

**Material Comparison: PBHet (Heterogeneous) vs PBHomo (Homogeneous)**  
 Verification that both models contain the same amount of fertile material

Fertile	[kg/m³]	PBHet N_in	PBHet N_out	PBHet N_tot	PBHet pf_avg	PBHet Mass [g]	PBHet Mass(equiv) [g]	PBHomo vf_BISO	PBHomo N_equiv	PBHomo Mass [g]	Moles [mol]
U	0.03	2	4	6	0.0000	0.02	0.01	0.000006	3	0.01	0.0001
U	0.30	18	45	63	0.0001	0.16	0.08	0.000064	32	0.08	0.0007
U	0.60	37	89	126	0.0001	0.31	0.16	0.000128	64	0.16	0.0013
U	1.50	92	223	315	0.0003	0.78	0.40	0.000319	160	0.40	0.0033
U	3.00	183	446	629	0.0006	1.56	0.80	0.000638	321	0.80	0.0066
U	7.50	458	1114	1572	0.0016	3.90	1.99	0.001594	802	1.99	0.0164
U	15.00	917	2228	3145	0.0032	7.80	3.98	0.003188	1603	3.98	0.0328
U	30.00	1834	4455	6289	0.0063	15.60	7.96	0.006376	3206	7.96	0.0656
U	45.00	2751	6683	9434	0.0095	23.41	11.93	0.009564	4809	11.93	0.0983
U	60.00	3668	8910	12578	0.0127	31.21	15.91	0.012752	6413	15.91	0.1311
U	75.00	4584	11138	15722	0.0158	39.01	19.89	0.015939	8016	19.89	0.1639
U	90.00	5501	13365	18866	0.0190	46.81	23.87	0.019127	9619	23.87	0.1967
U	105.00	6418	15593	22011	0.0222	54.62	27.85	0.022315	11222	27.85	0.2294
Th	0.03	2	5	7	0.0000	0.02	0.01	0.000007	3	0.01	0.0001
Th	0.30	19	47	66	0.0001	0.16	0.08	0.000067	34	0.08	0.0007
Th	0.60	39	94	133	0.0001	0.31	0.16	0.000133	68	0.16	0.0013
Th	1.50	97	235	332	0.0003	0.78	0.40	0.000333	169	0.40	0.0034
Th	3.00	193	469	662	0.0007	1.56	0.80	0.000667	338	0.80	0.0067
Th	7.50	483	1173	1656	0.0017	3.90	1.99	0.001667	844	1.99	0.0168
Th	15.00	966	2346	3312	0.0033	7.80	3.98	0.003334	1688	3.98	0.0336
Th	30.00	1931	4692	6623	0.0067	15.60	7.96	0.006667	3377	7.96	0.0672
Th	45.00	2897	7038	9935	0.0100	23.41	11.93	0.010001	5065	11.93	0.1009
Th	60.00	3863	9384	13247	0.0133	31.21	15.91	0.013335	6754	15.91	0.1345
Th	75.00	4828	11730	16558	0.0167	39.01	19.89	0.016668	8442	19.89	0.1681
Th	90.00	5794	14076	19870	0.0200	46.81	23.87	0.020002	10131	23.87	0.2017
Th	105.00	6760	16422	23182	0.0233	54.62	27.85	0.023336	11819	27.85	0.2354