



台塑關係企業
FORMOSA PLASTICS GROUP

TAIRYFIL

DATA SHEET / COOLING TOWER FAN

From Crude Oil to TAIRYFIL

THE INTEGRATED ADVANTAGE OF FORMOSA PLASTICS CORPORATION



Fiber Type	Item Unit	Number of Filament	Yield Tex (g/1,000m)	Tensile Strength			Tensile Modulus			Elongation (%)	Density (g/cm ³)	Filament Diameter (μ)
				kg/mm ²	Ksi	MPa	ton/mm ²	Msi	GPa			
TC-33	1.5K	1,500	100	355	500	3,450	23.0	33	230	1.5	1.8	7
	3K	3,000	200									
	6K	6,000	400									
TC-35R	12K	12,000	800	410	580	4,000	24.5	35	240	1.7	1.8	7
	24K	24,000	1,600									
	48K	48,000	3,200									
TC-35	3K	3,000	200	410	580	4,000	24.5	35	240	1.7	1.8	7
	6K	6,000	400									
	12K	12,000	800									
	24K	24,000	1,600									
	48K	48,000	3,200									
TC-36P	12K	12,000	800	500	710	4,900	25.5	36	250	2.0	1.8	7
	24K	24,000	1,600									
TC-42S	12K	12,000	440	580	825	5,690	29.5	42	290	2.0	1.81	5.1
	24K	24,000	880									
TC-55	12K	12,000	420	450	640	4,400	39.0	55	380	1.2	1.79	5.0
	24K	24,000	840									

WE DO EXCELLENCE FOR YOU

Formosa Plastics Corporation is the first company in Formosa Plastics Group. Formosa Plastics Group is the global leader in the industries of Petrochemicals, Fibers and Textiles, and Electronic Materials.

Formosa Plastics Corporation is the only company which enable to produce carbon fiber from refinery to carbonization in the world. With this unique integrated advantage, we are the best stable and excellent source for your need in carbon fiber.

Specifications : TC35R-12K/24K

Energy Saving of CFRP Cooling Tower Fan Blade

According to Mechanics of Materials

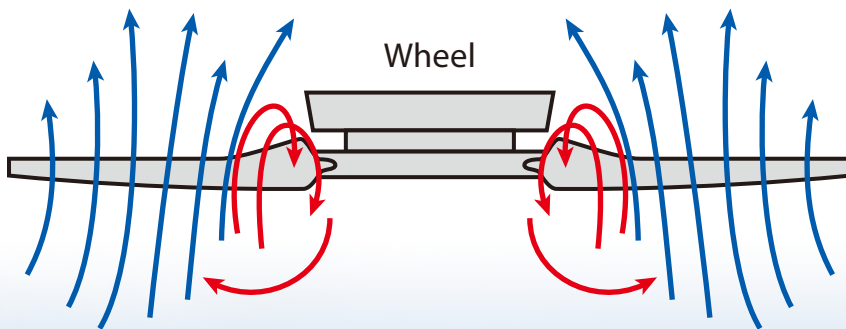
$$\text{Bending Force} = (W * L^4) / (8EI)$$

W : The Strength on the Object

L : The Length of the Object

E : Modulus (The larger Modulus, The Smaller Deformation; the modulus of CFRP is about 3.3 times the GFRP)

I : Moment of Inertia



- ① While rotating, the blade will be bent (deformation) due to the force.
- ② With more bending, it will cause turbulence, reducing air flow and increasing the load on the blade.

▲ Red arrow indicates the hot turbulent reflux reducing wind speed in the middle of the blades and lower the overall efficiency.

