0	100	100 Stück	7445401	5.07 €	2.63 €	2.24 €	1.90 €	1.30 €	1.01 €

Rod profiles – Variety of shapes and sizes

In addition to round profiles, we are also able to shape rectangular and square profiles, stretching them out to form thin rods or fibres. This enables us to create very fine bundles of parallel fibres, for example. This broad spectrum of potential profiles can be used for a variety of applications. Made from borosilicate glass, the rods boast outstanding quality.

- | | | | | | |
|----|----|----|-----|----------------------------|----------------------------------|
| 1. | 4. | 7. | 10. | 1. single circular profile | 7. square profile |
| 2. | 5. | 8. | 11. | 2. semicircular profile | 8. triangular profile |
| 3. | 6. | 9. | 12. | 3. flat rod profile | 9. 3-jagged star profile |
| | | | | 4. oval rod profile | 10. 6-jagged star profile |
| | | | | 5. half shell profile | 11. 4-jagged star profile |
| | | | | 6. octagonal profile | 12. quadruple bundle rod profile |





TEST TUBES

The right tube for any application. We manufacture top-quality sample and test tubes from glass, specifically designed to meet your requirements. Choose from an almost unlimited variety of sizes and types of glass. Available as standard or tailored to your specific requirements: We'll help you find the right solution for your application.

Standard 3 mm NMR-Tubes in "economy" [www](#)

- one end closed, one end fire-polished
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering at least 100 pieces
2.95 ± 0.03	2.36 ± 0.03	0.295	178 (7")	2001749	2.89 €
2.95 ± 0.03	2.36 ± 0.03	0.295	203 (8")	2001770	3.20 €

Standard 5 mm NMR-Tubes in "economy" [www](#)

- one end closed, one end fire-polished
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering at least 100 pieces
4.95 ± 0.050	4.19 ± 0.050	0.38	178 (7")	2001745	1.34 €
4.95 ± 0.050	4.19 ± 0.050	0.38	203 (8")	2001748	1.42 €

Standard 5 mm NMR-Tubes (UV protection) [www](#)

- one end closed, one end fire-polished
- silver ion diffusion colored (brown)
- including cap
- Minimum order: 5 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering at least 5 pieces
2.95 +0.03 / -0.03	0.295	178 (7")	2001786	36.37 €
4.97 +0.02 / -0.05	0.380	178 (7")	2001774	36.37 €

NMR-Tubes 5 & 3 mm with screw cap [www](#)

- one end closed
- treat type 8-425
- including cap with Butyl septum, with Teflon layer, with through hole 9 mm
- Minimum order: 5 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1 piece when ordering at least 5 pieces
2.95 ± 0.030	2.36 ± 0.030	0.295	190 mm	2001785	35.73 €
4.95 ± 0.050	4.19 ± 0.050	0.380	190 mm	2001782	35.73 €
4.95 ± 0.050	4.19 ± 0.050	0.380	215 mm	2001781	35.73 €



Test tubes for the imaging NMR

www.hilgenberg.com

- flat bottom, rim fire polished
- Minimum order: 10 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering at least 10 pieces
5.0	0.5	160	10 Stück	2009040	3.85 €
10.0	0.6	160	10 Stück	2009041	11.60 €
15.0	0.6	160	10 Stück	2009042	15.83 €
20.0	0.8	160	10 Stück	2009043	20.64 €
25.0	0.8	160	10 Stück	2009044	22.36 €
30.0	1.2	160	10 Stück	2009045	28.42 €

Thick-walled NMR-tubes

www.hilgenberg.com

- Thick-walled NMR-tubes made of borosilicate glass 3.3 for use in standard 5 mm spinners. with significantly reduced volume in the measuring area.
- Extremely stable design
- Minimum order: 50 pieces

Product description	Length (mm)	Outside Ø (mm)	Wall thickness (mm)	packed per	Code no.	Price when ordering at least 50 piece
Thick-walled NMR-tubes	178	4.95 ± 0.05	0.88	10 Stück	2001784	8.96 €



NMR-labels for standard 5 mm tubes

www.hilgenberg.com

- Resistant labels for clear long-term marking of samples in 5 mm NMR-tubes. suitable for laser printing and manual labeling.

Product description	packed per	Code no.	Price when ordering at least 1 piece
NMR-tubes labels for laser printers or hand writing. Resistant to solvents. sterilizeable, temperature resistant. Labelling field size 25 x 13 mm, total length 37 mm	1 sheet 49 labels	6000026	7.10 € / sheet

HIGHLIGHT PRODUCT



EPR tubes made of quartz glass

www.hilgenberg.com

- Standard and individualized EPR test tubes made of high-grade quartz glass. for use in routine and single measurements with devices from various manufacturers.
- Minimum order: 10 pieces

Product description	Length (mm)	Outside Ø (mm)	Wall thickness (mm)	packed per	Code no.	Price per 1 piece when ordering at least 10 pieces
EPR tubes made of quartz glass	250	4.95 ± 0.05	0.38	10 pieces	2009832	18.41 €
EPR tubes made of quartz glass	250	3.95 ± 0.03	0.30	10 pieces	2009831	18.41 €
EPR tubes made of quartz glass	250	2.95 ± 0.03	0.30	10 Pieces	2009830	18.41 €





100 mm NMR-Tubes for Bruker Match™ system www.hilgenberg.com

- one end closed, rim fire polished
- Minimum order: 100 pieces

Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering		
						100 pieces	500 pieces	1,000 pieces
1.0 ± 0.010	0.7 ± 0.010	0.15	100	10 pieces	2001727	2.24 €	1.80 €	1.51 €
1.7 ± 0.010	1.3 ± 0.010	0.20	100	10 pieces	2001710	2.24 €	1.80 €	1.46 €
2.0 ± 0.010	1.6 ± 0.010	0.20	100	10 pieces	2001711	2.24 €	1.80 €	1.46 €
2.5 ± 0.010	2.1 ± 0.010	0.20	100	10 pieces	2001712	2.24 €	1.80 €	1.46 €
3.0 ± 0.025	2.4 ± 0.025	0.30	100	10 pieces	2001724	2.24 €	1.80 €	1.46 €
4.0 ± 0.025	3.3 ± 0.025	0.35	100	10 pieces	2001725	2.24 €	1.80 €	1.46 €
4.25 ± 0.03	3.45 ± 0.03	0.40	100	10 pieces	2001734	2.24 €	1.80 €	1.46 €
5.0 ± 0.025	4.20 ± 0.025	0.40	100	10 pieces	2001726	2.24 €	1.80 €	1.46 €



Specially developed test tubes made of high-quality glass for the NMR-spectroscopy-sample-holder „MicWB40“ by Bruker Biospion serve a fast and cost-effective sample preparation. The tubes are submitted in units of 10 pieces.

Examination objects

- Hard materials:
e. g. rocks, oil cores, wood, polymers, tablets, concrete, batteries, fuel cells
- Plant materials, including living plants:
seeds, leaves, roots, berries and flowers
- Animal tissue samples:
e. g. excised perfused organs (kidney, heart), eyes, fixed embryos
- Living animals:
e. g. mice, rats, fish, and insects

Advantages

- Low costs/disposable
- Visual control
- Inert material
- Adjusted to the Bruker holder



Fields of application

- Medical & scientific studies
- Material analyses
- Studies on living objects like insects or plants
- Studies on soft, not hard structures



Mark-tubes made of borosilicate glass 3.3

www

- for x-ray analysis according to the method of Debye-Scherrer
- Minimum order: 25 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.1	0.01	80	25 pieces	4007601	6.70 €	5.68 €	4.93 €	3.72 €	3.58 €	3.54 €
0.2	0.01	80	25 pieces	4007602	5.52 €	4.66 €	4.04 €	3.06 €	2.98 €	2.94 €
0.3	0.01	80	25 pieces	4007603	4.65 €	3.96 €	3.43 €	2.59 €	2.51 €	2.48 €
0.4	0.01	80	25 pieces	4007604	5.58 €	4.74 €	4.09 €	3.08 €	3.00 €	2.97 €
0.5	0.01	80	25 pieces	4007605	4.65 €	3.96 €	3.43 €	2.59 €	2.51 €	2.48 €
0.6	0.01	80	25 pieces	4007606	5.58 €	4.74 €	4.09 €	3.08 €	3.00 €	2.97 €
0.7	0.01	80	25 pieces	4007607	4.65 €	3.96 €	3.43 €	2.59 €	2.51 €	2.48 €
0.8	0.01	80	25 pieces	4007608	5.80 €	4.91 €	4.28 €	3.20 €	3.12 €	3.07 €
0.9	0.01	80	25 pieces	4007609	5.80 €	4.91 €	4.28 €	3.20 €	3.12 €	3.07 €
1.0	0.01	80	25 pieces	4007610	5.52 €	4.66 €	4.04 €	3.06 €	2.98 €	2.94 €
1.5	0.01	80	25 pieces	4007615	6.47 €	5.52 €	4.76 €	3.57 €	3.50 €	3.43 €
2.0	0.01	80	25 pieces	4007620	9.49 €	8.05 €	6.98 €	5.24 €	5.11 €	5.03 €
					15 pieces	30 pieces	45 pieces	60 pieces	120 pieces	600 pieces
2.5	0.01	80	15 pieces	4007625	13.74 €	11.64 €	10.11 €	7.60 €	7.39 €	7.23 €
3.0	0.01	80	15 pieces	4007630	20.61 €	17.40 €	15.12 €	11.34 €	11.03 €	10.79 €
					10 pieces	20 pieces	30 pieces	40 pieces	80 pieces	400 pieces
3.5	0.01	80	10 pieces	4007690	27.58 €	23.34 €	20.23 €	15.20 €	14.75 €	14.49 €
					5 pieces	10 pieces	15 pieces	20 pieces	40 pieces	200 pieces
4.0	0.01	80	5 pieces	4007691	57.45 €	48.61 €	42.17 €	31.63 €	30.74 €	30.16 €

Mark-tubes with funnel

www

- made of Borosilicat glass 3.3
- for x-ray analysis according to the method of Debye-Scherrer
- Minimum order: 25 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.4	0.01	80	25 pieces	4007654	5.58 €	4.74 €	4.09 €	3.08 €	3.00 €	2.97 €
0.6	0.01	80	25 pieces	4007656	5.58 €	4.74 €	4.09 €	3.08 €	3.00 €	2.97 €
0.7	0.01	80	25 pieces	4007657	4.57 €	3.88 €	3.38 €	2.54 €	2.47 €	-





Mark-tubes made of quartz glass [www](http://www.hilgenberg.com)

