



DAIKI

THERMAL PROPERTIES OF POLYMERS

Vol.: 6305

ポリマーの熱特性

Vision Driver, Polymer Powered
構想はビジョン、実現はポリマー

*数値は代表的な参考値であり、グレードや試験条件によって異なる場合があります。 / Values are typical reference data and may vary depending on grade and test conditions

PET 70 to 80 °C 1.33 to 1.38 g/cm³ 0.24 to 0.30 W/(m.K) 40 to 60 J/g 350 to 400 °C 2500 to 3000 MPa 50 to 80 x10⁴/K 1.00 to 1.20 J/(g.K)	HD-PE -130 to -100 °C 0.94 to 0.97 g/cm³ 0.33 to 0.53 W/(m.K) 293 J/g 480 to 498 °C 600 to 1400 MPa 200 to 250 x10⁴/K 1.8 to 2.7 J/(g.K)	PVC-U (hard) 80 to 90 °C 1.38 to 1.55 g/cm³ 0.126 to 0.293 W/(m.K) J/g 285 to 315 to 460 to 475 °C 2700 to 3000 MPa 60 to 80 x10⁴/K 0.84 to 1.17 J/(g.K)	LD-PE -130 to -100 / -30 to -10 °C 0.91 to 0.93 g/cm³ 0.3 to 0.34 W/(m.K) N/A 470 to 490 °C 200 to 400 MPa 1.8 to 2.3 x10⁴/K 1.8 to 2.3 J/(g.K)	PP (Isotactic) -20 to 20 °C 0.90 to 0.91 g/cm³ 0.17 to 0.25 W/(m.K) 207 to 209 J/g 450 to 470 °C 1300 to 1800 MPa 130 to 180 x10⁴/K 1.8 to 1.8 J/(g.K)	PS 80 to 105 °C 1.05 g/cm³ 0.14 to 0.18 W/(m.K) J/g 415 to 425 °C 3100 to 3300 MPa 50 to 70 x10⁴/K 1.3 to 1.3 J/(g.K)	EPS 95 to 105 °C 0.01 to 0.04 g/cm³ 0.033 to 0.040 W/(m.K) 240 J/g 40 to 100 °C 2 to 350 MPa 50 to 140 x10⁴/K 1.20 to 1.40 J/(g.K)	PB -30 to -20 °C 0.90 to 0.92 g/cm³ 0.17 to 0.22 W/(m.K) 128 J/g 450 to 460 °C 250/600 to 700 MPa 110 to 140 x10⁴/K 1.8 to 2.0 J/(g.K)	PLA 45 to 65 °C 1.21 to 1.43 g/cm³ N/A 150 to 160 °C 93 to 140 J/g 350 to 375 °C 350 to 2800 MPa N/A to x10⁴/K N/A to J/(g.K)	PVA 70 to 85 °C 1.26 to 1.31 g/cm³ 0.20 to 0.30 W/(m.K) 40 to 80 J/g 200 to 230 °C 2000 to 4000 MPa 70 to 100 x10⁴/K 1.5 to 1.7 J/(g.K)	UHMW-PE -130 to -100 °C 0.93 to 0.94 g/cm³ 0.41 to 0.51 W/(m.K) N/A 480 to 490 °C 570 to 790 MPa 200 x10⁴/K 1.84 J/(g.K)	PVC-P (soft) -50 to 80 °C 1.16 to 1.35 g/cm³ 0.13 to 0.20 W/(m.K) J/g 290 to 315 to 460 to 475 °C 25 to 1600 MPa 60 to 120 x10⁴/K 0.8 to 0.9 J/(g.K)	LLD-PE -130 to -100 / -70 to -25 °C 0.91 to 0.94 g/cm³ N/A N/A 475 to 485 °C 250 to 700 MPa 200 x10⁴/K N/A to J/(g.K)	EVA -40 to +20 °C 0.92 to 0.95 g/cm³ 0.35 W/(m.K) 10 to 100 J/g 345 to 360 to 470 to 480 °C 7 to 120 MPa 160 to 200 x10⁴/K 2.3 to 2.3 J/(g.K)	PVDC -18 to +15 °C 1.63 g/cm³ 0.13 W/(m.K) J/g 245 to 255 °C 300 to 550 MPa 190 x10⁴/K N/A to 1.7 J/(g.K)	PVB 15 to 30 °C 1.07 to 1.09 g/cm³ 0.15 to 0.20 W/(m.K) N/A 200 to 250 °C 20 to 100 MPa 80 to 120 x10⁴/K 1.5 to 1.7 J/(g.K)	PA-PE (50:50) -120 (PE) / +40 to +60 (PA) °C 1.00 to 1.10 g/cm³ 0.25 to 0.35 W/(m.K) N/A 350 