

A Fractal Model of Effective Thermal Conductivity of Porous materials Considering Tortuosity

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Table S1. The experimental data and corresponding derived parameters from Jing [28].

Original data						Derived parameters		
ε	λ_I (Wm ⁻¹ K ⁻¹)	λ_2 (Wm ⁻¹ K ⁻¹)	Φ_{max} (μm)	Φ_{min} (μm)	L (m)	τ Eq.(22)	D_f Eq.(21)	D_T Eq.(10)
0.7137	0.53	0.026	3200	134	0.02	1.2185	1.8937	1.0458
0.7145						1.2179	1.8941	1.0457
0.7692			4075	149		1.1710	1.9207	1.0415
0.7697						1.1706	1.9209	1.0374
0.7705						1.1701	1.9212	1.0373
0.8272						1.1346	1.9367	1.0310
0.8275						1.1344	1.9368	1.0310
0.829						1.1335	1.9374	1.0308
0.8292						1.1334	1.9375	1.0308
0.8293						1.1334	1.9376	1.0308
0.8297						1.1331	1.9377	1.0307
0.8312						1.1322	1.9383	1.0305
0.8313						1.1322	1.9284	1.0305
0.8315						1.1321	1.9384	1.0305
0.8316						1.1320	1.9385	1.0305
0.8318						1.1319	1.9386	1.0305
0.8324						1.1315	1.9388	1.0304
0.8339						1.1306	1.9394	1.0302
0.8345						1.1303	1.9396	1.0301

Table S2. The experimental data and corresponding derived parameters from Wang [12],
Shen [29] and Hu [31].

Ref.	Original data						Derived parameters		
	ε	λ_1	λ_2	Φ_{max} (μm)	Φ_{min} (μm)	L (μm)	τ Eq.(22)	D_f	D_T
Wang	0.1336	3.35	0.026	100	0.01	46.5	4.133	1.7815	1.1875
	0.1609	3.35	0.026	100	0.01	46.5	3.5015	1.8016	1.1652
Shen	0.3368	2.27	0.026	19.436	0.490	48.2	1.7043	1.7043	1.1410
Hu*	0.34	3.98	0.133	-	-	-	1.8956	-	-
	0.38	3.98	0.133	-	-	-	1.7492	-	-

* The data used to calculate the fractal parameters were absent, only the series-parallel thermal conductivity defined by Eq. (5) can be obtained.