- for x-ray analysis according to the method of Debye-Scherrer
- Minimum order: 25 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.1	0.01	80	25 pieces	4017501	8.98 €	7.60 €	6.62 €	4.95 €	4.81 €	4.73 €
0.2	0.01	80	25 pieces	4017502	8.90 €	7.56 €	6.54 €	4.91 €	4.79 €	4.68 €
0.3	0.01	80	25 pieces	4017503	8.64 €	7.34 €	6.36 €	4.79 €	4.65 €	4.58 €
0.4	0.01	80	25 pieces	4017504	10.19 €	8.66 €	7.54 €	5.68 €	5.45 €	5.37 €
0.5	0.01	80	25 pieces	4017505	11.24 €	9.53 €	8.25 €	6.21 €	6.03 €	5.94 €
0.6	0.01	80	25 pieces	4017506	10.19 €	8.66 €	7.54 €	5.68 €	5.45 €	5.37 €
0.7	0.01	80	25 pieces	4017507	8.64 €	7.34 €	6.36 €	4.79 €	4.65 €	4.58 €
0.8	0.01	80	25 pieces	4017508	10.67 €	9.03 €	7.85 €	5.89 €	5.74 €	5.61 €
0.9	0.01	80	25 pieces	4017509	10.67 €	9.03 €	7.85 €	5.89 €	5.74 €	5.61 €
1.0	0.01	80	25 pieces	4017510	9.79 €	8.30 €	7.21 €	5.41 €	5.27 €	5.20 €
1.5	0.01	80	25 pieces	4017515	9.53 €	8.04 €	7.02 €	5.27 €	5.11 €	5.05 €
2.0	0.01	80	25 pieces	4017520	11.15 €	9.48 €	8.20 €	6.17 €	6.01 €	5.88 €
					15 pieces	30 pieces	45 pieces	60 pieces	120 pieces	600 pieces
2.5	0.01	80	15 pieces	4017525	18.87 €	15.98 €	13.85 €	10.39 €	10.10 €	9.92 €
3.0	0.01	80	15 pieces	4017530	36.58 €	30.98 €	26.87 €	20.17 €	19.56 €	19.20 €
					10 pieces	20 pieces	30 pieces	40 pieces	80 pieces	400 pieces
3.5	0.01	80	10 pieces	4017535	43.45 €	36.83 €	31.91 €	23.95 €	23.29 €	22.79 €
					5 pieces	10 pieces	15 pieces	20 pieces	40 pieces	200 pieces
4.0	0.01	80	5 pieces	4017540	85.50 €	72.35 €	62.69 €	47.04 €	45.67 €	44.80 €

Mark-tubes made of soda lime glass [www](http://www.hilgenberg.com)

- for x-ray analysis according to the method of Debye-Scherrer
- made of glass no. 10
- Minimum order: 25 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.1	0.01	80	25 Stück	4007801	4.92 €	4.17 €	3.63 €	2.74 €	2.66 €	2.62 €
0.2	0.01	80	25 Stück	4007802	4.03 €	3.42 €	2.96 €	2.26 €	2.18 €	2.14 €
0.3	0.01	80	25 Stück	4007803	3.45 €	2.95 €	2.57 €	1.94 €	1.86 €	1.82 €
0.4	0.01	80	25 Stück	4007804	4.20 €	3.58 €	3.10 €	2.35 €	2.30 €	2.26 €
0.5	0.01	80	25 Stück	4007805	3.45 €	2.95 €	2.57 €	1.94 €	1.86 €	1.82 €
0.6	0.01	80	25 Stück	4007806	4.20 €	3.58 €	3.10 €	2.35 €	2.30 €	2.26 €
0.7	0.01	80	25 Stück	4007807	3.45 €	2.95 €	2.57 €	1.94 €	1.86 €	1.82 €
0.8	0.01	80	25 Stück	4007808	4.46 €	3.79 €	3.30 €	2.48 €	2.42 €	2.36 €
0.9	0.01	80	25 Stück	4007809	4.46 €	3.79 €	3.30 €	2.48 €	2.42 €	2.36 €
1.0	0.01	80	25 Stück	4007810	3.95 €	3.34 €	2.90 €	2.19 €	2.14 €	2.12 €
1.5	0.01	80	25 Stück	4007815	4.60 €	3.92 €	3.39 €	2.57 €	2.48 €	2.42 €
2.0	0.01	80	25 Stück	4007820	7.00 €	5.94 €	5.14 €	3.92 €	3.77 €	3.70 €



Mark-tubes made of special glass „Lindemann“

www

- for x-ray analysis according to the method of Debye-Scherrer
- made of glass no. 14
- Minimum order: 25 pieces

Outside- Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.1	0.01	80	25 Stück	4007401	6.65 €	5.83 €	4.89 €	3.67 €	3.57 €	3.51 €
0.2	0.01	80	25 Stück	4007402	5.69 €	4.82 €	4.18 €	3.17 €	3.05 €	3.00 €
0.3	0.01	80	25 Stück	4007403	5.10 €	4.35 €	3.79 €	2.85 €	2.74 €	2.71 €
0.4	0.01	80	25 Stück	4007404	5.89 €	5.01 €	4.35 €	3.28 €	3.18 €	3.11 €
0.5	0.01	80	25 Stück	4007405	5.10 €	4.35 €	3.79 €	2.85 €	2.74 €	2.71 €
0.6	0.01	80	25 Stück	4007406	5.89 €	5.01 €	4.35 €	3.28 €	3.18 €	3.11 €
0.7	0.01	80	25 Stück	4007407	5.10 €	4.35 €	3.79 €	2.85 €	2.74 €	2.71 €
0.8	0.01	80	25 Stück	4007408	6.15 €	5.23 €	4.52 €	3.41 €	3.33 €	3.27 €
0.9	0.01	80	25 Stück	4007409	6.15 €	5.23 €	4.52 €	3.41 €	3.33 €	3.27 €
1.0	0.01	80	25 Stück	4007410	5.59 €	4.75 €	4.10 €	3.08 €	3.01 €	2.97 €
1.5	0.01	80	25 Stück	4007415	6.29 €	5.30 €	4.61 €	3.50 €	3.38 €	3.34 €
2.0	0.01	80	25 Stück	4007420	8.81 €	7.47 €	6.47 €	4.88 €	4.74 €	4.65 €

Mark-tubes made of special glass „Lindemann“

www

- for x-ray analysis according to the method of Debye-Scherrer
- made of glass no. 14
- packed in glass wool
- Minimum order: 25 pieces

Outside- Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering					
					25 pieces	50 pieces	75 pieces	100 pieces	1,000 pieces	5,000 pieces
0.3	0.01	80	25 Stück	4001403	2.20 €	1.87 €	1.59 €	1.27 €	1.27 €	1.27 €



TIP: Our mark-tubes made of glass „Lindemann“, which are packed in glass wool, can be ordered very low-priced!



Double funnel Mark-tubes made of borosilicate glass 3.3

www

- for measurements under flow
- other sizes and material on request
- Minimum order: 25 pieces

Outside-Ø (mm)	Wall thickness (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering
					25 pieces
0.3	~ 0.02	75 ± 5.0	25 pieces	4008914	38.67 €
0.5	~ 0.02	75 ± 5.0	25 pieces	4008906	38.67 €
0.6	~ 0.02	75 ± 5.0	25 pieces	4008917	38.67 €
0.7	~ 0.02	75 ± 5.0	25 pieces	4008907	38.67 €
0.8	~ 0.02	75 ± 5.0	25 pieces	4008913	38.67 €
0.9	~ 0.02	75 ± 5.0	25 pieces	4008916	38.67 €
1.0	~ 0.02	75 ± 5.0	25 pieces	4008903	38.67 €
1.5	~ 0.02	75 ± 5.0	25 pieces	4008915	38.67 €

These special sample tubes are particularly well suited for flow measurements. The wall thickness of the measuring section in the middle of the capillary is only about 10 µm. On the other hand, the sides have thicker walls, which permits easier installation in a liquid flow circuit. Thin connecting hoses have proved to be most suitable for the adaptation of these capillaries. The hoses are attached to both funnels using liquid Teflon (PTFE).



Main specifications

- Outside funnel diameter: 3.0 mm
- Inside funnel diameter: 2.4 mm
- Overall length: 80 mm
- Diameter of measuring section: 0.5/0.7/1.0 mm
- Length of measuring section: 30 mm
- Material: Borosilicate glass (0500)

Glass crucible for thermal analyses (DSC/TGA/SDTA)

www

- made of borosilicate glass 3.3
- with constriction
- flat grinded bottom
- Minimum order: 50 pieces



Length (mm)	Outside-Ø (mm)	Wall thickness (mm)	Code no.	Price per 1 piece when ordering			
				50 pieces	100 pieces	250 pieces	500 pieces
50 ± 1.0	6 ± 0.15	1.0 ± 0.04	2003004	26.12 €	22.31 €	16.20 €	14.46 €

Melting-and boiling point determination tubes [www](#)

- one end open, one end sealed
- made of soda lime glass
- Minimum order: 1000 pieces



Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1,000 pieces when ordering					
					1,000 pieces	5,000 pieces	10,000 pieces	20,000 pieces	30,000 pieces	50,000 pieces
1.60	1.28	0.16	75	2102029	393.64 €	179.11 €	140.44 €	115.28 €	106.91 €	100.26 €
0.80	0.64	0.08	80	2102213	393.32 €	153.25 €	123.24 €	108.26 €	100.60 €	93.25 €
1.00	0.80	0.1	80	2102217	346.96 €	132.75 €	105.91 €	89.41 €	81.07 €	74.43 €
1.20	0.96	0.120	80	2102221	343.78 €	129.58 €	102.91 €	79.58 €	71.27 €	64.58 €
1.25	1.00	0.125	80	2102222	351.96 €	137.73 €	110.92 €	85.93 €	77.43 €	70.75 €
1.30	1.04	0.130	80	2102223	357.66 €	143.25 €	114.92 €	89.75 €	81.41 €	74.73 €
1.40	1.12	0.140	80	2102225	375.64 €	161.61 €	129.09 €	103.92 €	95.60 €	88.91 €
1.50	1.20	0.15	80	2102227	417.83 €	205.76 €	172.93 €	147.94 €	139.60 €	132.75 €
1.20	0.96	0.120	90	2102621	353.78 €	139.60 €	110.76 €	85.75 €	77.26 €	70.62 €
1.50	1.20	0.150	90	2102627	698.89 €	258.13 €	192.61 €	153.11 €	139.95 €	129.43 €
1.60	1.28	0.160	90	2102629	614.20 €	218.09 €	146.75 €	110.92 €	98.92 €	89.26 €
1.00	0.80	0.100	100	2103017	358.49 €	144.26 €	117.41 €	96.42 €	88.08 €	81.41 €
1.40	1.12	0.140	100	2103025	386.49 €	172.08 €	130.93 €	105.91 €	97.60 €	90.91 €
1.50	1.20	0.150	100	2103027	394.80 €	187.80 €	143.10 €	117.92 €	109.56 €	102.91 €
1.60	1.28	0.160	100	2103029	411.33 €	194.09 €	143.93 €	118.79 €	110.43 €	103.74 €
2.00	1.60	0.200	100	2103037	573.34 €	260.46 €	201.77 €	172.44 €	162.78 €	154.95 €