to 450 °C 1000 to 2500 MPa 70 to 120 x10⁴/K 1.3 to 1.6 J/(g.K)	ASA -50 to -40 to 95 to 105 °C 1.04 to 1.07 g/cm³ 0.22 W/(m.K) J/g 415 to 425 °C 2300 to 2900 MPa 85 to 105 x10⁴/K N/A to 1.68 J/(g.K)	ABS -85/95 to 105/125 °C 1.03 to 1.07 g/cm³ 0.15 to 0.17 W/(m.K) N/A 420 to 435 °C 2000 to 3000 MPa 80 to 100 x10⁴/K 1.26 to 1.68 J/(g.K)	PC-ABS 100 to 145 °C 1.10 to 1.15 g/cm³ 0.18 to 0.22 W/(m.K) N/A 380 to 450 °C 2000 to 2600 MPa 70 to 90 x10⁴/K 1.20 to 1.40 J/(g.K)	SBC 90 to 100 °C 0.90 to 1.05 g/cm³ 0.15 to 0.2 W/(m.K) N/A 400 to 500 °C 5 to 2300 MPa 150 to 60 x10⁴/K 1.6 to 2.0 J/(g.K)	PA6 45 to 80 °C 1.12 to 1.15 g/cm³ 0.22 to 0.33 W/(m.K) 190 J/g 445 to 460 °C 2800 to 90 MPa 80 to 90 x10⁴/K 1.59 to 1.70 J/(g.K)	PA66 65 to 95 °C 1.13 to 1.16 g/cm³ 0.24 to 0.33 W/(m.K) 195 J/g 430 to 473 °C 3000 to 45 MPa 35 to 45 x10⁴/K 1.67 to 1.70 J/(g.K)	PBT 40 to 60 °C 1.30 to 1.32 g/cm³ 0.25 to 0.29 W/(m.K) 145 J/g 400 to 420 °C 2500 to 2800 MPa 80 to 100 x10⁴/K 1.3 to 1.3 J/(g.K)	PPE (PPO) 210 to 220 °C 1.06 to 1.10 g/cm³ 0.22 to 0.30 W/(m.K) N/A 450 to 600 °C 2300 to 3500 MPa 50 to 60 x10⁴/K 1.20 to 1.4 J/(g.K)	PC 140 to 150 °C 1.20 to 1.24 g/cm³ 0.19 to 0.21 W/(m.K) N/A 480 to 535 °C 2200 to 2400 MPa 75 to 80 x10⁴/K 1.17 to 1.50 J/(g.K)	PMMA 115 (styrene) / 105 (atactic) / 45 (isotactic) °C 1.15 to 1.19 g/cm³ 0.16 to 0.25 W/(m.K) N/A 360 to 390 °C 3100 to 3300 MPa 90 to 110 x10⁴/K 1.45 to 1.47 J/(g.K)	COP 80 to 180 °C 1.00 to 1.02 g/cm³ 0.16 to 0.20 W/(m.K) N/A 420 to 450 °C 2200 to 2800 MPa 60 to 80 x10⁴/K 1.10 to 1.30 J/(g.K)	POM (copo) Ex.: M450 -75 to -60 °C 1.39 to 1.43 g/cm³ 0.23 to 0.31 W/(m.K) 181 to 220 J/g 385 to 400 °C 2600 to 3200 MPa 110 to 150 x10⁴/K 1.48 to 1.50 J/(g.K)	POM (homo) Ex.: M90 -85 to -75 °C 1.39 to 1.43 g/cm³ 0.30 to 0.37 W/(m.K) 316 to 335 J/g 365 to 390 °C 2600 to 3200 MPa 160 to 180 x10⁴/K 1.48 to 1.50 J/(g.K)	PES 220 to 230 °C 1.36 to 1.38 g/cm³ 0.22 to 0.26 W/(m.K) N/A 450 to 500 °C 2300 to 2700 MPa 50 to 60 x10⁴/K 1.20 to 1.3 J/(g.K)	PA46 70 to 94 °C 1.13 to 1.21 g/cm³ 0.3 W/(m.K) N/A 440 to 450 °C 3300 to 70 MPa 80 to 90 x10⁴/K 2.1 to 2.1 J/(g.K)	PA6/3T 145 to 153 °C 1.12 g/cm³ 0.23 W/(m.K) N/A 460 to 470 °C 2000 to 80 MPa 80 x10⁴/K 1.6 to 1.6 J/(g.K)	PA6/6T 60 to 100 °C 1.18 g/cm³ N/A N/A 460 to 480 °C 3500 to 3600 MPa 70 x10⁴/K N/A to 1.4 J/(g.K)	PA9T 120 to 130 °C 1.18 to 1.22 g/cm³ 0.25 to 0.30 W/(m.K) 40 to 60 J/g 400 to 450 °C 2500 to 3500 MPa 30 to 60 x10⁴/K 1.2 to 1.4 J/(g.K)	PPS 85 