

各向同性沥青系碳纤维 DONACARBO™

Isotropic pitch-based CARBON FIBER DONACARBO™

- DONACARBO 是世界上首次以煤沥青为原料生产的各向同性沥青系碳纤维。

DONACARBO is the pitch-based carbon fiber developed by Osaka Gas first in the world from the coal tar pitch.

- 用于添加在树脂·橡胶之中、具有优良的滑动性、可以提高机械性能、保持化学性能的稳定、同时拥有良好的导电性等功能。

Our carbon fiber can provide a better sliding performance, improved mechanical properties, chemicals resistant, and controllable conductivity by adding to resins or rubbers.

树脂混合物添加 DONACARBO的意义

Expectations of adding DONACARBO
in resin compounds

- 优良的滑动特性
Excellent sliding performance
- 低摩擦系数·低磨损 ⇒ 延长使用寿命
Low coefficient of friction & low wear ⇒ long life
- 实现防静电效果
Realize antistatic behavior
- 提高机械强度
Improvement of mechanical strength
- 提高抗蠕变性
Improvement of deformation due to creep
- 改善尺寸的稳定性
Better dimension stability
- 改善热稳定性
Better thermal stability
- 改善耐化学药品腐蚀性
Better durability against chemicals
- 对皮肤无刺激性、可直接用手触摸
Soft to the skin, easy to handle



碳纤维粉
Milled fiber



短切碳纤维
Chopped fiber

用途 / Applications

- 密封件(油封、O型圈)、防静电材料(IC托盘)、无石棉垫片
Sliding materials (Oil seal, O-ring), Antistatic materials (IC tray), Non-asbestos gasket

基材 Base-material

树脂 Resin	PPS, PEEK, PP, PC, PEI, Phenolic, PTFE, PVDF, ETFE, etc.
橡胶 Rubber	FKM, ACM, NBR, etc.

- 自动挡汽车纸基离合器摩擦片 Paper clutch for automatic vehicles
- 防静电地坪漆 Conductive floor paint

基本物性 / Typical fiber properties

纤维等级 Fiber grade		碳质 S-级 S-grade	轻度石墨质 SC-级 SC-grade	石墨质 SG-级 SG-grade
平均纤维径 Average diameter [μm]		13 / 18	13	13
弹性系数 Tensile elasticity [GPa]		40 / 35	(40)	(40)
拉伸强度 Tensile strength [MPa]		> 588	—	—
伸缩率 Tensile elongation [%]		2.0 / 1.8	(2.0)	(2.0)
成分 Element analysis [mass%]	C	97.1	99.1	99.6
	H	0.3	0.1	0.2
	N	0.5	0.3	0.1
密度 Apparent density [g/cm^3] (液体置换法 n-丁醇 n-butanol method)		1.6	1.6	1.6
电阻率 Volume resistivity [$\Omega \cdot \text{cm}$]		10×10^{-3}	4×10^{-3}	3×10^{-3}

代理商：松金国际贸易南通有限公司

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规格 / Specifications

	型号 Product code	纤维等级 Fiber grade	平均纤维径 (μm) Average diameter	平均纤维长* (mm) Average length*	长径比 Aspect ratio
短切碳纤维 Chopped fiber	S-231		13	3.3	250
	S-232		13	5.5	420
	S-331		18	3.3	180
	S-332		18	5.5	310
碳纤维粉 Milled fiber	S-2404N	碳质 S-级 S-grade	13	0.04	3
	S-249K		13	0.12	9
	S-241		13	0.14	11
	S-2415		13	0.22	17
	S-242		13	0.36	28
	S-243		13	0.50	38
	S-244		13	0.68	52
	S-246		13	1.00	77
	S-247		13	1.55	119
	S-343		18	0.70	39
	S-344		18	0.96	53
	SC-2415	轻度石墨质 SC-级 SC-grade	13	0.22	17
	SC-243		13	0.50	38
	SC-244		13	0.68	52
	SG-2404N	石墨质 SG-级 SG-grade	13	0.04	3
	SG-249		13	0.12	9
	SG-241		13	0.14	11