Weighing bottles [www](#)

- made of soda lime glass
- with flat bottom and fire-polished rim
- Minimum order: 1000 pieces



Outside-Ø (mm)	Inside-Ø (mm)	Wall thickness (mm)	Length (mm)	Code no.	Price per 1,000 pieces when ordering					
					1,000 pieces	5,000 pieces	10,000 pieces	20,000 pieces	30,000 pieces	50,000 pieces
7.5	4	0.5	1,000 pieces	2000578	2,195.94 €	739.79 €	618.21 €	557.32 €	536.99 €	520.90 €
7.5	5	0.5	1,000 pieces	2000574	2,218.74 €	578.15 €	471.68 €	419.80 €	396.84 €	381.74 €
7.5	6	0.7	1,000 pieces	2000562	2,056.45 €	669.23 €	447.04 €	392.24 €	368.30 €	352.35 €
8	6	0.7	1,000 pieces	2000567	2,078.45 €	630.01 €	487.76 €	425.40 €	398.80 €	380.94 €
10	7	0.7	1,000 pieces	2000565	2,354.76 €	674.65 €	478.56 €	393.87 €	352.04 €	326.77 €
10	10	0.6	1,000 pieces	2000576	2,132.41 €	682.51 €	498.08 €	413.40 €	380.28 €	356.64 €
11	12	0.8	1,000 pieces	2000564	2,214.80 €	693.53 €	552.07 €	483.66 €	459.53 €	436.71 €
20	17	1.5	1,000 pieces	2000560	2,663.77 €	2,135.88 €	2,069.80 €	1,458.01 €	1,451.21 €	1,445.87 €

PIPETTES

These pipettes are made of a bio-compatible material, and are resistant against most solvents and cleaning agents, as well as acids and lyes. Consequently, they are a high-quality and practical alternative to plastic pipettes. For more than 30 years, Hilgenberg has been manufacturing Pasteur pipettes on their own production sites in Germany, and ever since, customers have valued their extremely high quality. This long experience enables us to supply high-grade products that leave nothing to be desired, e.g. when working in a laboratory. Apart from our standard range of Pasteur pipettes, we also supply individual solutions that are precisely matched to your requirements.

Pasteur pipettes made of borosilicate glass www.hilgenberg.com

- 4 x 250 pieces per box
- all pipettes can also be sterilized by gas at a minimum order quantity of one pallet
- Minimum order: 1000 pieces



Length (mm)	with cotton plug	tip open	tip closed	with constriction	sterilized by gas	packed per	Pallet quantity	Code-no.	Price per 1,000 pieces when ordering			
									1,000 pieces	10,000 pieces	50,000 pieces	1 pallet
150	-	✓	-	✓	-	1,000 pieces	130,000 pieces	3150301	2,738.99 €	-	-	170.27 €
230	-	✓	-	✓	-	1,000 pieces	100,000 pieces	3150302	-	-	-	167.06 €

Pasteur pipettes made of soda lime glass www.hilgenberg.com

- 4 x 250 pieces per box
- all pipettes can also be sterilized by gas at a minimum order quantity of one pallet
- Minimum order: 1000 pieces



Length (mm)	with constriction	tip open	tip closed	with cotton plug	sterilized by gas	gamma-sterilizable	packed per	Pallet quantity	Code-no.	Price per 1.000 pieces when ordering				
										1,000 pieces	10,000 pieces	50,000 pieces	100,000 pieces	1 pallet
150	✓	✓	-	-	-	✓	1,000 pieces	130,000 pieces	3150212	on request				
150	✓	-	✓	-	-	-	1,000 pieces	130,000 pieces	3170101	105.20 €	49.66 €	44.59 €	44.28 €	43.98 €
150	-	✓	-	-	-	-	1,000 pieces	130,000 pieces	3110101	105.20 €	49.66 €	44.59 €	43.98 €	43.98 €
150	✓	✓	-	-	-	-	1,000 pieces	130,000 pieces	3150101	95.25 €	46.27 €	40.48 €	39.86 €	39.08 €
150	✓	-	✓	✓	-	-	1,000 pieces	130,000 pieces	3171101	171.52 €	98.64 €	92.97 €	92.66 €	92.22 €
150	✓	-	✓	✓	✓	-	1,000 pieces	110,000 pieces	3177101	507.41 €	145.80 €	145.80 €	121.60 €	121.60 €
150	✓	✓	-	✓	-	-	1,000 pieces	130,000 pieces	3151101	173.18 €	98.79 €	92.97 €	92.36 €	92.22 €
230	✓	-	✓	-	-	-	1,000 pieces	100,000 pieces	3170102	149.32 €	56.07 €	47.66 €	46.74 €	46.74 €
230	-	✓	-	-	-	-	1,000 pieces	100,000 pieces	3110102	150.24 €	56.22 €	47.81 €	46.74 €	46.74 €
230	✓	✓	-	-	-	-	1,000 pieces	100,000 pieces	3150102	100.94 €	48.85 €	44.28 €	43.67 €	43.67 €
230	✓	-	✓	✓	✓	-	1,000 pieces	77,000 pieces	3177102	360.74 €	137.05 €	137.05 €	131.10 €	131.10 €
230	✓	✓	-	✓	-	-	1,000 pieces	100,000 pieces	3151102	227.56 €	105.68 €	95.88 €	94.81 €	94.81 €
230	✓	✓	-	-	-	✓	1,000 pieces	100,000 pieces	3150213	on request				

- Minimum order: 1000 pieces

Length (mm)	with constriction	tip open	tip closed	with cotton plug	sterilized by gas	gamma-sterilizable	packed per	Pallet quantity	Code-no.	Price per 1.000 pieces when ordering				
										1,000 pieces	5,000 pieces	10,000 pieces	25,000 pieces	1 pallet
270	✓	✓	-	-	-	-	1,000 pieces	45,000 pieces	3150151	1,313.43 €	341.76 €	220.18 €	147.31 €	125.73 €
300	✓	✓	-	-	-	-	500 pieces	50,000 pieces	3150162	1,209.32 €	353.41 €	227.69 €	152.34 €	122.97 €
350	✓	✓	-	-	-	-	1,000 pieces	28,000 pieces	3150166	2,016.30 €	558.22 €	376.03 €	284.78 €	260.14 €



ACCESSORIES: Also order our pipette sucker made of silicone or rubber! These you will find on page 40.

FILLING NEEDLES

Filling needles for the Bruker Match™ system [www](#)

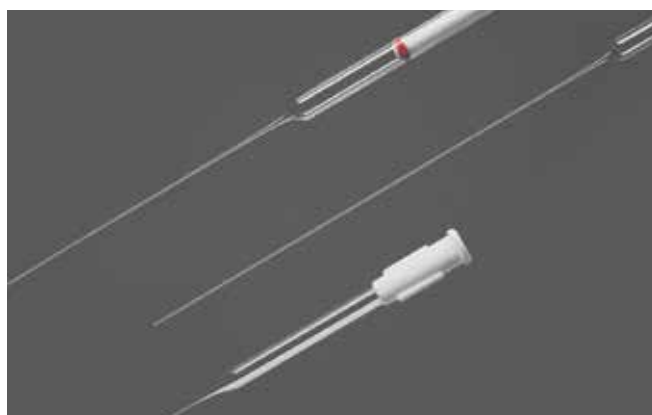
- with flexible and thin tip
- Minimum order: 100 pieces

Product description	packed per	Code no.	Price per 1 piece when ordering at least
			100 pieces
NMR-micro pipettes, with reservoir and luer-connector (syringe needed)	10 pieces	4010313	4.26 €
NMR-micro pipettes, with reservoir and integrated plastic plunger	10 pieces	4010339	7.51 €

Syringe needles for filling Mark-tubes with liquids [www](#)

- with Luer connector
- made of borosilicate glass 3.3
- Minimum order: 20 pieces

fitting to Mark-tubes	Inside-Ø (mm)	Length (mm)	packed per	Code no.	Price per 1 piece when ordering				
					20 pieces	40 pieces	100 pieces	200 pieces	2,000 pieces
>= 0.6 mm	~ 0.4	~ 70.00	20 pieces	4018103	15.25 €	12.65 €	10.42 €	8.57 €	8.19 €
>= 0.3 mm	~ 0.2	~ 70.00	20 pieces	4018104	15.48 €	12.88 €	10.64 €	8.76 €	8.31 €
>= 0.6 mm	~ 0.4	~ 100.00	20 pieces	4018105	15.25 €	12.65 €	10.42 €	8.57 €	8.19 €
>= 0.3 mm	~ 0.2	~ 100.00	20 pieces	4018106	15.48 €	12.88 €	10.64 €	8.76 €	8.31 €
>= 0.2 mm	~ 0.08	~ 100.00	20 pieces	4018107	24.35 €	20.23 €	16.66 €	13.69 €	13.08 €
>= 0.1 mm	~ 0.05	~ 100.00	20 pieces	4018108	40.65 €	33.70 €	27.77 €	22.82 €	21.81 €



Filling the very small NMR-tubes for the Bruker Match™ system is a particular challenge. Therefore, we have developed two different needles specifically for this task, which greatly simplify the filling procedure. While one needle is intended for use with a standard one-way syringe, the other needle is fitted with an integral plunger. Like our NMR-tubes, both needles are made of high-grade borosilicate glass 3.3. As an accessory for the needles with syringe coupling, we also supply one-way syringes with only 0.5 ml volume.

For filling small test tubes with liquid samples, we manufacture special filling needles of borosilicate glass. Our thinnest needle has a diameter of less than 0.1 mm. This enables even the finest test tubes to be filled without problems. Various diameters are available.

ACCESSORIES: Order our one-way syringes from our accessories! These you will find on page 41.

