

ALLROUNDER CUBE 4600

Distance between tie bars: 1020 x 1020 mm

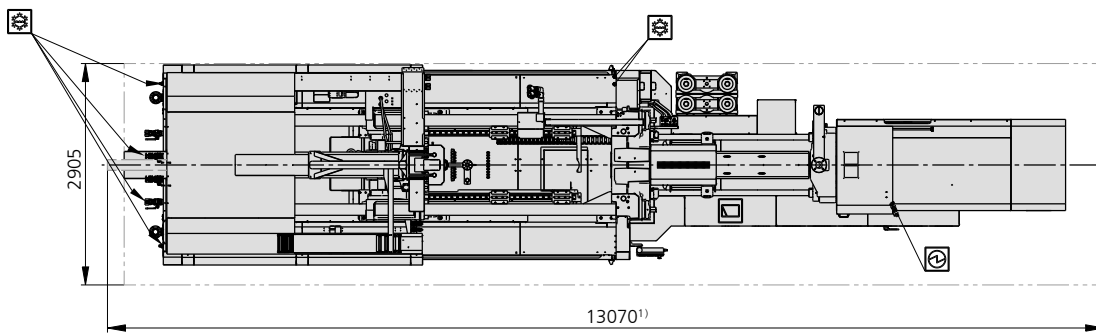
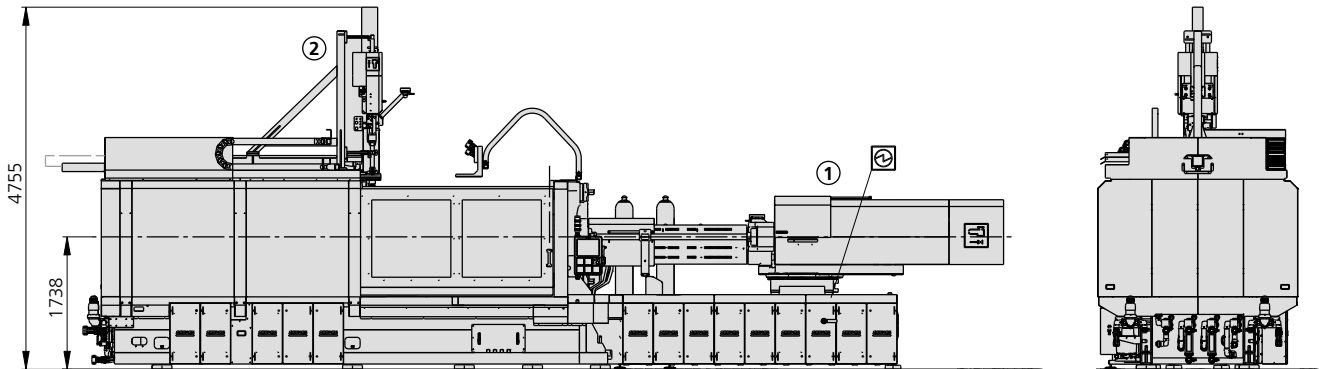
Clamping force: 4600 kN


Injection unit: 1300, 2100, 3200, 4600 – horizontal
70, 100, 170, 290, 400, 800, 1300,
2100, 3200 – moving


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MACHINE DIMENSIONS | CUBE 4600

Machine dimensions based on example of the ALLROUNDER CUBE 4600 - 4600/290 machine size



 Electrical connection

 Cooling water connection

Available injection units

Position	Size									
	70	100	170	290	400	800	1300	2100	3200	4600
① horizontal										
② moving	vertikal									
	horizontal									

1) Injection unit in parking position

TECHNICAL DATA | CUBE 4600

Clamping unit		4600 CUBE		
with clamping force	max. kN	4600		
Opening force stroke	max. kN mm	--- 900		
Mould height, fixed variable	min. mm	--- 1650-2400		
Platen daylight fixed variable	max. mm	--- 2550-3300		
Distance between tie bars (w x h)	mm	1020 x 1020		
Mould mounting platens (w x h)	max. mm	1470 x 1470		
Ejector force stroke	max. kN mm	86 250		
Dry cycle time EUROMAP ²	min. s - mm	2,1 - 714		

