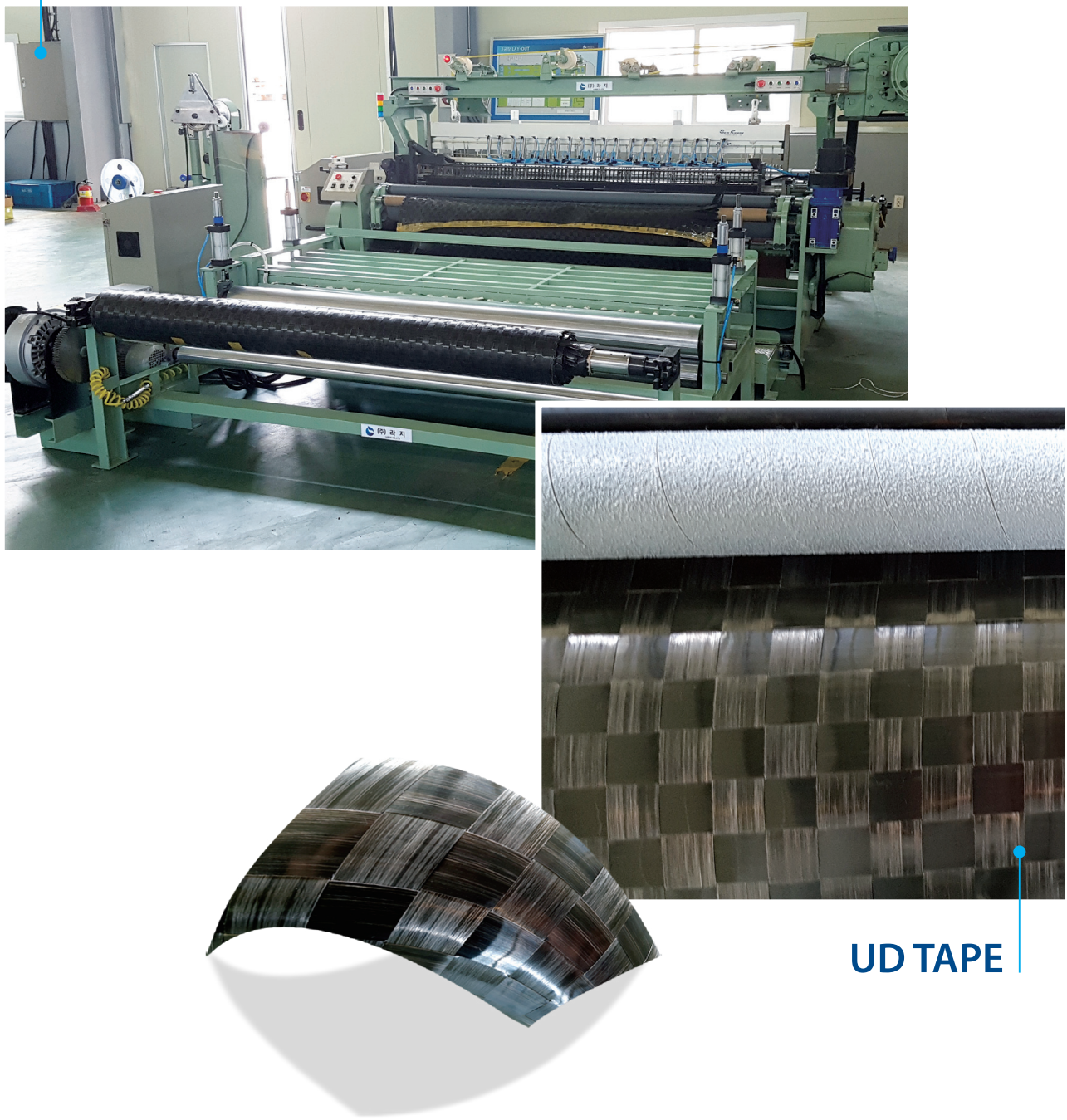


UD TAPE

UD TAPE weaving machine



UD TAPE

- Operating speed : 50 rpm
- Max. width for woven sheet : 2,000mm
- Applicable tape widths : CF(15mm/20mm/25mm)
GF(15mm/20mm/25mm)
- Can be customized

Global Standard of Composites

LARGE



100, Techno Jungang-daero, Yuga-myeon,
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Top leader of the advanced composites
materials market in the 21st century

CFT(Continuous Fiber Thermoplastic)

Outlier verification (95% probability)
ANOVA analysis (95% confidence)