COLUMN PACKING

Raschig rings made of borosilicate glass 3.3 [www](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1 kg

Dimensions (mm)	packed per	Code no.	Price per 1 kg when ordering					
			1 kg	2 kg	3 kg	5 kg	10 kg	20 kg
2 x 2	1 kg	1580202-12	3,403.91 €	3,101.58 €	3,000.82 €	2,920.16 €	2,878.36 €	2,878.36 €
3 x 3	1 kg	1580307-12	1,164.62 €	1,003.56 €	949.73 €	906.75 €	874.53 €	858.44 €
4 x 4	1 kg	1580408-12	826.25 €	671.83 €	620.17 €	578.99 €	550.40 €	534.95 €
5 x 5	1 kg	1580508-12	536.56 €	433.06 €	398.59 €	370.84 €	350.17 €	339.90 €
6 x 6	1 kg	1580610-12	444.41 €	277.30 €	221.61 €	177.05 €	143.63 €	126.87 €
8 x 8	1 kg	1580810-12	475.81 €	308.70 €	252.54 €	208.18 €	174.65 €	157.93 €
10 x 10	1 kg	1571010-12	428.16 €	266.16 €	212.17 €	168.98 €	136.58 €	120.38 €
12 x 12	1 kg	1571210-12	427.57 €	265.59 €	211.56 €	168.37 €	135.98 €	119.69 €

Raschig rings made of borosilicate glass 3.3 [www](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1L

Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			1 l	2 l	3 l	5 l	10 l	20 l
2 x 2	1 l	1580202-32	3,082.52 €	2,848.89 €	2,783.20 €	2,732.30 €	2,685.35 €	2,666.08 €
3 x 3	1 l	1580307-32	834.69 €	680.28 €	628.65 €	587.45 €	558.85 €	543.40 €
4 x 4	1 l	1580408-32	1,265.91 €	1,104.86 €	1,051.17 €	1,008.13 €	975.94 €	959.80 €
5 x 5	1 l	1580508-32	455.94 €	421.82 €	367.92 €	324.93 €	292.74 €	276.61 €
6 x 6	1 l	1580610-32	483.61 €	313.02 €	256.42 €	211.01 €	177.49 €	160.40 €
8 x 8	1 l	1580810-32	423.13 €	256.07 €	199.96 €	155.58 €	122.03 €	105.26 €
10 x 10	1 l	1571010-32	387.41 €	225.44 €	171.40 €	128.21 €	95.81 €	79.61 €
12 x 12	1 l	1571210-32	356.10 €	193.37 €	139.09 €	95.99 €	63.47 €	47.27 €



TIP: Larger dimensions of our raschig rings: on request! Feel free to contact us!



Raschig rings made of borosilicate glass 3.3

[www.hilgenberg.com](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 20 L

Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			20 l	40 l	60 l	80 l	100 l	200 l
2 x 2	20 l	1580202-52	on request					
3 x 3	20 l	1580307-52	944.02 €	938.48 €	936.63 €	935.69 €	935.17 €	934.05 €
4 x 4	20 l	1580408-52	525.88 €	519.67 €	517.61 €	516.56 €	515.95 €	514.72 €
5 x 5	20 l	1580508-52	268.42 €	260.38 €	257.68 €	256.34 €	255.52 €	253.88 €
6 x 6	20 l	1580610-52	149.99 €	141.66 €	138.89 €	137.49 €	136.63 €	134.98 €
8 x 8	20 l	1580810-52	101.49 €	93.06 €	90.27 €	88.86 €	88.04 €	86.37 €
10 x 10	20 l	1571010-52	79.20 €	70.80 €	68.04 €	66.59 €	65.79 €	64.11 €
12 x 12	20 l	1571210-52	44.31 €	36.21 €	33.50 €	32.16 €	31.34 €	29.72 €

Raschig rings made of soda lime glass

[www.hilgenberg.com](#)

- Hydrologic resistance class 3 (according to ISO 719)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (nach ISO 695)
- Minimum order: 1 kg

Dimensions (mm)	packed per	Code no.	Price per 1 kg when ordering					
			1 kg	2 kg	3 kg	5 kg	10 kg	20 kg
2 x 2	1 kg	1510204-12	376.79 €	298.60 €	246.41 €	204.61 €	173.29 €	157.64 €
3 x 3	1 kg	1510306-12	297.76 €	177.18 €	136.98 €	104.82 €	80.70 €	68.65 €
4 x 4	1 kg	1510405-12	294.09 €	171.93 €	131.21 €	98.64 €	74.20 €	61.99 €
5 x 5	1 kg	1510505-12	262.22 €	144.80 €	105.68 €	74.34 €	50.82 €	39.08 €
6 x 6	1 kg	1510605-12	255.81 €	138.25 €	99.14 €	67.74 €	44.25 €	32.52 €
8 x 8	1 kg	1510807-12	257.08 €	139.68 €	100.38 €	69.15 €	45.58 €	33.84 €
10 x 10	1 kg	1511010-12	251.20 €	133.80 €	94.44 €	63.22 €	39.64 €	27.92 €
12 x 12	1 kg	1511212-12	254.60 €	136.46 €	97.57 €	65.84 €	42.36 €	30.55 €



TIP: Larger dimensions of our raschig rings: on request! Feel free to contact us!



Raschig rings made of soda lime glass [www](#)

- Hydrologic resistance class 3 (according to ISO 719)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (nach ISO 695)
- Minimum order: 1 L

Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			1 l	2 l	3 l	5 l	10 l	20 l
2 x 2	1 l	1510204-32	465.00 €	308.33 €	256.08 €	214.34 €	182.99 €	167.31 €
3 x 3	1 l	1510306-32	297.06 €	176.49 €	136.28 €	104.10 €	79.99 €	67.93 €
4 x 4	1 l	1510405-32	279.71 €	157.45 €	116.76 €	84.19 €	59.73 €	47.52 €
5 x 5	1 l	1510505-32	255.63 €	138.17 €	99.03 €	67.72 €	44.24 €	32.50 €
6 x 6	1 l	1510605-32	249.22 €	131.81 €	92.66 €	61.36 €	37.82 €	26.09 €
8 x 8	1 l	1510807-32	249.65 €	132.08 €	92.89 €	61.55 €	38.05 €	26.32 €
10 x 10	1 l	1511010-32	246.98 €	129.22 €	89.93 €	58.56 €	35.07 €	23.29 €
12 x 12	1 l	1511212-32	249.16 €	130.97 €	91.61 €	60.39 €	36.75 €	24.94 €

Raschig rings made of soda lime glass [www](#)

- Hydrologic resistance class 3 (according to ISO 719)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (nach ISO 695)
- Minimum order: 20 L

Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			20 l	40 l	60 l	80 l	100 l	200 l
2 x 2	20 l	1510204-52	139.29 €	131.48 €	128.85 €	127.56 €	126.77 €	125.23 €
3 x 3	20 l	1510306-52	65.36 €	59.33 €	57.29 €	56.35 €	55.72 €	54.50 €
4 x 4	20 l	1510405-52	44.22 €	38.12 €	36.07 €	35.03 €	34.45 €	33.22 €
5 x 5	20 l	1510505-52	29.10 €	23.22 €	21.26 €	20.28 €	19.67 €	18.52 €
6 x 6	20 l	1510605-52	22.70 €	16.82 €	14.86 €	13.92 €	13.32 €	12.11 €
8 x 8	20 l	1510807-52	22.91 €	17.04 €	15.09 €	14.11 €	13.53 €	12.33 €
10 x 10	20 l	1511010-52	19.95 €	14.05 €	12.09 €	11.12 €	10.55 €	9.38 €
12 x 12	20 l	1511212-52	21.54 €	15.65 €	13.67 €	12.69 €	12.10 €	10.95 €



TIP: Larger dimensions of our raschig rings: on request! Feel free to contact us!

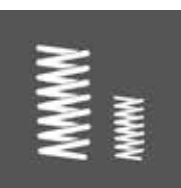


Raschig rings made of quartz glass [www](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1 L



Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			1 l	2 l	3 l	5 l	10 l	20 l
3 x 3	1 l	1500308-32	1,647.22 €	1,435.70 €	1,365.18 €	1,308.77 €	1,266.53 €	1,245.39 €
4 x 4	1 l	1500408-32	1,240.62 €	1,092.89 €	1,043.49 €	1,004.15 €	974.53 €	959.71 €
6 x 6	1 l	1500608-32	1,005.36 €	897.70 €	861.85 €	705.26 €	705.26 €	705.26 €
8 x 8	1 l	1500810-32	640.40 €	496.30 €	448.26 €	409.80 €	381.12 €	366.77 €
10 x 10	1 l	1501010-32	593.16 €	384.74 €	315.28 €	259.68 €	217.41 €	196.29 €
12 x 12	1 l	1501210-32	620.08 €	384.07 €	308.26 €	253.34 €	206.13 €	183.60 €



Wilson multi turn helices made of borosilicate glass 3.3 [www](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1 L



Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			1 l	2 l	3 l	5 l	10 l	20 l
3	1 l	4002130-32	1,810.99 €	1,603.62 €	1,534.49 €	1,479.21 €	1,437.73 €	1,416.92 €
4	1 l	4002140-32	1,242.66 €	1,035.29 €	966.16 €	910.85 €	869.40 €	848.63 €
7	1 l	4002170-32	677.16 €	523.66 €	414.88 €	330.27 €	265.70 €	232.81 €
10	1 l	4002110-32	518.28 €	380.80 €	332.25 €	295.04 €	266.76 €	252.20 €
12	1 l	4002112-32	485.31 €	294.21 €	230.48 €	182.45 €	144.21 €	125.09 €
15	1 l	4002115-32	452.81 €	272.49 €	212.36 €	164.26 €	127.40 €	109.37 €



TIP: Larger dimensions of our raschig rings and wilson multi turn helices: on request! Feel free to contact us!

GLASS BEADS

Glass beads made of quartz glass

[www](#)

HIGHLIGHT PRODUCT

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1 kg

Diameter (mm)	packed per	Code no.	Price per 1 kg when ordering					
			1 kg	2 kg	3 kg	5 kg	10 kg	20 kg
2.0 ± 0.5	1 kg	8000802	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
3.0 ± 0.5	1 kg	8000803	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
4.0 ± 0.5	1 kg	8000804	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
5.0 ± 0.5	1 kg	8000805	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
6.0 ± 0.5	1 kg	8000806	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
7.0 ± 0.5	1 kg	8000807	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
8.0 ± 0.5	1 kg	8000808	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
9.0 ± 0.5	1 kg	8000809	2,316.92 €	1,542.62 €	1,275.12 €	1,071.54 €	918.45 €	538.02 €
10.0 ± 0.5	1 kg	8000810	2,881.64 €	1,920.12 €	1,602.07 €	1,344.97 €	1,160.71 €	673.25 €

TIP: Larger dimensions of our glass beads made of quartz glass: on request!