Injection unit ¹		70			100			170		
with screw diameter	mm	18	22	25	20	25	30	25	30	35
Effective screw length	L/D	24,5	20	17,5	25	20	16,7	24	20	17
Screw stroke	max. mm	90			100			120		
Calculated stroke volume	max. cm ³	23	34	44	31	49	71	59	85	115
Shot weight	max. g PS	21	31	40	29	45	65	54	77	105
Material throughput	max. kg/h PS	4,1	5,5	6,5	5,5	8	9,5	10	13,5	16
	max. kg/h PA6.6	2,1	2,8	3,3	2,8	4	4,9	5	7	8
Injection pressure	max. bar	2500	2000	1550	2500	2000	1390	2500	2000	1470
Holding pressure	max. bar	2500	2000	1550	2500	2000	1390	2500	2000	1470
Injection flow ²	max. cm ³ /s	140	209	270	173	270	389	221	318	433
Screw circumferential speed ²	max. m/min	49	60	68	48	60	72	50	60	70
Screw torque	max. Nm	90	110	120	120	150	180	210	250	290
Nozzle contact force retraction stroke	max. kN mm	50 150			50 180			50 210		
Heating capacity zones	kW	4,2 4			6,7 5			9 5		

Drive and connection		4600/290		
with horizontal/moving injection unit		4600/290		
Net weight of machine	kg	42000		
Sound press. level Insecurity ⁴	dB(A)	65 3		
Oil filling	l	490		
Dimensions	l	13070		
	b	2905		
	h	4755		
Cooling water connection	max. °C	30		
	min. Δp bar	1,5 DN 25		

Upon request: other machine types and mould installation heights, screws, drive powers, etc.

All specifications relate to the basic machine version. Deviations are possible depending on variants, process settings and material type. Depending on the drive, certain combinations, e.g. max. injection pressure and max. injection flow may be mutually exclusive.

- 1) Large injection unit = max. stroke volume (cm³) x max. injection pressure (kbar)
 - 2) Specifications depend on the drive variant / drive configuration.
 - 3) Specifications relate to 400 V/50 Hz.
 - 4) Detailed info in the operating instr.
- [] Specifications apply to alternative equipment.

TECHNICAL DATA | CUBE 4600

Clamping unit		4600 CUBE		
with clamping force	max. kN	4600		
Opening force stroke	max. kN mm	--- 900		
Mould height, fixed variable	min. mm	--- 1650-2400		
Platen daylight fixed variable	max. mm	--- 2550-3300		
Distance between tie bars (w x h)	mm	1020 x 1020		
Mould mounting platens (w x h)	max. mm	1470 x 1470		
Ejector force stroke	max. kN mm	86 250		
Dry cycle time EUROMAP ²	min. s - mm	2,1 - 714		

Injection unit ¹		290			400			800		
with screw diameter	mm	30	35	40	35	40	45	45	50	55
Effective screw length	L/D	23,3	20	17,5	23	20	18	22	20	18
Screw stroke	max. mm	150			160			200		
Calculated stroke volume	max. cm ³	106	144	188	154	201	254	318	392	474
Shot weight	max. g PS	97	132	172	141	184	232	291	359	434
Material throughput	max. kg/h PS	17	20,5	24,5	25	29	35	46	53	59
	max. kg/h PA6.6	8,5	10,5	12,5	12,5	15	17,5	23	27	30
Injection pressure	max. bar	2500	2000	1530	2500	2000	1580	2470	2000	1650
Holding pressure	max. bar	2500	2000	1530	2500	2000	1580	2470	2000	1650
Injection flow ²	max. cm ³ /s	318	433	565	385	503	636	557	687	832
Screw circumferential speed ²	max. m/min	51	60	69	53	60	68	54	60	66
Screw torque	max. Nm	320	380	430	480	550	610	900	1000	1100
Nozzle contact force retraction stroke	max. kN mm	60 240			60 300			70 400		
Heating capacity zones	kW	7,7 5			9,7 5			19,9 8		

Drive and connection		4600/290			4600/400			4600/800		
with horizontal/moving injection unit					4600/290					
Net weight of machine	kg				42000					
Sound press. level Insecurity ⁴	dB(A)				65 3					
Oil filling	l				490					
Dimensions	l	mm			13070					
	b	mm			2905					
	h	mm			4755					
Cooling water connection	max. °C				30					
	min. Δp bar				1,5 DN 25					

Upon request: other machine types and mould installation heights, screws, drive powers, etc.

All specifications relate to the basic machine version. Deviations are possible depending on variants, process settings and material type. Depending on the drive, certain combinations, e.g. max. injection pressure and max. injection flow may be mutually exclusive.