*S-2404N 以及SG-2404N 算术平均值,其他: 根据长度加重平均。平均纤维长以及长径比不是保证值。

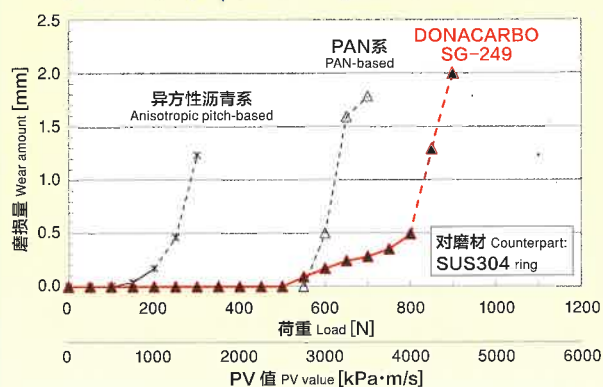
Average length of S-2404N and SG-2404N is obtained by using an arithmetic mean, and that of others is by a weighted arithmetic mean by weighting the fiber length.

The values are not guaranteed.

碳纤维树脂复合材料试验 / Sliding performance of carbon fiber-filled resin

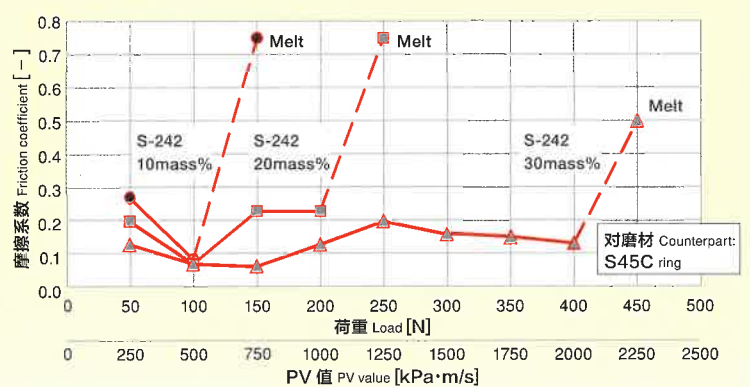
① PTFE/碳纤维复合材料 Carbon fiber-filled PTFE

PTFE : 90vol%, Carbon fiber : 10vol%



② PPS/碳纤维复合材料 Carbon fiber-filled PPS

碳纤维 Carbon fiber : DONACARBO S-242



碳纤维规格 Specifications of carbon fiber			复合材料拉伸试验 Tensile test of carbon fiber-filled resin		
型号 (种类) code (type)	平均纤维径 fiber diameter [μm]	平均纤维长 Average fiber length [mm]	断裂应变 Fracture strain [%]	拉伸强度 Strength [MPa]	屈服应力 Yield stress [MPa]
DONACARBO SG-249	13	0.12	300	16.4	13.2
PAN系 PAN-based	7	0.13	23.9	19.0	19.0
各向异性沥青系 Anisotropic pitch-based	11	0.20	231	14.3	14.0

DONACARBO S-242 添加量 Amount of S-242 [mass%]	冲击强度 Izod impact [kJ/m ²]	弯曲试验 Flexural test		拉伸试验 Tensile test			体积电阻率 Volume resistivity (Ω·cm)
		最大挠度 MAX deflection [mm]	弯曲强度 Strength [MPa]	断裂拉伸 Elongation [%]	拉伸强度 Strength [MPa]	弹性模量 Elastic modulus [GPa]	
10	1.0	2.47	116	2.23	60.8	5.23	10 ¹³
20	1.7	2.37	153	2.70	92.2	8.23	10 ¹⁰
30	2.2	2.56	196	3.68	131	10.1	10 ⁷

PV 值的极限试验 PV limit test : JIS K7218 A

- 试验样块尺寸 Size of the specimen : 30 x 30 x 3t (mm)
- 试验仪器 Testing apparatus : A&D Company, MODEL EMF-III-F
- 试验环境 Ambient : 23℃ ± 2℃ 50%RH ± 5%RH (速度 velocity : 1m/s, 时间 time : 10min)

*表中数据并不是保证值。Values in the tables not guaranteed for the products.

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