Glass beads made of soda lime glass

[www](#)

- Hydrologic resistance class 3 (according to ISO 719)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (nach ISO 695)
- Minimum order: 1 kg

Diameter (mm)	packed per	Code no.	Price per 1 kg when ordering					
			1 kg	2 kg	3 kg	5 kg	10 kg	20 kg
2.0 ± 0.2	1 kg	8413020-12	126.79 €	70.75 €	53.16 €	38.49 €	27.19 €	23.19 €
3.0 ± 0.2	1 kg	8413030-12	126.79 €	70.75 €	53.16 €	38.49 €	27.19 €	23.19 €
4.0 ± 0.3	1 kg	8413040-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
4.5 ± 0.3	1 kg	8413045-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
5.0 ± 0.3	1 kg	8413050-12	127.49 €	71.43 €	53.84 €	44.90 €	27.88 €	23.85 €
6.0 ± 0.3	1 kg	8413060-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
7.0 ± 0.3	1 kg	8413070-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
8.0 ± 0.4	1 kg	8413080-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
9.0 ± 0.4	1 kg	8413090-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
10.0 ± 0.5	1 kg	8413100-12	127.49 €	71.43 €	53.84 €	39.17 €	27.88 €	23.85 €
11.0 ± 0.5	1 kg	8413110-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €
12.0 ± 0.5	1 kg	8413120-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €
13.0 ± 0.5	1 kg	8413130-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €
14.0 ± 0.5	1 kg	8413140-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €
15.0 ± 0.5	1 kg	8413150-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €
16.0 ± 0.5	1 kg	8413160-12	126.57 €	70.49 €	52.89 €	38.20 €	26.93 €	22.93 €



Glass beads made of soda lime glass [www](#)

- Hydrologic resistance class 3 (according to ISO 719)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (nach ISO 695)
- Minimum order: 20 kg

Diameter (mm)	packed per	Code no.	Price per 1 kg when ordering					
			20 kg	60 kg	80 kg	100 kg	250 kg	500 kg
2.0 ± 0.2	20 kg	8413020-22	17.61 €	14.99 €	14.05 €	11.97 €	11.97 €	9.84 €
3.0 ± 0.2	20 kg	8413030-22	17.61 €	14.99 €	14.05 €	11.97 €	11.97 €	9.84 €
4.0 ± 0.3	20 kg	8413040-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
4.5 ± 0.3	20 kg	8413045-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
5.0 ± 0.3	20 kg	8413050-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
6.0 ± 0.3	20 kg	8413060-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
7.0 ± 0.3	20 kg	8413070-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
8.0 ± 0.4	20 kg	8413080-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
9.0 ± 0.4	20 kg	8413090-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
10.0 ± 0.5	20 kg	8413100-22	18.29 €	15.67 €	14.75 €	12.49 €	12.49 €	10.25 €
11.0 ± 0.5	20 kg	8413110-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €
12.0 ± 0.5	20 kg	8413120-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €
13.0 ± 0.5	20 kg	8413130-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €
14.0 ± 0.5	20 kg	8413140-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €
15.0 ± 0.5	20 kg	8413140-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €
16.0 ± 0.5	20 kg	8413160-22	17.36 €	14.75 €	13.78 €	11.71 €	11.71 €	8.74 €

Porous sintered borosilicate glass granulate 3.3 [www](#)

- Hydrologic resistance class 1 (according to DIN 12 111)
- Acid resistance class 1 (according to DIN 12 116)
- Alkali resistance class 2 (according to DIN 52 322)
- Minimum order: 1 L

Dimensions (mm)	packed per	Code no.	Price per 1 l when ordering					
			1 l	2 l	3 l	5 l	10 l	20 l
approx. 4 mm	1 l	4020800	950.58 €	878.06 €	854.85 €	836.27 €	822.32 €	815.35 €



Precision glass beads made of borosilicate glass 3.3

[WWW](#)

- packed per 100 pieces
- with polished or frosted surface
- Minimum order: 100 pieces

Diameter (mm)	Code no. polished	Code no. frosted	Price per 1.000 pieces when ordering									
			100 pieces	200 pieces	300 pieces	400 pieces	500 pieces	1,000 pieces	2,000 pieces	3,000 pieces	5,000 pieces	10,000 pieces
2 ± 0.02	8672020	-	1,474.38 €	800.27 €	576.32 €	463.21 €	395.81 €	260.98 €	193.61 €	171.86 €	154.46 €	141.40 €
3 ± 0.02	8672030	-	1,478.69 €	806.82 €	580.65 €	469.75 €	402.33 €	267.55 €	200.12 €	176.21 €	158.80 €	145.77 €
4 ± 0.02	8672040	-	1,500.47 €	828.54 €	604.54 €	491.50 €	424.06 €	289.27 €	221.87 €	200.12 €	180.54 €	167.49 €
5 ± 0.02	8672050	-	1,515.67 €	843.78 €	617.62 €	506.72 €	439.31 €	304.48 €	237.10 €	213.13 €	195.76 €	182.69 €
6 ± 0.02	8672060	-	1,556.99 €	882.91 €	658.93 €	545.86 €	478.46 €	343.63 €	276.19 €	254.47 €	237.09 €	221.86 €
7 ± 0.02	8672070	-	1,580.92 €	906.82 €	682.85 €	571.97 €	504.54 €	369.72 €	302.33 €	278.39 €	260.98 €	247.95 €
8 ± 0.02	*	8632080	2,128.87 €	1,456.98 €	1,230.84 €	1,119.91 €	1,052.54 €	917.69 €	850.28 €	828.54 €	808.99 €	795.93 €
9 ± 0.02	*	8632090	2,146.28 €	1,474.38 €	1,248.24 €	1,137.34 €	1,069.92 €	935.10 €	867.67 €	845.92 €	828.54 €	813.34 €
10 ± 0.02	*	8632100	3,292.25 €	2,618.17 €	2,394.17 €	2,281.09 €	2,213.71 €	2,022.32 €	1,957.10 €	1,933.19 €	1,915.80 €	1,833.17 €
11 ± 0.02	*	8632110	3,357.50 €	2,685.56 €	2,461.60 €	2,348.51 €	2,281.09 €	2,087.57 €	2,020.17 €	1,998.40 €	1,981.03 €	1,894.05 €
12 ± 0.02	*	8632120	3,685.81 €	3,011.76 €	2,787.75 €	2,674.69 €	2,609.45 €	2,407.23 €	2,339.80 €	2,315.90 €	2,298.50 €	2,200.66 €
13 ± 0.02	*	8632130	3,903.28 €	3,231.35 €	3,007.40 €	2,894.29 €	2,826.91 €	2,618.17 €	2,550.72 €	2,529.03 €	2,511.61 €	2,405.05 €
14 ± 0.02	*	8632140	4,107.65 €	3,433.60 €	3,209.60 €	3,096.55 €	3,029.14 €	2,816.02 €	2,748.62 €	2,726.85 €	2,709.48 €	2,596.39 €
15 ± 0.02	*	8632150	4,344.68 €	3,670.61 €	3,446.64 €	3,333.55 €	3,266.14 €	3,046.53 €	2,979.13 €	2,957.37 €	2,939.96 €	2,818.21 €

* On request

Precision glass beads made of soda lime glass

[WWW](#)

- packed per 100 pieces
- with polished or frosted surface
- Minimum order: 100 pieces

Diameter (mm)	Code no. polished	Code no. frosted	Price per 1.000 pieces when ordering									
			100 pieces	200 pieces	300 pieces	400 pieces	500 pieces	1,000 pieces	2,000 pieces	3,000 pieces	5,000 pieces	10,000 pieces
0.8 ± 0.02	8671008	-	1,409.14 €	737.21 €	513.25 €	400.18 €	332.75 €	197.92 €	130.52 €	108.80 €	91.39 €	76.17 €
0.9 ± 0.02	8671009	-	1,413.49 €	739.40 €	515.41 €	402.33 €	334.91 €	200.12 €	132.69 €	110.98 €	93.55 €	78.35 €
1 ± 0.02	8671010	-	1,413.49 €	739.40 €	515.41 €	402.33 €	334.91 €	200.12 €	132.69 €	110.98 €	93.55 €	80.53 €
2 ± 0.02	8671020	-	1,417.83 €	743.73 €	519.75 €	408.84 €	341.48 €	206.65 €	139.23 €	115.33 €	97.91 €	84.85 €
3 ± 0.02	8671030	-	1,420.01 €	748.10 €	524.11 €	411.05 €	343.64 €	208.83 €	141.40 €	119.68 €	102.25 €	87.05 €
4 ± 0.02	8671040	-	1,433.05 €	761.13 €	534.99 €	424.06 €	356.69 €	221.87 €	154.46 €	132.69 €	113.15 €	100.07 €
5 ± 0.02	8671050	-	1,441.76 €	767.67 €	543.68 €	430.61 €	363.18 €	228.39 €	163.13 €	139.23 €	121.83 €	108.80 €
6 ± 0.02	8671060	-	1,463.48 €	789.39 €	565.44 €	454.52 €	387.14 €	252.29 €	184.86 €	160.99 €	143.57 €	130.52 €
7 ± 0.02	8671070	-	1,478.69 €	804.62 €	580.65 €	467.58 €	400.18 €	265.36 €	197.92 €	176.21 €	158.80 €	143.57 €
8 ± 0.02	*	8631080	1,654.88 €	982.92 €	756.76 €	645.89 €	578.47 €	443.65 €	376.26 €	354.50 €	334.91 €	321.89 €
9 ± 0.02	*	8631090	1,674.41 €	1,000.34 €	776.35 €	663.27 €	595.88 €	461.07 €	393.64 €	371.92 €	354.50 €	341.48 €
10 ± 0.02	*	8631100	1,802.73 €	1,128.62 €	904.65 €	791.58 €	724.17 €	576.32 €	508.90 €	487.12 €	469.75 €	439.31 €
11 ± 0.02	*	8631110	1,902.74 €	1,230.84 €	1,004.67 €	893.76 €	826.38 €	674.15 €	608.93 €	584.98 €	567.62 €	534.99 €
12 ± 0.02	*	8631120	2,070.18 €	1,396.07 €	1,172.12 €	1,059.04 €	991.63 €	837.26 €	769.83 €	748.10 €	730.68 €	691.57 €
13 ± 0.02	*	8631130	2,165.89 €	1,493.92 €	1,267.78 €	1,156.89 €	1,089.45 €	930.74 €	863.30 €	841.62 €	824.19 €	780.71 €
14 ± 0.02	*	8631140	2,370.26 €	1,698.34 €	1,472.21 €	1,361.30 €	1,293.92 €	1,128.62 €	1,063.40 €	1,041.63 €	1,022.09 €	972.07 €
15 ± 0.02	*	8631150	2,846.46 €	2,172.38 €	1,948.39 €	1,837.52 €	1,770.09 €	1,591.80 €	1,524.39 €	1,502.64 €	1,485.26 €	1,417.83 €

* On request



ACCESSORIES & TOOLS

Micro hand torch and accessories [www](#)

- for closing Mark-tubes and glass capillaries

Product description	Unit	Code no.	Price per 1 piece when ordering
			1 piece
Micro hand torch. including 2 nozzles 0.5 mm and 0.8 mm	1	6000010	762.76 €
Table stand for micro hand torch. with heavy base & gooseneck	1	6000050	399.40 €
Manifold for using two flames on one torch (including 2 nozzles 0.5 mm)	1	6000012	311.83 €
Extra fine nozzle made of ruby with 0.18 mm opening. for finest hottest flames	1	6000013	267.23 €
Micro hand torch set consists of 6000010, 6000011, 6000012, 6000013	1	6000014	1,450.42 €
Connection-kit consist of 2 x 2 mtr. hose. 4x clips and 1x of 1/4 & 1x 3/8 inch pipe thread fittings	1	6000009	312.76 €
Standard glass blowers glasses	1	6000022	210.37 €

Hilgenberg Pipette bulb [www](#)

- Pipette bulbs made of medical soft-silk silicone
- with patent pending roll block properties
- for standard pipettes with Ø = 7 mm

