

Carboplus/Carboplus Repro is a range of nonwovens made from virgin/recycled carbon fibers, that generate cost and environmental benefits.
Carboplus/Carboplus Repro nonwovens are uniform and high-quality, since our unique papermaking techniques give them good fiber dispersion.

Product features

- Using our special papermaking techniques, we've achieved producing homogeneous nonwovens with uniformly dispersed fibers.
- We make use of recycled carbon fibers extracted from composite materials that have been conventionally disposed.
- Utilization of recycled carbon fibers is expected to reduce consumption of fossil resources and energy usage.
- Carboplus/Carboplus Repro can be used for fiber reinforcements of carbon fiber reinforced plastics(CFRP).

Specifications

Brand name	Carbon Classification	Product Type	Basis Weight (g/m ²)	Thickness (μm)	Carbon Fiber Content(wt%)
Carboplus	Virgin	CFP	30~100	450~1500	50~90
Carboplus Repro	Recycled	rCFP			

Appearances

★Recycled carbon fibers★



★Carboplus★

(Enlarged Image)

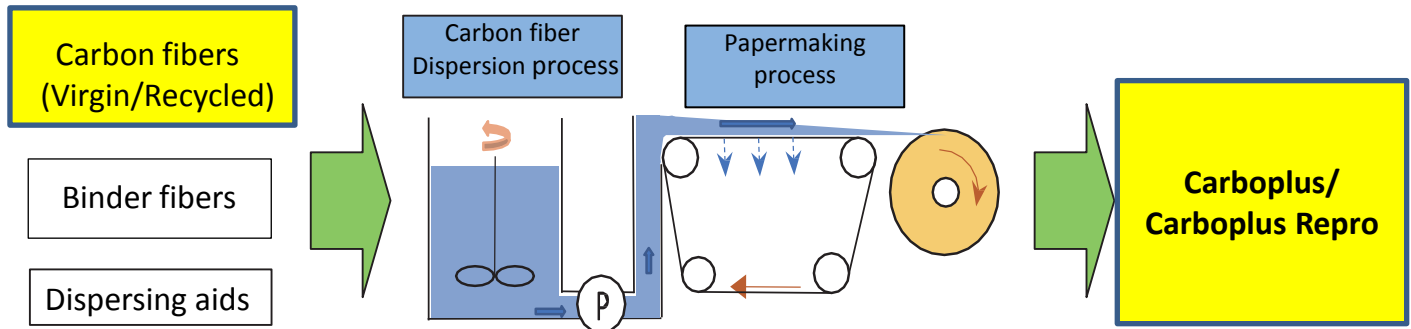


★Carboplus★

(Roll Product)



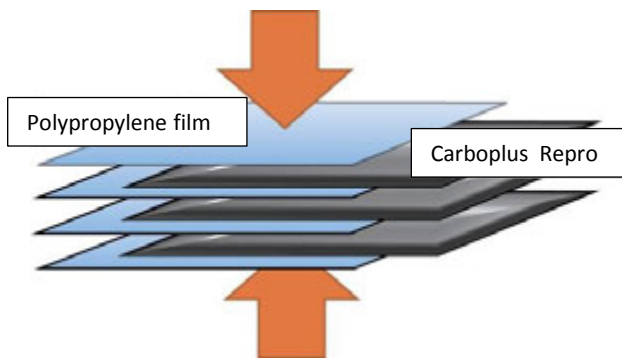
Production process



Applications

- Conductive sheets, Electromagnetic shielding materials
- Flexible heating sheet, Heat-resisting materials
- Carrier of function materials, Plating base
- Fiber reinforcements for CFRP

For CFRTPs



Measured items	Data	Measured items	Data
Density(g/cm ³)	1.15	Tensile strength(MPa)	205
Flexural strength(MPa)	233	Tensile Modulus(GPa)	17.5
Flexural modulus(GPa)	14.3		

The values shown above are typical values, not guaranteed values.

- Carboplus Repro can be composited with various types of thermoplastic films in the process of press-forming.
- Compared to the materials produced by injection molding, Carboplus Repro CFRTPs are strong, stiff molded materials.
- Carboplus Repro CFRTPs can be compounded with other types of reinforcements.

Contact

Mitsubishi Paper Mills Limited

Speciality Materials Division Marketing & Incubation Group
 TEL +81-(0)-3-5600-1471 FAX +81-(0)-3-5600-1419
 URL: <http://www.mpm.co.jp/>
 E-mail: kinouzai@mpm.co.jp

Cellulomix™

Cellulomix™ is the environmentally friendly molding compound material made from thermoplastic resin and cellulose fiber that provides high strength and weight reduction to composite materials.

Thanks to micro-sized cellulose fiber and special production technology, we achieved cost reduction and higher productivity.

