

DONACARBO

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[Original fiber]

Original fiber is the blanket-shaped product that piled up DONACARBO original fiber and is used for raw materials for processing of various products.

DONACARBO is a curled fiber, in which the fibers intertwine in the composites. As a result, DONACARBO has a lower volume resistivity in the composites than do other straight fibers.



■ Typical fiber properties DONACARBO

Fiber grade/ product code		SL-grade	S-grade	S-grade	SC-grade	SG-grade
		*	S-210	S-310	*	*
Diameter (μm)		13	13	18	13	13
Elongation (%)		2.2	2.0	1.8		1.9
Element (mass%)	C	93.2	97.1	97.1	99.1	99.6
	H	2.4	0.3	0.3	0.2	0.2
	N	0.9	0.5	0.5	0.3	0.1
Density (g/cm^3)		1.6	1.6	1.6	1.6	1.6
Volume resistivity ($\Omega \cdot \text{cm}$)		1×10^2	9×10^{-3}	9×10^{-3}	4×10^{-3}	3×10^{-3}
Oxidation starting point ($^{\circ}\text{C}$)**			520	520		750
Maximum moisture absorption (mass%)		6	9	9	Nil	Nil

*: There's not a product code.

** : Measured by TG-DTA

• Tensile strength : > 588MPa (S-210, S-310)

■ Chemical stability

Chemicals	Time	Concentration	Temperature	Stability	
				S-grade	SG-grade
	H r	%	$^{\circ}\text{C}$		
HCl	150	35	60	○	○
	96	36	70	○	
	312	36	70	○	
HNO ₃	150	30	RT	△	○
	48	61	70	△	
	120	61	70	X	
	150	61	60	X	○
CrO ₃	150	35	RT	○	○
	150	50	RT	○	○
NaOH	150	50	40	○	○
HF	2	6	RT	○	

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[DONACARBO CHOP (Chopped fiber)]

Cutting the original fiber makes **DONACARBO CHOP**. The surface is not treated by any physically and chemically. To meet wide variety of applications, many products are available in fiber length over 3 mm. DONACARBO CHOP can be useful for composites with various matrices having various kinetic, electroconductive, thermal and abrasive properties and so on.

Due to DONACARBO interwinding properties, adding smaller amount of DONACARBO CHOP (compared with straight carbon fibers) can decrease electro-resistance of composites.

■ Specifications

Product code	Fiber grade	Diameter (μ m)	Average length (mm)	Aspect ratio
S-231	S	13	3.3	250
S-232	S	13	5.5	420
S-234	S	13	10.0	770
S-331	S	18	3.3	180
S-332	S	18	5.5	310

* The value is not guaranteed.

■ Applications

- Electroconducting: Conducting plastics, cement
- Cement and asphalt reinforcement
- Asbestos replacement and insulation, fiber reinforced fire protection, fire retardant additive, thermal-heat dissipation, brakes
- Carbon fiber/carbon composites
- Friction materials



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[DONACARBO MILLED (Milled fiber)]

Milling the origin fiber makes **DONACARBO MILLED**. The length is less than 2 mm. It is completely dispersed to various materials, such as powder, pellet, liquid and viscous resins, and show good electroconductivity, chemical resistance and anti-corrosion. To meet a wide variety of applications, many products are available in fiber length.

■ Specifications

Product code	Fiber grade	Diameter (μm)	Average length (mm)	Aspect ratio
S-249K	S	13	0.11	8
S-241	S	13	0.13	10
S-242	S	13	0.37	28
S-243	S	13	0.50	38
S-244	S	13	0.70	54
S-246	S	13	1.0	92
S-247	S	13	1.5	131
S-341	S	18	0.18	10
S-342	S	18	0.50	28
S-343T	S	18	0.70	39
S-344T	S	18	0.96	53
SG-244A	SC	13	0.70	54
SG-249	SG	13	0.11	8
SG-241	SG	13	0.13	10

* The value is not guaranteed.

■ Applications

- Electroconducting: Electrostatic dissipation of plastics and rubber
- Reinforcement of plastics, rubber and fluoropolymers
- Conductive paints
- Friction materials
- Carbon fiber/carbon composites