to 100 °C 1.34 to 1.36 g/cm³ N/A 275 to 290 °C 80 to 510 °C 3700 to 50 MPa 50 x10⁴/K N/A to 1.37 J/(g.K)	PEI 215 to 230 °C 1.27 g/cm³ 0.22 W/(m.K) N/A 540 to 550 °C 2900 to 3000 MPa 50 x10⁴/K N/A to 1.37 J/(g.K)	PESU 225 to 230 °C 1.37 g/cm³ 0.18 W/(m.K) N/A 580 to 595 °C 2600 to 2800 MPa 60 x10⁴/K 1.37 to 1.37 J/(g.K)	PSF 185 to 190 °C 1.24 to 1.25 g/cm³ 0.15 W/(m.K) N/A 530 to 540 °C 2500 to 2700 MPa 50 x10⁴/K 1.37 to 1.37 J/(g.K)	PEEK 145 to 155 °C 1.32 (semi-cr) to 1.27 (am) g/cm³ 0.25 W/(m.K) 130 to 335 J/g 600 to 620 °C 3700 to 50 MPa 50 x10⁴/K 1.37 to 1.37 J/(g.K)	PTFE 120 to 130 °C 2.13 to 2.23 g/cm³ 0.23 to 0.25 W/(m.K) 82 J/g 575 to 590 °C 400 to 750 MPa 100 to 150 x10⁴/K 1.0 to 1.0 J/(g.K)	PVDF -40 to 170 °C 1.75 to 1.78 g/cm³ 0.19 W/(m.K) 105 J/g 440 to 480 °C 2000 to 2900 MPa 110 to 130 x10⁴/K 0.96 to 1.40 J/(g.K)	FEP N/A 2.12 to 2.17 g/cm³ 0.25 W/(m.K) N/A 510 to 600 °C 350 to 80 MPa 80 x10⁴/K 1.12 to 1.12 J/(g.K)	ETFE 75 to 100 °C 1.7 g/cm³ 0.23 W/(m.K) 46 to 50 J/g 500 to 530 °C 1100 to 40 MPa 40 x10⁴/K 0.9 to 0.9 J/(g.K)	PVF 20 to 40 °C 1.37 to 1.39 g/cm³ N/A 190 to 200 °C 164 J/g 430 to 450 °C 2100 to 2600 MPa 50 to 97 x10⁴/K 1.0 to 1.8 J/(g.K)	PFA N/A 2.14 to 2.16 g/cm³ N/A N/A >500 °C 800 to 120 MPa 120 x10⁴/K N/A to 1.2 J/(g.K)	PCTFE 45 to 55 °C 2.10 to 2.18 g/cm³ 0.18 to 0.21 W/(m.K) 15 to 30 J/g 300 to 350 °C 1500 to 2500 MPa 60 to 80 x10⁴/K 0.9 to 1.1 J/(g.K)	ECTFE -50 to 165 °C 1.65 to 1.70 g/cm³ 0.19 to 0.25 W/(m.K) 25 to 35 J/g 350 to 380 °C 1300 to 1700 MPa 60 to 80 x10⁴/K 0.90 to 1.10 J/(g.K)	(HAB/HNA)-LCP 90 to 120 °C 1.38 to 1.82 g/cm³ N/A 208 to 295 °C 3 to 4 J/g 510 to 530 °C 7000 to 20000 MPa 0 to 25 (para) / 25 to 50 (meta) x10⁴/K N/A to 1.3 J/(g.K)	PI 300 to 400 °C 1.43 to 1.45 g/cm³ 0.12 to 0.35 W/(m.K) N/A 500 to 600 °C 2500 to 4000 MPa 20 to 50 x10⁴/K 1.0 to 1.2 J/(g.K)	TPO,TPV (Polyolefine based TPE) -60 to -50 °C 0.87 to 1.20 g/cm³ N/A N/A 460 to 480 °C 90 to 1400 MPa 15 to 130 x10⁴/K N/A to 1.30 J/(g.K)	TPU -50 to -30 / 0 to 60 °C 1.10 to 1.25 g/cm³ 0.19 W/(m.K) 3 to 15 J/g 390 to 415 °C 20 to 400 MPa 130 to 180 x10⁴/K 1.85 to 2.00 J/(g.K)	CM -25 to -5 °C 1.08 to 1.27 g/cm³ 0.11 to 0.13 W/(m.K) N/A 320 to 340 to 465 to 480 °C 2 to 15 MPa 175 to 200 x10⁴/K N/A to 2.10 J/(g.K)	CR -45 to -30 °C 1.25 g/cm³ 0.18 to 0.20 W/(m.K) 1 to 10 J/g 365 to 380 to 445 to 460 °C N/A to 5000 MPa 185 to 250 x10⁴/K N/A to 1.2 J/(g.K)	EPDM -55 to -30 °C 0.86 g/cm³ 0.26 W/(m.K) 5 to 20 J/g 470 to 