Product Features

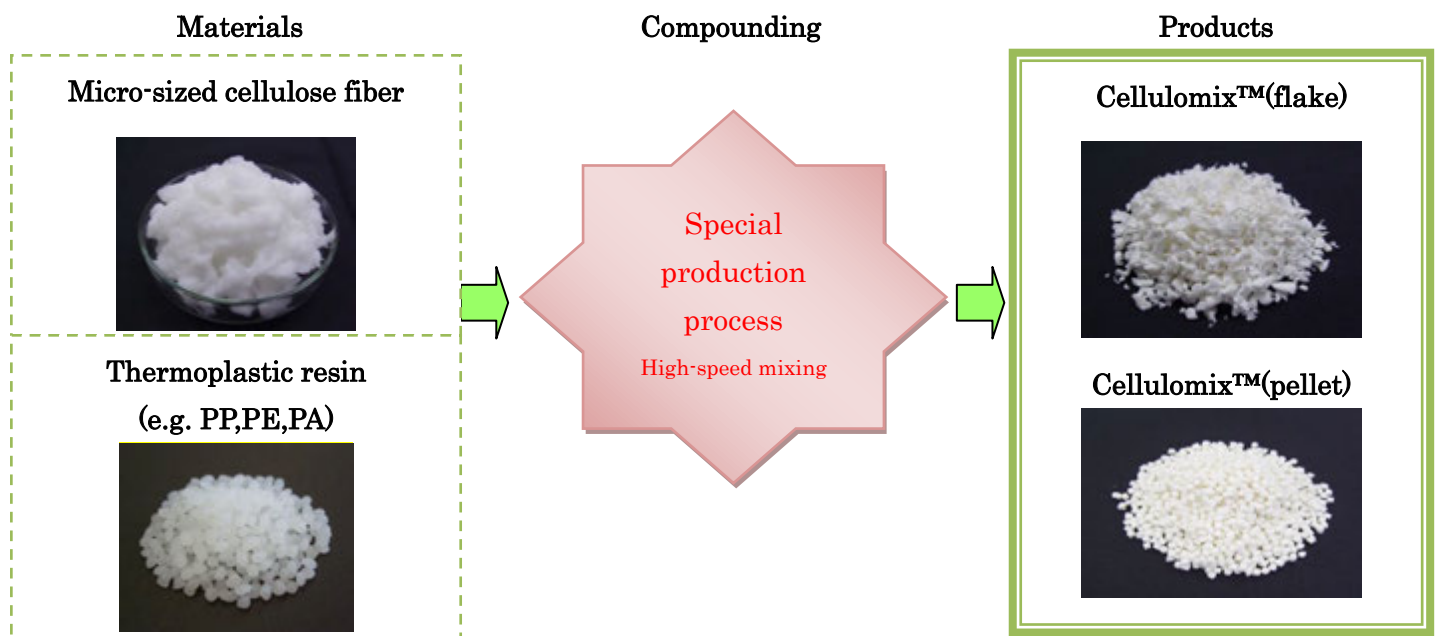
- ◆ High modulus, and excellent dimensional stability.
- ◆ Lighter than inorganic reinforcements.
- ◆ Special production technology provides higher productivity.
- ◆ It can be colored in a variety of colors.
- ◆ It can be thermally recycled.
- ◆ It is expected to reduce damages to molds and screws compared to inorganic reinforcements.

Specifications

Model number	Product type	Content	
		Cellulose fiber	Polypropylene
PCV30-F	Flake	30%	70%
PCV30-P	Pellet	High-purity cellulose fiber (low-lignin fiber)	
PCLV30-F	Flake	30%	70%
		Wood fiber (domestic wood)	

You can change cellulose fiber content and select other types of resin for your purposes.

Production Process



Cellulomix™

Material Data

Measurement items	Test methods	PPresin only	High purity(PCV30-F)			Wood fiber (PCLV30-F)		
			10	20	30	10	20	30
Cellulose contents (wt%) *1								
Density (g/cm ³)	ISO1183	0.90	0.95	1.00	1.05	0.94	0.98	1.02
Tensile strength (MPa)	23°C	32	36	45	56	35	43	50
Elongation at break (%)	23°C	10	7	6	5	7	7	6
Flexural strength (MPa)	23°C	45	50	60	71	50	57	66
Flextural modulus (MPa)	23°C	1700	2030	2680	3540	1980	2480	2990
Charpy impact strength(kJ/m ²)	23°C	3.5	3.7	4.4	5.1	3.6	4.0	4.4
Heat distortion temp. (°C)	0.45MPa	110	127	145	154	118	135	148
MFR (g/10min)	*2	60	14	2	1	18	5	2

*1 The data indicates mechanical properties of PP filled with High purity cellulose fiber(PCV30-F) and Wood fiber(PCLV30-F) in different cellulose fiber contents(10wt%, 20wt% and 30wt%)

*2 MFR is measured at 230°C, under a load of 2.16kg(ISO1133)

Applications

◆ **Injection molding materials, extrusion materials.**

- Molded parts used in vehicles, machines and equipment.
- Industrial equipment (e.g. Container, shipping pallet, architectural material)
- Goods and accessories.



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