

Microfabricated polyester conical microwells for cell culture applications – Supplementary Information

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Table 1. Engraving parameters for single and double layer polyester devices and different expected well diameters. The printing parameters are shown in percentage points of the highest values achievable: maximum power is 30W, maximum speed 114 cm/s. The outcoming values represent the actual well diameters in μm . “x” labels conditions that did not yield a clearly marked well.

15 a) single layer polyester film

20 b) double layer polyester film

designed diameter	power %					designed diameter	power %				
	10%	10%	10%	10%	10%		15%	15%	15%	15%	15%
	10%	15%	20%	25%	30%		10%	15%	20%	25%	30%
50	123	68	x	x	x	50	85	x	x	x	x
100	210	160	80	x	x	100	187	82	x	x	x
200	272	214	160	x	x	200	265	197	x	x	x
300	405	340	187	x	x	300	333	316	x	x	x
400	468	398	160	x	x	400	469	384	x	x	x
500	612	558	486	x	x	500	568	496	x	x	x
designed diameter	15%	15%	15%	15%	15%	designed diameter	20%	20%	20%	20%	20%
	10%	15%	20%	25%	30%		10%	15%	20%	25%	30%
50	187	173	133	x	x	50	141	85	x	x	x
100	255	211	170	157	102	100	214	170	105	x	x
200	323	318	248	228	177	200	282	238	194	x	x
300	432	377	357	323	313	300	425	323	294	x	x
400	510	469	445	432	405	400	595	428	371	x	x
500	558	564	561	527	503	500	602	520	238	x	x
designed diameter	20%	20%	20%	20%	20%	designed diameter	25%	25%	25%	25%	25%
	10%	15%	20%	25%	30%		10%	15%	20%	25%	30%
50	224	187	155	129	102	50	177	92	x	x	x
100	282	252	224	187	173	100	255	204	126	58	x
200	357	320	289	333	299	200	311	245	262	214	x
300	469	425	364	381	357	300	443	398	347	309	x
400	537	510	490	459	461	400	527	486	408	241	x
500	626	605	602	578	568	500	646	578	527	269	x
designed diameter	25%	25%	25%	25%	25%	designed diameter	30%	30%	30%	30%	30%
	10%	15%	20%	25%	30%		20%	30%	40%	50%	
50	296	245	187	189	153	50	67	x	x	x	
100	337	279	269	216	189	100	178	x	x	x	
200	343	350	323	305	275	200	234	189	x	x	
300	510	459	449	416	389	300	360	227	x	x	
400	568	496	680	540	470	400	467	218	x	x	
500	680	609	605	643	605	500	585	257	x	x	

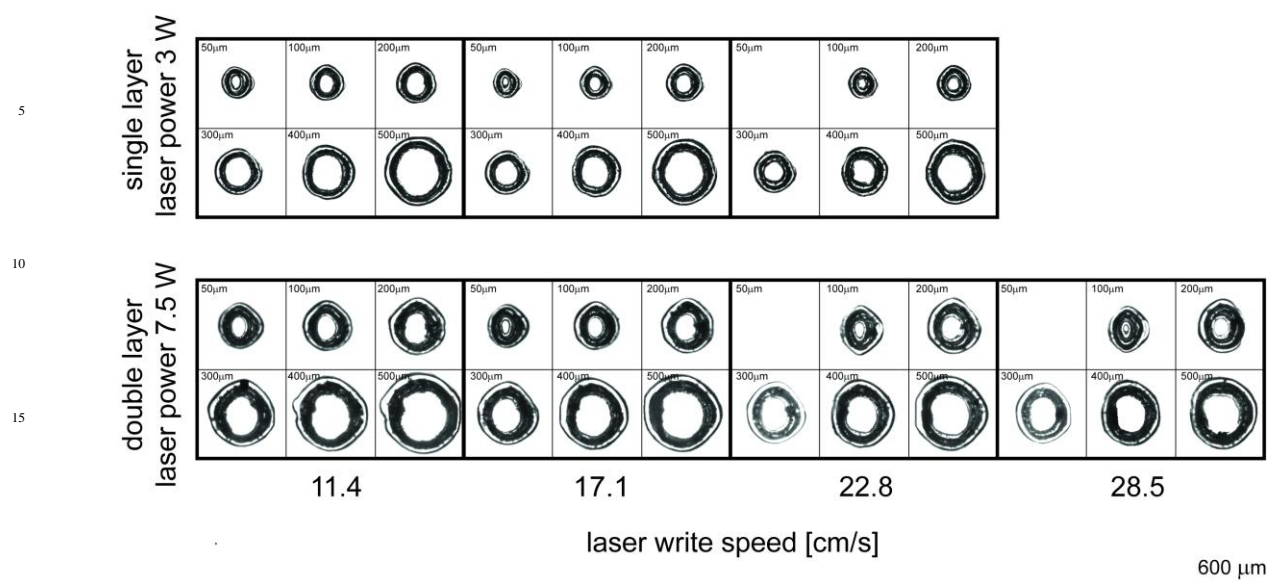


Figure S1. Typical top views of microwells printed at 3W power on a single layer of polyester (top inset) and 7.5 W power on a double-layer stack of polyester film (bottom inset), at increasing laser speeds (from left to right). Six well diameters were considered. The missing pictures represent sets of parameters not able to yield through holes in the polyester device. The scale bar is 600 μm.