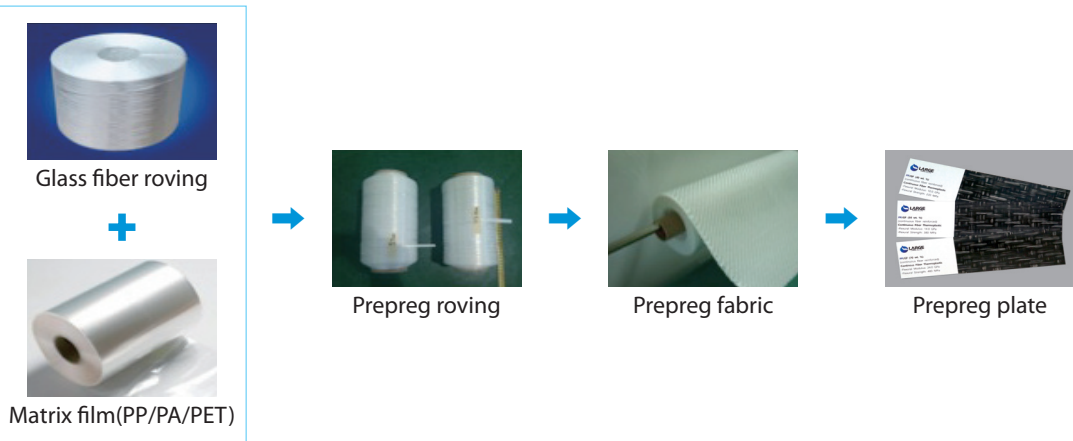


wt. %	Modulus	Strength	Characteristic
40%	14.6 GPa (CV 4.1%)	285 MPa (CV 6.0%)	- Material: 5 plies, 2/1 Twill(Weaving) - Impregnation: Continuous Compression Molding (25 bar) - Thickness: 3.0 mm - Bending test: 25 mm × 100 mm, 10 EA/set (3 point, 60 mm span, 2 mm/min)
50%	17.3 GPa (CV 4.5%)	335 MPa (CV 2.9%)	
60%	20.0 GPa (CV 3.2%)	406 MPa (CV 5.7%)	
70%	24.5 GPa (CV 3.8%)	449 MPa (CV 4.8%)	

Process

Continuous Fiber + Resin

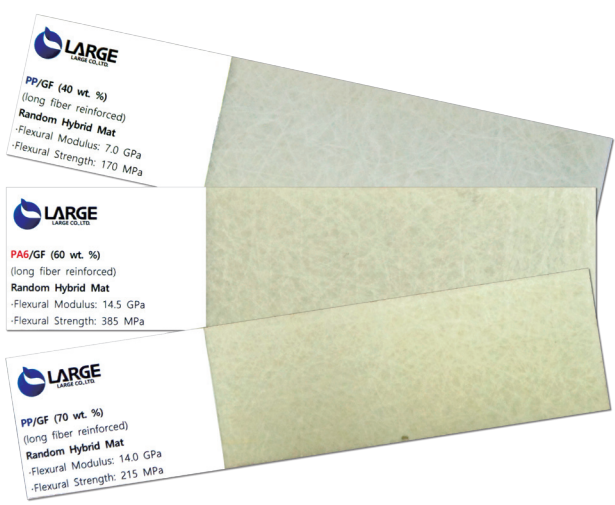
CFT Process(spreading → impregnating → folding) → Weaving → Molding



- Continuous fiber reinforced thermoplastic
- Weaving type (2:2, 2:1, 4:1)
- Easy to impregnate(thin and outward direction)
- Possible to replace conventional steel

LFT(Long Fiber Thermoplastic)

Outlier verification (95% probability)
ANOVA analysis (95% confidence)



Kinds	wt. %	Modulus	Strength	Characteristic
PP/GF	40%	7.1 GPa (CV 4.5%)	174 MPa (CV 5.1%)	- Material: 6 plies of PP/GF hybrid mat - Impregnation: 200 °C, 10 bar/5 min + 30 bar/5 min - Thickness: 3.0 mm - Bending test: 25 mm × 80 mm, 10 EA/set (3 point, 60 mm span, 1.5 mm/min)
	50%	8.9 GPa (CV 5.6%)	202 MPa (CV 5.8%)	
	60%	11.1GPa (CV 6.0%)	212 MPa (CV 5.2%)	
	70%	14.4 GPa (CV 2.6%)	218 MPa (CV 4.3%)	
PA/GF	40%	8.4 GPa (CV 4.5%)	254 MPa (CV 5.1%)	- Material: 6 plies of PA/GF hybrid mat - Impregnation: 250 °C, 10 bar/5 min + 30 bar/5 min - Thickness: 3.0 mm - Bending test: 25 mm × 80 mm, 10 EA/set (3 point, 60 mm span, 1.5 mm/min)
	50%	12.9 GPa (CV 5.6%)	352 MPa (CV 5.8%)	
	60%	15.1 GPa (CV 4.1%)	377 MPa (CV 4.0%)	
	70%	15.8 GPa (CV 2.6%)	398 MPa (CV 4.3%)	

Process

Long fiber + Resin

LFT process(impregnation(needle punching) → cutting → needling) → Molding



- Long fiber reinforced thermoplastic (Random direction)
- Excellent impregnation technology
- Low weight with high stiffness
- Applied to PP/GF, PA/GF

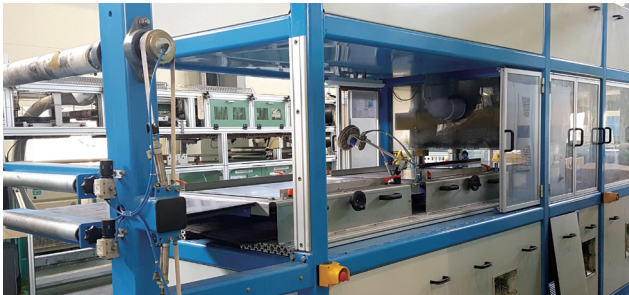
Machine List

CFT machine



Weaving machine

CCM machine



LFT machine

Press machine