HIGHLIGHT PRODUCT

Product description	Color	Unit	Code no.	Price per 1 piece when ordering
				100 pieces
Hilgenberg Pipette bulb	turquoise	100 pieces	4019703	0.98 €
Hilgenberg Pipette bulb	anthracite	100 pieces	4019704	0.98 €
Hilgenberg Pipette bulb	red	100 pieces	4019705	0.98 €
Hilgenberg Pipette bulb	yellow	100 pieces	4019706	0.98 €
Hilgenberg Pipette bulb	blue	100 pieces	4019707	0.98 €
Hilgenberg Pipette bulb	pink (magenta)	100 pieces	4019708	0.98 €





Special blades made of ceramic and holders

[WWW](#)

- for cutting and carving glass tubing
- suitable to cut off the bottom of Mark-tubes

Product description	Code no.	Price per 1 piece when ordering	
		1 piece	
Blade-holder made of aluminium, with plastic clamping for the blades	4018304	13.40 €	
Special blades made of ceramic, for cutting glass	4018303	67.06 €	



Glass tube cutting tool

[WWW](#)

- with replaceable carbide wheel
- for cutting glass tubes in a Ø - range of 4 - 30 mm

Product description	Code no.	Price per 1 piece when ordering	
		1 piece	
Glass tube cutting tool	6000021	59.55 €	
Carbide cutting wheel Ø 9.8 mm (for glass tube cutting tool)	6001507	19.87 €	



Cutting device for glass capillaries

[WWW](#)

- with length-stop 200 mm
- exchangeable diamond-wire for scratching of the glass surface
- adjustable length stop / lockable on the slide rail
- stop surface in glass version, for minimized friction resistance

Product description	Code no.	Price per 1 piece when ordering	
		1 piece	5 pieces
Cutting device for glass capillaries	6002200	1,373.05 €	1,373.05 €
Diamond wire (Diameter = 0.30 mm, Length = 50 mm, Grain size = D60)	6000913	14.16 €	14.16 €
Diamond wire (Diameter = 0.50 mm, Length = 50 mm, Grain size = D76)	6000915	14.16 €	14.16 €
Diamond wire (Diameter = 0.70 mm, Length = 50 mm, Grain size = D91) (only while stocks last, replacement article no. 6000923)	6000917	14.16 €	14.16 €
Diamond wire (Diameter = 0.70 mm, Length = 50 mm, Grain size = D76)	6000923	14.16 €	14.16 €



TIP: Our diamond wires can be used with our blade-holders



0.5 ml syringes, with low sliding force

[WWW](#)

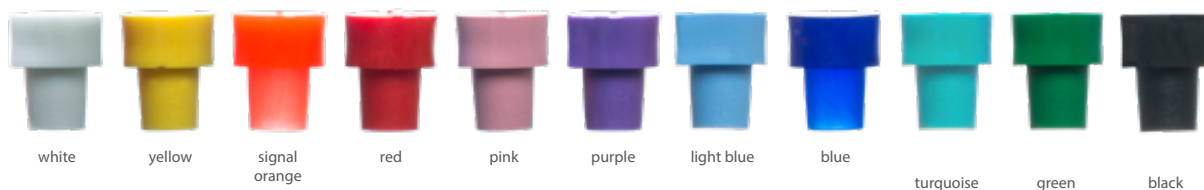
- small volume 0.5 ml
- precise dosing
- with Luer connector

Product description	packed per	Code no.	Price per 1 piece when ordering at least 100 pieces
0.5 ml, Polypropylen, Luer	100 pieces	6000020	0.89 €

Closing caps for 5 & 3 mm NMR-Tubes



- available in various colors



Caps for Ø 5 mm

Color	PU (packed per)	Code no. Ø 5 mm	Price per PU
red	1000 pieces	332500	61.37 €
	50 pieces	332500-50	7.76 €
green	1000 pieces	332501	61.37 €
	50 pieces	332501-50	7.76 €
yellow	1000 pieces	332502	61.37 €
	50 pieces	332502-50	7.76 €
blue	1000 pieces	332504	61.37 €
	50 pieces	332504-50	7.76 €
black	1000 pieces	332505	61.37 €
	50 pieces	332505-50	7.76 €
purple	1000 pieces	332506	61.37 €
	50 pieces	332506-50	7.76 €
light blue	1000 pieces	332507	61.37 €
	50 pieces	332507-50	7.76 €
pink	1000 pieces	332508	61.37 €
	50 pieces	332508-50	7.76 €
white	1000 pieces	332509	61.37 €
	50 pieces	332509-50	7.76 €
signal orange	1000 pieces	332510	61.37 €
	50 pieces	332510-50	7.76 €
turquoise	1000 pieces	332529	61.37 €
	50 pieces	332529-50	7.76 €

Caps for Ø 3 mm

Color	PU (packed per)	Code no. Ø 3 mm	Price per PU
red	1000 pieces	332511	74.98 €
	50 pieces	332511-50	9.37 €
green	1000 pieces	332512	74.98 €
	50 pieces	332512-50	9.37 €
yellow	1000 pieces	332513	74.98 €
	50 pieces	332513-50	9.37 €
blue	1000 pieces	332514	74.98 €
	50 pieces	332514-50	9.37 €
black	1000 pieces	332516	74.98 €
	50 pieces	332516-50	9.37 €
purple	1000 pieces	332517	74.98 €
	50 pieces	332517-50	9.37 €
light blue	1000 pieces	332523	74.98 €
	50 pieces	332523-50	9.37 €
pink	1000 pieces	332518	74.98 €
	50 pieces	332518-50	9.37 €
white	1000 pieces	332519	74.98 €
	50 pieces	332519-50	9.37 €
signal orange	1000 pieces	332522	74.98 €
	50 pieces	332522-50	9.37 €
turquoise	1000 pieces	332530	74.98 €
	50 pieces	332530-50	9.37 €

Please note the changed code no. for our various packaging units (PU) when placing your next order!

NMR-Septum-Caps



- consisting of a base with premounted septum snap cap

HIGHLIGHT PRODUCT

Product description	packed per	Code no.	Price when ordering at least 100 pieces
NMR-Septum cap - Ø 5 mm consisting of abase with premounted septum snap cap natural rubber rot / TEF transparent 60° shore A 1.3 mm. without slot-cut	100 pieces	332520	0.65 €
NMR-Septum cap - Ø 5 mm consisting of abase with premounted septum snap cap white silicone / PTFE blue 55° shore A 0.9 mm. with slot-cut	100 pieces	332521	0.92 €



GENERAL TERMS OF DELIVERY AND PAYMENT

Date of issue: September 2012

§ 1 Validity of the general terms of delivery and payment, written form

1. In addition to other contractual agreements, these general terms of delivery and payment shall exclusively apply to all transactions between us and the purchaser or customer, hereinafter known as the Customer. Even if the service is provided or payment accepted, we shall not acknowledge other terms issued by the Customer unless we expressly agree to their being valid in writing.
2. These general terms of delivery and payment only apply to transactions with enterprises in the sense of § 14 of the Civil Code.
3. These general terms of delivery and payment shall also apply to all future business relationships without their having to be included until such time as we produce new general terms of delivery and payment.
4. All agreements made between us and the Customer as part of contract negotiations must be set out in writing for verification purposes and must be confirmed by both parties.
5. Side-agreements, retrospective contract amendments and the acceptance of a guarantee, particularly assurances of properties or the acceptance of a purchasing risk must be made in writing if they are made by persons who have no rights of representation.

§ 2 Advice

1. Our product and service-related advice shall only extend to the products supplied by us and services provided by us. It shall not extend to advice outside of the contract, in other words to statements which are made without products being sold or services provided by us.
2. Our advice services are based on empirical values. Failure to make statements shall not constitute advice.

§ 3 Contract conclusion

1. Our quotations shall be non-binding unless they have been specified as binding in writing. They shall be regarded as a request to submit a quotation.
2. The initial charge for processing a quotation shall generally be zero. Additional quotations and design work shall only be free if the contract of supply is valid and remains so.
3. Descriptions and images of our goods and products in technical documents, catalogues, brochures, circulars, advertisements and price lists shall be non-binding unless their inclusion in the contract has been expressly agreed; they shall not release the Customer from conducting its own inspections.
4. In principle the order issued by the Customer shall be regarded as an offer to conclude a contract.
5. All the details for completing the order must be set out in the order. This applies to all goods, works and other services to be provided by us. These shall particularly, but not exclusively, include details of item designation, quantity, dimensions, material, material composition, pre-treatment, processing specifications, treatment guidelines, storage, standards and all other technical parameters and characteristic physical data. Missing, incorrect or incomplete details shall be regarded as expressly not agreed and shall not give rise to any obligations on our part, either in the sense of fulfilment and warranty or in the sense of compensation claims.
6. If the order issued by the Customer differs from our quotation, the Customer must specially highlight the differences.
7. We shall be entitled to obtain further information for the purpose of ensuring that the order can be completed properly.
8. Orders should be issued in writing or electronically (EDI);

orders placed orally or by telephone shall be completed at the Customer's risk.

9. If the Customer cancels an order which has already been accepted by us, we shall be entitled to charge 10% of the price for the goods or services for the costs incurred by processing the order and for loss of profit, notwithstanding the possibility of claiming higher actual damages. The Customer shall be at liberty to provide evidence that our costs were in fact less than this.
10. We shall accept the order within four weeks unless a different acceptance period has been agreed.
11. Our services are set out in the order confirmation.
12. We reserve the right to process the goods or services or to have them processed at a different plant at no added cost to the Customer.

§ 4 Blanket contracts, call orders

1. If we have agreed a blanket contract with the Customer under which the complete requirement for a defined period is manufactured and stored for call orders, the Customer undertakes to accept all the remaining volume which is in storage or has yet to be manufactured after the elapse of one year from the date of the order. During the term of the blanket contract, an amendment of the ordered volume of goods or services shall only be possible by means of a separate contractual agreement between us and the Customer.
2. Unless otherwise agreed, all call orders must be accepted within one year of the order being placed without this requiring any request to accept such orders. If this deadline passes we shall be entitled to invoice the goods and ship them at the expense and risk of the Customer or to cancel the contract with immediate effect.

§ 5 Modifications, differences, tolerances and part consignments

1. A separate contractual agreement shall be required for any modifications to the goods or services requested after the contract has been concluded.
2. We reserve the right to modify the goods or services within reason in the event that we have not received the required information or have received incorrect information. Negative effects caused by a lack of or incorrect information, in particular additional costs or damages shall be paid by the Customer.
3. We reserve the right to make technical modifications to the goods or services which do not jeopardise the objective of the contract.
4. Accepted industry volume differences of up to max. 10% shall be permitted. We reserve the right to deliver a volume difference of 20% for specially manufactured products. In any event the manufactured volume within the tolerance must be accepted and paid for.
5. Dimension and tolerance specifications shall be observed. Unless limits for the maximum differences have been expressly agreed, they will be defined by us within the framework that is normal for the industry and shall be accepted.
6. Part consignments and part services shall be permitted as long as this does not have a major adverse effect on use and does not jeopardise the objective of the contract. They may be invoiced separately.