- 1) Size of injection unit = max. stroke volume (cm³) x max. injection pressure (kbar)
 - 2) Specifications depend on the drive variant / drive configuration.
 - 3) Specifications relate to 400 V/50 Hz.
 - 4) Detailed info in the operating instr.
- [] Specifications apply to alternative equipment.

TECHNICAL DATA | CUBE 4600

Clamping unit		4600 CUBE	
with clamping force	max. kN	4600	
Opening force stroke	max. kN mm	--- 900	
Mould height, fixed variable	min. mm	--- 1650-2400	
Platen daylight fixed variable	max. mm	--- 2550-3300	
Distance between tie bars (w x h)	mm	1020 x 1020	
Mould mounting platens (w x h)	max. mm	1470 x 1470	
Ejector force stroke	max. kN mm	86 250	
Dry cycle time EUROMAP ²	min. s - mm	2,1 - 714	

Injection unit ¹		1300			2100			3200		
with screw diameter	mm	55	60	70	60	70	80	70	80	90
Effective screw length	L/D	22	20	17	23	20	17,5	23	20	18
Screw stroke	max. mm	240			280			320		
Calculated stroke volume	max. cm ³	570	678	923	792	1078	1407	1232	1608	2036
Shot weight	max. g PS	521	620	844	723	984	1286	1125	1469	1860
Material throughput	max. kg/h PS	86	96	115	125	145	175	185	215	250
	max. kg/h PA6.6	43	48	58	62	74	88	93	110	125
Injection pressure	max. bar	2380	2000	1470	2500	2000	1530	2500	2000	1580
Holding pressure	max. bar	2380	2000	1470	2500	2000	1530	2500	2000	1580
Injection flow ²	max. cm ³ /s	713	848	1155	848	1155	1508	1155	1508	1909
Screw circumferential speed ²	max. m/min	55	60	70	51	60	69	53	60	68
Screw torque	max. Nm	1510	1640	1920	2140	2500	2850	3140	3590	4040
Nozzle contact force retraction stroke	max. kN mm	90 550			110 600			110 600		
Heating capacity zones	kW	22,9 8			31,2 8			38,4 8		

Drive and connection		4600/290	
with horizontal/moving injection unit		4600/290	
Net weight of machine	kg	42000	
Sound press. level Insecurity ⁴	dB(A)	65 3	
Oil filling	l	490	
Dimensions	l	13070	
	b	2905	
	h	4755	
Cooling water connection	max. °C	30	
	min. Δp bar	1,5 DN 25	

