

Table 4.1 Specific resistances and equilibrium porosities of some filter cakes (from Shirato et al, 1987)

Particle type	α_0 (m kg ⁻¹ kPa ⁻ⁿ)	n	ϵ_0	λ	p_s (kPa)	Investigator
Alumina	2.37x10 ⁸	0.30	0.96	0.010	7-689	Grace
			0.73	0.0047	82-489	Lindquist
Aluminium hydroxide	3.32x10 ¹¹	0.34			173-689	Carman
Asbestos			1.06	0.017	52-689	Tiller
Calcium carbonate			0.895	0.017	1-48	Ruth
			0.755	0.036	70-345	Walas
- in distilled water	8.93x10 ⁹	0.20	1.04	0.033	7-689	Grace
- in Na ₄ P ₂ O ₇ solution	4.69x10 ¹⁰	0.13	0.795	0.013	34-689	Grace
Carbon			0.845	0.021	82-758	Lindquist
Carbonyl iron			0.425	0	14-6895	Grace
Celite			1.05	0.017	82-414	Lindquist
Cement			0.82	0.058	150-340	Shirato
	2.22x10 ¹⁰	0.298			100-880	Shirato
Clay						
- colloidal	7.43x10 ¹¹	0.16			173-689	Carman
- Hara gairome	1.44x10 ¹¹	0.612			100-880	Shirato
- Mitsukuri gairome	7.82x10 ⁹	0.669			100-880	Shirato
Copper oxide			0.505	0.021	82-589	Lindquist
Ferric hydroxide	2.59x10 ¹¹	0.39			173-689	Grace
Ferric oxide			1.12	0.037	70-345	Walas
Hyflo Super-Cel			0.995	0.014	10-689	Tiller
Kaolin			0.88	0.045	10-689	Tiller
- in Al ₂ (SO ₄) ₃ solution	4.76x10 ¹⁰	0.27	0.9	0.049	7-689	Grace
- in Na ₄ P ₂ O ₇ solution			0.79	0.031	7-689	Grace
- Hong Kong pink	6.48x10 ⁹	0.485	1.0	0.047	1-880	Shirato
- Korean			1.03	0.06	50-340	Shirato
- Shinmei			0.98	0.046	6-690	Shirato
Magnesium carbonate			1.1	0.011	70-345	Walas
Magnesium hydroxide	1.35x10 ¹⁰	0.47			173-689	Carman
Talc, in Al ₂ (SO ₄) ₃ solution	7.05x10 ⁸	0.51	1.39	0.054	7-689	Grace
Titanium dioxide						
- in distilled water	1.27x10 ¹⁰	0.32	1.12	0.038	7-689	Grace
- in HCl solution	9.29x10 ¹¹	0.058			7-689	Grace
Zinc sulphide	1.48x10 ⁹	0.92	1.36	0.047	7-689	Grace

α_0 : specific resistance at unit applied pressure or at zero applied pressure.

n : compressibility index or the number of pores or the number of particles in suspension.

ϵ_0 : porosity at unit applied pressure or a zero applied pressure.

λ : pore size distribution index.

p_s : compressive drag pressure acting on the solids in a filter cake.