487 °C 2 to 10 MPa 180 to 200 x10⁴/K 1.80 to 2.00 J/(g.K)	BR -100 to -95 / (1.4 cr) / -107 to -83 / (1.4 trans) / -35 to -12 / (1.4-cis) / 1.4-trans / 1.2-vinyl °C 0.9 to 1.0 g/cm³ 0.25 W/(m.K) 46/170 (1.4 cr) / 70 to 140 (1.4 trans) °C 70 to 385 to 460 to 475 °C N/A to 5000 MPa N/A to 180 x10⁴/K N/A to 1.96 J/(g.K)	NBR -44 to 5 °C 1.0 g/cm³ N/A N/A 450 to 475 °C 2 to 5 MPa 150 to 180 x10⁴/K 1.93 to 1.96 J/(g.K)	NR 天然ゴム -70 °C 0.91 to 0.94 g/cm³ 0.23 to 0.31 W/(m.K) 181 to 220 J/g 385 to 400 °C 1 to 10 MPa 110 to 150 x10⁴/K 1.48 to 1.50 J/(g.K)	Q シリコンゴム -135 to -120 °C 1.25 g/cm³ 0.22 W/(m.K) 35 J/g 530 to 600 °C 1 to 10 MPa 190 to 255 x10⁴/K 1.3 to 1.5 J/(g.K)	SBR -55 to -35 °C 0.94 g/cm³ 0.25 W/(m.K) 170(cis) J/g 435 to 470 °C 2 to 10 MPa 180 to 200 x10⁴/K 1.88 to 2.00 J/(g.K)	EP -50 to 200 °C 1.15 g/cm³ 0.17 to 0.52 W/(m.K) N/A 380 to 450 °C 3000 to 5000 MPa 60 to 210 x10⁴/K 1.67 to 2.10 J/(g.K)	MF 70 to 130 °C 1.48 to 1.50 g/cm³ 0.35 to 0.40 W/(m.K) N/A 340 to 400 °C 5000 to 10000 MPa 40 to 60 x10⁴/K 1.2 to 1.3 J/(g.K)	PF 70 to 250 °C 1.40 to 1.80 g/cm³ 0.35 to 0.70 W/(m.K) N/A 450 to 555 °C 3000 to 4000 MPa 15 to 50 x10⁴/K 1.0 to 1.3 J/(g.K)	PUR 10 to 180 °C 1.10 to 1.70 g/cm³ <0.19 W/(m.K) N/A 240 to 350 °C N/A to 5000 MPa 130 to 200 x10⁴/K 1.70 to 2.10 J/(g.K)	UF 60 to 110 °C 1.5 g/cm³ 0.35 to 0.40 W/(m.K) N/A 260 to 355 °C 7000 to 10500 MPa 40 to 60 x10⁴/K 1.2 to 1.3 J/(g.K)	UP 60 to 170 °C 1.17 to 1.26 g/cm³ 0.3 to 0.7 W/(m.K) N/A 340 to 350 to 470 to 490 °C 3000 to 4800 MPa 20 to 40 x10⁴/K 1.26 to 2.30 J/(g.K)
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Glass Trans'n Temp ガラス転移温度 405C, STA, TMA, DMA	Polymer type 樹脂名				Density 密度 1)
Melting Temp. 融点 405C, STA	Decom'n Temp. 分解温度 4)TGA, STA 1)	Young's Modulus 弾性率 4)DMA 1)	Coefficient of Linear Thermal Expansion 線膨張係数 4)DIL, TMA 1)	Thermal Conductivity 熱伝導率 4)LFA, HF, GHP 1)	

- At room temperature /室温において
 - DTG peak temperature, determined at a heating rate of 10 K/min under nitrogen atmosphere
窒素雰囲気中、昇温速度10 K/minの条件下で求めたDTGピーク温度
 - Under dry conditions
乾燥条件下で
 - Thermoanalytical technique /熱分析手法
 - For cured samples, depending on the degree of curing
硬化試料では、硬化度に応じて変化する
- N/A: Not available

- Commodity thermoplastics
汎用熱可塑性樹脂
- Engineering Thermoplastics
エンジニアリング熱可塑性樹脂
- High-Temperature Resistant Thermoplastics
耐熱性熱可塑性樹脂
- Thermoplastic Elastomers
熱可塑性エラストマー
- Elastomers
エラストマー
- Thermosets
熱硬化性樹脂

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