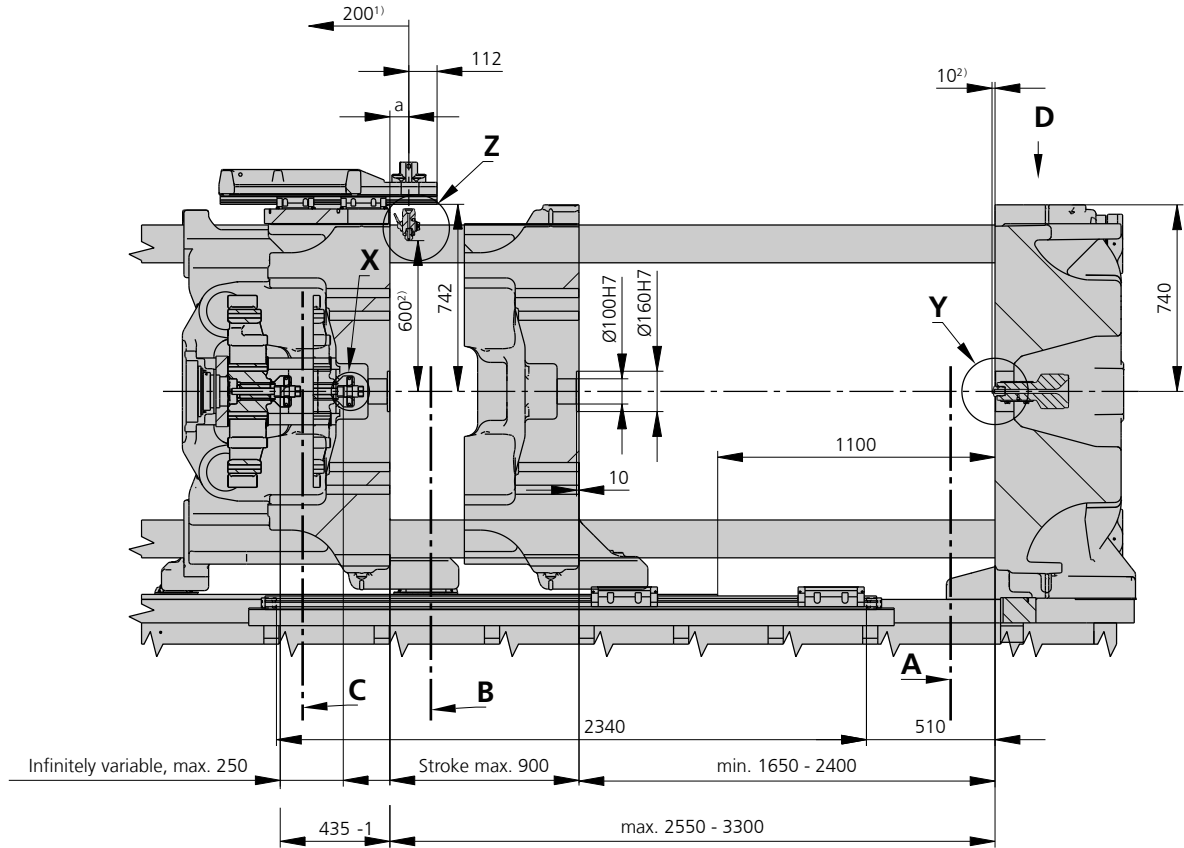
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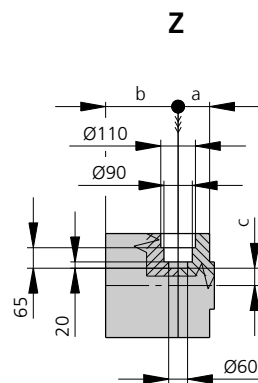
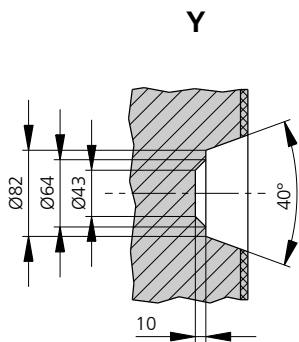
- 1) Size of injection unit = max. stroke volume (cm³) x max. injection pressure (kbar)
 - 2) Specifications depend on the drive variant / drive configuration.
 - 3) Specifications relate to 400 V/50 Hz.
 - 4) Detailed info in the operating instr.
- [] Specifications apply to alternative equipment.

MOULD INSTALLATION DIMENSIONS | CUBE 4600

Mould installation dimensions based on example of the ALLROUNDER CUBE 4600 - 4600/290 machine size



Bore in mould (if required) | Y

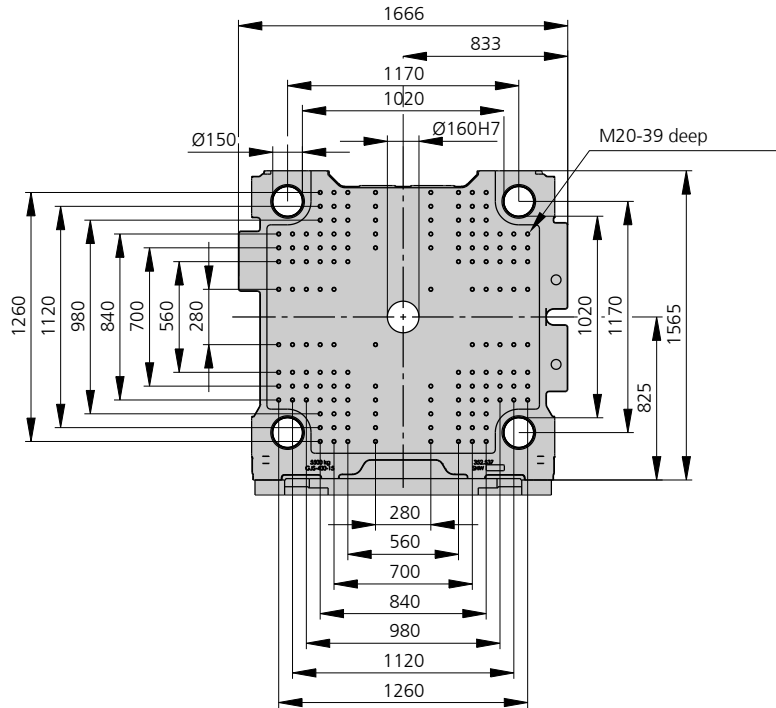


	Injection positions for injection unit
	290
a min.	75
a max.	250
b min.	75
c min.	600