§ 6 Lead time, storage costs

1. If a lead time has been agreed for the goods or services, this shall commence when we send our order confirmation but not before all details of the order have been clarified and all the Customer's duties of cooperation have been fulfilled properly; the same shall apply to delivery dates for the goods or services.
2. In the event of mutually agreed modifications to the goods or services, new lead times and delivery dates for said goods and services

must be agreed. This shall apply even if the fresh negotiations are held about the goods and services after the contract has been concluded without any modification being made to the goods or services.

3. Lead times and delivery dates for the goods and services are agreed subject to the raw materials being supplied to us in perfect condition and promptly and that no production problems are encountered.

4. The lead time for the goods or services shall be deemed to have been met if the goods or services have left our plant by the elapse of the lead time or have been handed over to the transport contractor at our plant or we have notified the Customer that the goods or services are ready for collection.

5. We shall be entitled to deliver the goods or complete the service before the agreed date.

§ 7 Acceptance procedure delay caused by the Customer

1. If the Customer fails to accept the goods by the agreed delivery date or lead time for reasons that are its responsibility, we may demand compensation for any additional costs we incur as a result. In particular we shall be entitled to charge the Customer storage costs of 0.5% for every month or part of a month, subject to a maximum total of 5% of the price for the goods or services. Either of the parties to the contract shall be entitled to provide evidence that the actual storage costs were higher or lower than this figure.

2. Furthermore, we shall be entitled to select a suitable storage site at the expense and risk of the Customer and to insure the goods or services at its expense.

3. If we are entitled to demand compensation rather than payment, we may demand 15% of our price as compensation, notwithstanding the possibility of demanding higher actual damages, unless the Customer can provide evidence that we have not suffered any damages or our damages were considerably lower than this lump sum.

§ 8 Forces majeures

In cases of forces majeures, our lead times and delivery dates shall be extended by the duration of the problem which has occurred. These shall include circumstances which occur but for which we are not responsible such as war, fire damage, strikes, lock-outs, traffic problems, official orders, plant shut-downs or major operating problems such as lack of material or energy suffered by us and our sub-contractors and suppliers. This shall apply even if we were already in default when these circumstances occurred. We shall notify the Customer without delay of the start and end of such problems. If the goods or services are delayed by more than six weeks, both the Customer and we shall be entitled to cancel the contract relating to the scope of the contract affected by the delay. Compensation shall not be payable to the parties to the contract as a result of such circumstances.

§ 9 Prices, terms of payment

1. Unless otherwise agreed, all prices shall be understood in euros, net on an "ex-works" basis, exclusive of statutory value-added tax at the rate in force on the date of the invoice. Additional costs such as packaging, freight, shipment costs, customs duties, assembly, insurance and bank charges shall be charged separately. We shall only provide insurance cover for the goods during shipping at the request and expense of the Customer.

2. Internal bank charges may only be paid by the sender. Charges deducted without justification by the bank shall be invoiced retrospectively to the Customer.

3. We shall be entitled to change the agreed price within reason in the event that increases in costs, in particular due to material price changes, occur after the conclusion of the contract. We shall provide the Customer with evidence of the reason for the change of cost on request.

4. We shall be entitled to change the price within reason if changes occur before or during the completion of the order because the information provided by the Customer and the documents

supplied by it were incorrect or the Customer requests other modifications.

5. We shall be entitled to demand a reasonable advance payment when the contract is concluded. Interest shall not be payable on this. Advance payment shall not be deemed to be fulfilment until the purchase price has been paid in full.

6. Unless otherwise agreed, invoices shall be payable within 30 days of the invoice date on a strictly net basis. They shall be payable without any deductions. In the event that they are not paid, the Customer shall be in default on the due date without this requiring any further warnings. Discounts and concessions shall only be granted by special agreement. Discount deducted without justification shall be invoiced retrospectively to the Customer. Part payments shall require separate written agreement.

7. Settlement by bills of exchange or cheque shall require separate prior agreement. Discount charges and bills of exchange costs shall be paid by the Customer. Invoice settlement by cheque of bill of exchange shall only be for the purpose of fulfilment and shall not be regarded as payment until they have been redeemed without reservation.

8. If the Customer has several outstanding invoices from us and if payments are not made by the Customer against a specific invoice, we shall be entitled to decide to which of the outstanding invoices shall be assigned.

9. In the event of default, forbearance or part payment, we shall be entitled to charge normal bank interest but at least at a rate of 8 percentage points per annum above the relevant base rate and to withhold further goods and services until all outstanding invoices have been settled. We reserve the right to provide evidence that we suffered higher damages.

10. By placing the order the Customer confirms that it is solvent and creditworthy. If there is justified doubt about the solvency or creditworthiness of the Customer, for example due to repeated late payments, default or rejected cheques, we shall be entitled to demand security or cash payment on a quid pro quo basis. If the Customer fails to meet this demand within a reasonable deadline which has been set for it, we shall be entitled to cancel the nonfulfilled part of the contract. No such deadline shall be required if the Customer is clearly incapable of providing security, for example if an application has been made to open insolvency proceedings against the Customer's assets.

11. The Customer shall only be entitled to set off against our claims if its counter-claim is undisputed or has been fixed by a court of law. The assignment of debts payable to us shall require our consent.

12. The Customer shall only have a right of retention if the counter claim is based on the same contract and has been acknowledged or fixed by a court of law or if we commit a major breach of our duties from the same contract despite receiving a written warning and we have not offered reasonable safeguard.

If a service provided by us is undisputedly defective, the Customer shall only have a right of retention for a reasonable amount relative to the defects and the likely costs for their rectification.

13. The payment deadlines shall remain in force even if delays occur to the delivery through no fault of ours.

14. If value-added tax is not included in our invoice, in particular because we have assumed that the goods have been supplied or the services provided on the basis of a "single market transaction" in the sense of § 4 No. 1 b together with § 6 a of the Value-Added Tax Law, and we are retrospectively charged with a value-added tax debt (§ 6 a IV of the Value-Added Tax Law), the Customer undertakes to reimburse us with the amount which

has been charged to us. This duty shall apply regardless of whether we are retrospectively charged with value-added tax, import value-added tax or comparable taxes in Germany or elsewhere.

§ 10 Place of fulfilment, acceptance, transfer of risk, packaging

1. The place of fulfilment for the services and payments specified in the order shall be our registered office.

2. The Customer undertakes to complete an acceptance procedure as soon as we have notified it that the services it ordered have been completed. If the Customer does not complete this acceptance procedure within two weeks of such notification, the services shall be deemed to have been accepted.
3. The risk of destruction, loss or damage to the goods shall be transferred to the Customer when we notify it that the goods are ready. If shipment has been agreed, the risk shall be transferred to the Customer when the goods are dispatched or they have been handed over to the transport contractor.
4. Unless agreement has been made to the contrary, we shall determine the type and scope of packaging. Single use packaging must be disposed of by the Customer.
5. If the goods are shipped in loaned packaging, the packaging must be returned free of charge within 30 days of receiving the shipment. The Customer must pay compensation for any loss of damage to the loaned packaging. Loaned packaging must not be used for any other purposes or for holding other goods. They may only be used for transporting the supplied goods. Labels on loaned packaging must not be removed.
6. In the event of the goods being damaged or lost en route, the Customer should carry out an inspection immediately and notify us of the results. Claims relating to any transport damage must be made without delay to the forwarder by the Customer.

§ 11 Duty to inspect and complain

1. The Customer undertakes to inspect the goods immediately after delivery in accordance with § 377 of the Commercial Code and to notify us of any defects and damage identified during this inspection or at a later date without delay after their discovery and to send us a reference sample of the affected consignment. The provision of § 377 of the Commercial Code shall apply as and where appropriate for general and works services. Complaints must be made in writing.
2. Defective goods or services must not be used. If it was not possible to detect a defect on receipt of the goods or after the provision of the service, all further use of the goods or services must be stopped immediately after the discovery of the defect.
3. The Customer shall send us the defective goods and shall provide us with sufficient time to inspect the defect. In the event of unjustified complaints, we reserve the right to charge the Customer with the inspection costs we have incurred.
4. The complaint shall not exempt the Customer from its duty to comply with its payment obligations.

§ 12 Warranty

1. If our goods or services are suffering from a defect, we shall be entitled at our discretion to rectify the defect, supply replacement goods or provide with the Customer with a credit note within a reasonable period of time.
2. In the event that the goods are essentially outsourced products we shall be entitled to limit our liability initially to the assignment of warranty claims which we are due from the supplier of the outsourced products unless satisfaction from the assignment right fails or the assigned claim cannot be enforced for other reasons. In this case the Customer shall be entitled to the rights set out in Paragraph 1 above.
3. Claims by the Customer relating to the costs required for the purposes of repeat fulfilment, in particular transport, travelling, labour and material costs shall not be permitted if these costs are increased because the goods were subsequently transported to a place other than the Customer's site.
4. The same warranty provisions shall apply to replacement services and refinished goods as for the goods or services supplied originally.

§ 13 Legal defects, intellectual property rights

1. Orders based on drawings, sketches or other information supplied to us shall be completed at the risk of the Customer. If we breach intellectual property rights owned by third parties as a result of such purchase orders, the Customer shall exempt us from claims

by the owners of such rights. The Customer shall be responsible for all further damages.

2. Our liability for any breaches of intellectual property rights which relate to the use of the goods or services or with the connection or use of the goods or services with other products shall be excluded.
3. In the event of legal defects we shall be entitled, at our discretion:
 - To obtain the required licences relating to the breached intellectual property rights
 - or to rectify the defects on the goods or services by providing goods or services which have been modified to an extent which is reasonable for the Customer to accept.
4. Our liability for breaching third party intellectual property rights shall only extend to this intellectual property rights which have been registered and published in Germany.
5. The transfer or grant of intellectual property rights and copyrights, particularly of our existing commercial intellectual property rights to the Customer shall not be part of the goods or services to be provided by us. The type and scope of utility or intellectual property rights to be granted by us shall be set out in a separate contractual agreement.
6. The company property used by us to complete the order, in particular data and tools, shall remain our property even if it is charged separately and shall not be supplied by us; we shall be entitled to any and all copyrights.
7. All ideas and documents created by us, in particular samples, dummies, sketches, designs, technical information, etc. shall be subject to the protection of the intellectual property of Hilgenberg GmbH and may not be used or exploited in any form without our consent unless these products were manufactured exclusively on the basis of the Customer's information and specifications.
8. If we manufacture products on behalf of the Customer on the basis of drawings, models, samples of other technical documents provided by it (the Customer), or on the basis of process requests made by the Customer, the Customer shall take responsibility for such items not breaching third party intellectual property rights. If third parties prohibit us from manufacturing and supplying such products on the basis of existing intellectual property rights, we shall be entitled, without having to review the legal situation, to stop all work in this respect and to demand compensation from the Customer.
9. The provision of such drawings, documents and the like and the requested process successes and the specified recipes and relevant material usages, etc. shall result in the Customer indemnifying us from all claims lodged by third parties in this respect.