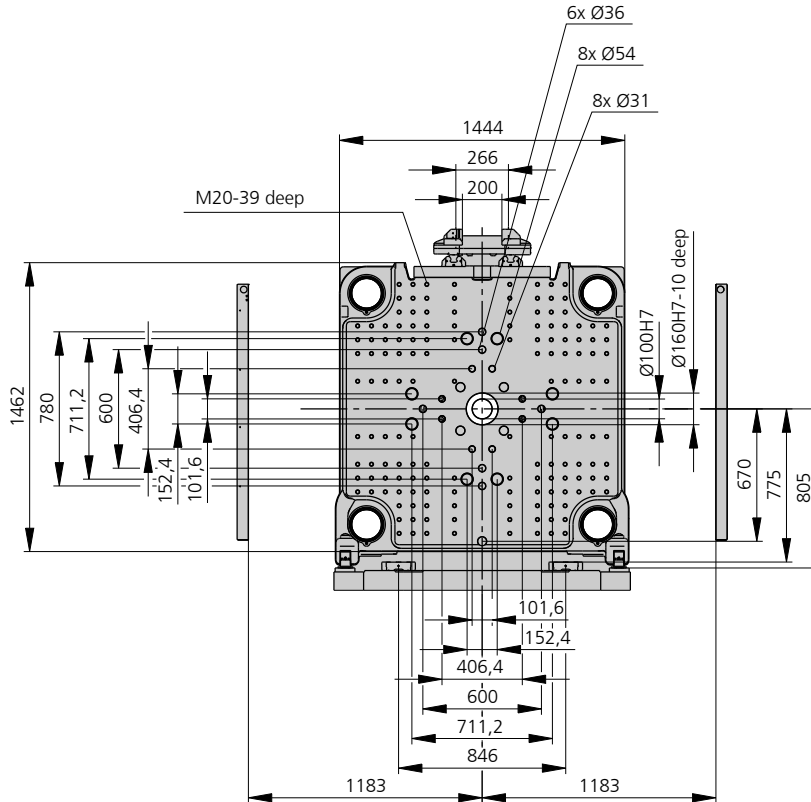
1) Travel from injection position (a min.) to mould changing position
 2) Nozzle in most advanced position

MOULD INSTALLATION DIMENSIONS | CUBE 4600

Fixed mould mounting platen | A



Moving mould mounting platen | B



SHOT WEIGHTS | CUBE 4600

Theoretical shot weights for the most important injection moulding materials

Injection units according to EUROMAP		70			170			290		
Screw diameter	mm	18	22	25	25	30	35	30	35	40
Polystyrene	max. g PS	21	31	40	54	77	105	97	132	172
Styrene heteropolymerizates	max. g SB	20	31	39	53	76	103	95	129	168
	max. g SAN, ABS ¹⁾	20	30	39	52	74	101	93	126	165
Cellulose acetate	max. g CA ¹⁾	24	35	45	61	87	119	109	148	194
Celluloseacetobutyrate	max. g CAB ¹⁾	22	33	42	56	81	110	101	138	180
Polymethyl methacrylate	max. g PMMA	22	32	42	56	80	109	100	136	178
Polyphenylene ether, mod.	max. g PPE	19	29	37	50	72	98	90	122	160
Polycarbonate	max. g PC	22	33	42	57	81	111	102	139	181
Polysulphone	max. g PSU	23	34	44	58	84	115	105	143	187
Polyamides	max. g PA 6.6 PA 6 ¹⁾	21	31	40	53	77	104	96	131	171
	max. g PA 6.10 PA 11 ¹⁾	19	29	37	50	72	98	90	122	160
Polyoximethylene (Polyacetal)	max. g POM	26	39	50	66	96	130	120	163	213
Polyethylene terephthalate	max. g PET	25	37	48	64	92	126	115	157	205
Polyethylene	max. g PE-LD	16	24	30	41	59	80	73	100	130
	max. g PE-HD	16	24	31	42	60	82	76	103	134
Polypropylene	max. g PP	17	25	32	43	62	84	77	105	137
Fluoropolymerides	max. g FEP, PFA, PCTFE ¹⁾	33	50	65	86	124	169	155	211	276
	max. g ETFE	29	44	57	76	109	148	136	185	242
Polyvinyl chloride	max. g PVC-U	25	38	49	65	94	127	117	159	208
	max. g PVC-P ¹⁾	23	35	45	60	87	118	108	147	192