§ 14 Liability

1. We shall only accept liability for the outstanding accounts of the company up to the value of the company's assets.
2. In the event of simple negligence we shall only accept liability in the event of a breach of a major contract duty. For gross negligence we shall also accept liability for breaches of nonmajor contract duties. In the above cases liability shall be limited to the foreseeable damages which are typical for these contracts. In the event of assured properties, our liability shall be limited to the scope and the amount of our product liability insurance policy. The scope of coverage corresponds to the non-binding recommendations for company liability insurance policies made by the German Insurance Industry Federation. The level of coverage for the claims set out in the insurance policy shall be EUR 2 million per insurance year.
3. Compensation claims due to a malicious breach of contract duties by us, claims for personal injury and claims under the Product Liability Law shall be subject to the statutory regulations.
4. We shall accept liability for tortious claims on the basis of contract liability.
5. All liability other than that described in the provisions above shall be excluded.
6. Recourse claims on the part of the Customer against us shall only exist as long as the Customer has not made any agreements with

its clients which go beyond the statutory defect and compensation claims.

7. Our liability shall be excluded if the Customer has effectively limited its liability to its own clients.

8. If our liability is excluded or limited, this shall also apply to the personal liability of our staff, workers, colleagues, representatives, agents and vicarious agents.

9. If liability is excluded or limited under the provisions set out above, the Customer also undertakes to indemnify us from claims by third parties when first requested to do so.

10. The statutory provisions shall otherwise apply.

11. The Customer undertakes to notify us in writing without delay of any claims lodged by third parties and to reserve our right to use all possible means of defence and settlement negotiations.

§ 15 Statute of limitations

1. The statute of limitations for claims and rights relating to defects affecting our products, services or works services and resultant damage shall be one year. The start of this statute of limitations period is based on the statutory regulations. The above statute of limitations reduction shall not apply if the law specifies longer periods in cases pursuant to §§ 438 Para. 1 No. 2, 479 and 634 a Para. 1 No. 2 of the Civil Code.

2. The statute of limitations set out in number 1 above shall not apply in cases of malice if we have deliberately not told you about the defect or have guaranteed a specific property, or for compensation claims due to personal injury or loss of freedom of a person, for claims under the Product Liability Law and for a grossly negligent breach of duty.

3. Refulfilment action shall not interrupt the statute of limitations for the original provision of the service nor shall it cause the statute of limitations to restart.

§ 16 Procurement and reservation of title, seizure right

1. We reserve title to all contract goods until all our claims from our business relationship with the Customer have been settled in full. We reserve all title rights and copyrights to supplied illustrations, drawings, calculations and other (technical) documents.

2. If our property is processed, connected or mixed with property owned by others, we shall acquire title to the new item as set out in § 947 of the Civil Code.

3. If the processing, connections or mixing takes place in such a way that the third party property is regarded as the main item, we shall acquire title as a proportion of the value of our goods or services to the other goods or services at the time of the processing, connection or mixing.

4. If we acquire title to an item as a result of our goods or services, we shall reserve title to this item until all our outstanding claims from our business relationship with the Customer have been settled in full.

5. The Customer undertakes to keep the reservation of title goods safely and, if necessary, to complete any servicing and maintenance work at its expense promptly. The Customer must insure the reservation of title goods at its own expense against loss and damage. Any security claims accrued in the event of damage must be assigned to us.

6. The Customer shall be entitled to resell the item which is our (joint) property as part of its normal business as long as it fulfils its duties from its business relationship with us. In this event a proportion of the claim resulting from the sale shall be assigned to us to cover the value of the reservation of title goods or services provided by Hilgenberg to the total value of the sold goods. The Customer shall retain entitlement to collect this claim even after this assignment. Our authority to collect these claim ourselves shall not be affected.

7. The right on the part of the Customer to dispose of the goods subject to our reservation of title and to collect the claims assigned to us shall become null and void as soon as the Customer fails to meet its payment duties or an application is made to open insolvency proceedings against its assets. In the above cases and in the event of any other action by the Customer in breach of the contract, we shall

be entitled to take back any goods supplied with reservation of title without notice.

8. The Customer shall notify us without delay if there are any risks to our reservation of title goods, particularly in the event of insolvency and enforcement action. At our request the Customer must provide all the required information about the whereabouts of the goods which are our (joint) property and about the claims assigned to us and must notify its claims of said assignment. The Customer shall provide us with support in all action required to protect our (joint) property and shall pay the costs of any such action.

9. We shall have a right of seizure for all goods which are in the Customer's possession due to the contract to cover all our claims from the contract. This right of seizure may also be claimed for earlier claims from goods or services supplied earlier if they are linked to the goods or services in question. The right of lien shall apply to other claims from our business relationship as long as they are undisputed or have been fixed by a court of law. §§ 1204 ff. of the Civil Code and § 50 Para. 1 of the Insolvency Regulation shall apply as and where appropriate.

10. If the realisable value of the securities exceeds our claims by more than 15%, we shall release securities covering the excess value at our discretion at the request of the Customer.

§ 17 Tools

1. If special tools are required to complete the order, unless otherwise agreed we shall become and remain the owner of the tools manufactured by us or by a third party even if the Customer has paid part of the costs of the tools.

2. If expressly agreed, the tools shall only be used for orders placed by the Customer as long as the Customer meets its payment and acceptance undertakings. We shall only be obliged to maintain and replace these tools free of charge if such action is required to fulfil a production quantity which has been guaranteed to the Customer. An undertaking to store the tools shall expire two years after the last delivery of parts made using the tools and after prior notification of the Customer.

3. The share of the tool costs shall be shown separately in the quotation and in the order confirmation; they shall be payable on a net basis when the contract is concluded. In addition information should be provided therein whether and how any shares of the tool costs that have been paid will be amortised.

4. If it has been agreed that the Customer will become the owner of the tools, title to them shall pass to the customer after the purchase price for the tools has been paid. The handover of the tools to the Customer shall be replaced by our duty of safekeeping for the tools. Regardless of the statutory claim for the tools to be handed over to it and of the service life of the tools, we shall be entitled to maintain sole possession of the tools until the acceptance of an agreed minimum quantity by the Customer or until after the elapse of a certain period of time. We shall mark the tools as the property of a third party and insure them at the request of the Customer and at its expense.

5. If the Customer's own tools as described in paragraph 4 are used or if the Customer provides the tools on a loan basis, our liability relating to the safekeeping and care of the tools shall be limited to the same duty of care as would apply if we owned the tools. The costs of maintenance and insurance shall be paid by the Customer. Our obligations set out in this § 17 shall become null and void if, after the completion of the order, a request is sent to the Customer to collect the tools and the Customer fails to collect them within 14 days after the request is made.

6. If the Customer fails to meet its contract obligations in full we shall be entitled to exercise a right of retention to the tools.

§ 18 Processing materials

The following provisions shall also apply if the Customer supplies us with materials for processing.

1. The goods for processing will only be inspected for defects and damage which are externally visible when we receive them. We shall not be obliged to conduct any other inspections. Any defects or damage found will be reported to the Customer within 10 working days of

the discovery of the defect.

2. The goods supplied to us must be made of material with standard properties which is suitable for processing, be true to size if they have already been processed and have dimensions, particularly in boreholes, which mean that they are easy to clamp and process using standard procedures. If these requirements are not satisfied we shall notify the Customer of the additional work require and the resulting increase in price. If the Customer does not agree to the change in price it shall be entitled to cancel the contract. This cancellation must be made immediately upon receipt of our notification about the change circumstances. If the Customer decides to cancel the contract it must make reasonable payment for the work already completed.

3. The production and preparation of special clamping equipment shall be charged separately.

4. If the goods supplied by the Customer are unusable as a result of material flaws, we must be reimbursed with the processing costs we have incurred.

5. We shall not be liable for damaged caused by inaccurate wording and identifiers on the goods supplied by the Customer.

6. The Customer undertakes to reimburse us with all damages including loss of profit which we incur as a result of our being supplied with material which is not suitable for processing.

7. We shall not make any compensation for waste incurred up to the level which is accepted as standard in the industry.

8. The materials shall be stored at our premises at the Customer's risk. We shall only insure the materials supplied by the Customer and stored by us for processing at the request and expense of the Customer.

9. In the event that the materials are stored for an excessive period of time due to the conduct of the Customer, we reserve the right to charge the Customer for the area taken up by the materials or to store the materials at a forwarding contractor's site at the Customer's expense.

§ 19 Confidentiality

1. The Customer undertakes to treat all aspects of the business relationship which require protection in confidence. In particular it shall treat all commercial and technical details which are not part of the public domain and which come to its attention as a result of the business relationship as confidential. Information or aspects of the business relationship which were already part of the public domain at the time of their disclosure shall not come under the confidentiality obligation nor shall information or aspects of the business relationship for which the party to the contract can provide evidence to the effect that it already knew the information before the disclosure of it by us. The Customer shall ensure that its personnel shall also be subjected to appropriate confidentiality agreements.

2. The documents provided to the Customer may only be copied if required for operational requirements and in accordance with copyright regulations.

3. All documents may not be disclosed to third parties in full or in part or used for purposes other than those for which they were supplied to the Customer without our written consent.

4. The disclosure even in part of the business relationship with us to third parties shall only be possible with our prior written consent; the Customer shall subject the third parties to a confidentiality agreement of the same type and scope.

5. The Customer may only advertise its business relationship with us with our prior written consent.

6. The Customer undertakes to maintain this confidentiality even after the end of the business relationship.

7. The Customer undertakes not to conduct business similar to the subject of our order with our customers either directly or indirectly.

§ 20 Place of jurisdiction and applicable law

1. The place of jurisdiction shall be our registered office or the Customer's place of jurisdiction at our discretion.

2. The laws of the Federal Republic of Germany shall be exclusively applicable to the business relationships with the Customer. The applicability of the CISG "United Nations Convention on Contracts for the International Sale of Goods" shall be excluded.

3. If individual parts of these general terms of delivery and payment are invalid, this shall not affect the validity of the other provisions. The parties to the contract shall make every effort to replace the invalid provision with another provision which comes as close as possible to the commercial aim and legal sense of the original formulation and complies with the relevant statutory regulation.

4. The contract language shall be German.

§ 21 Data processing

The Customer agrees that we may use the data we receive about the Customer in relation to this business relationship for the fulfilment of our own business purposes, in particular we may store them or forward them to a credit agency as long as this is done in order to fulfil the objectives of this contract or it is necessary to protect our justified interests and there are no grounds to assume that the Customer's interests in protecting itself and preventing such processing, in particularly the forwarding of these data, outweigh these needs.

§ 22 Contact data

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