Injection units according to EUROMAP		400			800			1300		
Screw diameter	mm	35	40	45	45	50	55	55	60	70
Polystyrene	max. g PS	141	184	232	291	359	434	521	620	844
Styrene heteropolymerizates	max. g SB	137	179	227	284	350	424	509	606	824
	max. g SAN, ABS ¹⁾	135	176	223	278	344	416	499	594	808
Cellulose acetate	max. g CA ¹⁾	158	207	262	327	404	488	586	698	949
Celluloseacetobutyrate	max. g CAB ¹⁾	147	192	243	304	375	454	545	649	883
Polymethyl methacrylate	max. g PMMA	145	190	240	300	371	449	538	641	872
Polyphenylene ether, mod.	max. g PPE	131	171	216	270	333	403	484	575	783
Polycarbonate	max. g PC	148	193	244	305	377	456	547	651	887
Polysulphone	max. g PSU	153	199	252	316	390	471	566	673	916
Polyamides	max. g PA 6.6 PA 6 ¹⁾	140	183	231	289	357	431	517	616	838
	max. g PA 6.10 PA 11 ¹⁾	131	171	216	270	333	403	473	575	783
Polyoximethylene (Polyacetal)	max. g POM	174	227	287	359	443	536	643	765	1042
Polyethylene terephthalate	max. g PET	167	219	277	346	427	517	620	738	1005
Polyethylene	max. g PE-LD	106	139	176	219	271	328	393	468	637
	max. g PE-HD	110	143	181	227	280	339	406	483	658
Polypropylene	max. g PP	112	146	185	232	286	346	415	494	672
Fluoropolymerides	max. g FEP, PFA, PCTFE ¹⁾	225	294	372	465	574	695	834	992	1350
	max. g ETFE	196	256	324	408	504	609	731	870	1185
Polyvinyl chloride	max. g PVC-U	170	222	281	351	434	525	629	749	1020
	max. g PVC-P ¹⁾	157	205	260	324	401	485	582	692	942

1) average value

SHOT WEIGHTS | CUBE 4600

Theoretical shot weights for the most important injection moulding materials

Injection units according to EUROMAP		2100			3200			4600		
Screw diameter	mm	60	70	80	70	80	90	80	90	100
Polystyrene	max. g PS	723	984	1286	1125	1469	1860	1653	2092	2583
Styrene heteropolymerizates	max. g SB	707	962	1256	1099	1436	1817	1615	2044	2523
	max. g SAN, ABS ¹⁾	693	943	1231	1077	1407	1781	1583	2003	2473
Cellulose acetate	max. g CA ¹⁾	814	1108	1447	1266	1654	2093	1860	2354	2907
Celluloseacetobutyrate	max. g CAB ¹⁾	757	1030	1346	1177	1538	1946	1730	2189	2703
Polymethyl methacrylate	max. g PMMA	747	1017	1329	1163	1518	1922	1708	2162	2669
Polyphenylene ether, mod.	max. g PPE	671	914	1194	1044	1364	1726	1535	1942	2398
Polycarbonate	max. g PC	760	1034	1351	1182	1544	1954	1737	2199	2714
Polysulphone	max. g PSU	785	1069	1396	1222	1596	2019	1795	2272	2805
Polyamides	max. g PA 6.6 PA 6 ¹⁾	719	978	1278	1118	1461	1848	1643	2080	2568
	max. g PA 6.10 PA 11 ¹⁾	671	914	1194	1044	1364	1726	1535	1942	2398
Polyoximethylene (Polyacetal)	max. g POM	893	1215	1588	1389	1814	2296	2041	2583	3189
Polyethylene terephthalate	max. g PET	861	1172	1531	1340	1750	2215	1969	2492	3076
Polyethylene	max. g PE-LD	546	744	971	850	1110	1405	1249	1580	1951
	max. g PE-HD	564	768	1003	877	1146	1450	1289	1632	2015
Polypropylene	max. g PP	576	784	1025	897	1171	1482	1317	1667	2058
Fluoropolymerides	max. g FEP, PFA, PCTFE ¹⁾	1157	1575	2058	1800	2352	2976	2646	3348	4134
	max. g ETFE	1015	1382	1805	1579	2063	2611	2321	2937	3626
Polyvinyl chloride	max. g PVC-U	874	1190	1554	1360	1776	2247	1998	2528	3121
	max. g PVC-P ¹⁾	808	1099	1436	1256	1641	2076	1846	2336	2884

1) average value

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