VERY LONG FIBER CONCENTRATE

RTP COMPANY INNOVATION BULLETIN

- Concentrate of polypropylene with 60% very long glass fiber
- Melt impregnated provides consistent properties and appearance
- Reduce part cost compared to metal or engineered materials

ADDITIONAL BENEFITS

- 20 to 40% glass loadings at the press with one material
- Customize physical properties to application requirements
- Resin-rich surface finish without glass bundles
- Robust pellets result in fewer fines during material handling
- Let-down with neat or recycled PP resin
- Quick worldwide availability
- Formulated for excellent dispersion
- Adaptable to processing methods

Imagine being able to use a single long fiber composite to manufacture multiple parts while at the same time managing material costs to improve profitability. At RTP Company, we not only imagined it, we've made it a reality.

Billed as "stiff and tough," very long fiber (VLF) thermoplastics are the material of choice for metal replacement. They offer high strength-to-weight ratios, excellent impact resistance, and endurance against fatigue and creep. By eliminating secondary operations and allowing part consolidation they lower per part cost while reducing weight and corrosion.

VLF concentrate pellets from RTP Company is polypropylene (PP) reinforced with 60% by weight very long glass fiber. Optimized for blending as a masterbatch with neat PP during molding to obtain 20 to 40% glass fiber loadings that can be tailored to meet the physical requirements of your applications.

By using our VLF concentrate you can further leverage your resin purchases with larger quantities to help lower overall material costs.

Ideal for large parts and high volume manufacturing without the investment and complexity of direct in-line compounding. VLF concentrate has short lead times and globally availability from RTP Company's regional manufacturing locations.

Produced via a melt-impregnated manufacturing process that fully wets out the fiber and couples it with the resin. Resulting pellets are robust and offer superior physical properties, a resin-rich surface finish without glass bundles, and minimal glass fiber fines during handling for consistent quality molding.

Standard VLF concentrate pellets are 12 mm long and can be custom cut from 8 to 25 mm to achieve greater impact. Furthermore, VLF concentrate can be tailored to your specifications – providing a single material solution combining UV, antistatic, flame retardant, lubricants, and color.

Very long fiber concentrate…another innovation from RTP Company: your global compounder of custom engineered thermoplastics.

RTP Company Corporate Headquarters • 580 East Front Street • Winona, Minnesota 55987 USA
website: www.rtpcompany.com • **email:** rtp@rtpcompany.com • **Wiman Corporation** • +1 320-259-2554

TELEPHONE:

U.S.A.	MEXICO	EUROPE	SINGAPORE	CHINA
+1 507-454-6900	+52 81 8134-0403	+33 380-253-000	+65 6863-6580	+86 512-6283-8383

ISO 9001 REGISTERED FACILITIES

VERY LONG FIBER CONCENTRATE

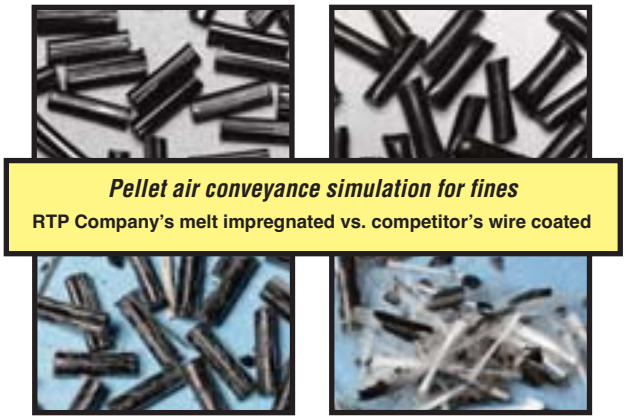
Applications

- Door modules
- Front-end modules
- Instrument panels
- Shipping pallets

Colorable with Masterbatches

Pellet Consistancy

Melt impregnated manufacturing produces a more robust pellet that is consistent, easy-to-convey, provides a resin rich surface finish, and results in superior properties through complete fiber wet-out and resin coupling.



Pellet air conveyance simulation for fines

RTP Company's melt impregnated vs. competitor's wire coated

Typical VLF Concentrate Properties

RTP 199 X 118048 Black (PP 60% VLF Concentrate)	**Long Fiber Percentage in Molded Part**		
	20%	**30%**	**40%**
Specific Gravity	1.04	1.12	1.21
Notched IZOD - Impact Strength, 1/8 in (3.2 mm) section	2.5 ft-lbs/in 133 J/m	4.0 ft-lbs/in 214 J/m	5.0 ft-lbs/in 267 J/m
Unotched IZOD - Impact Strength, 1/8 in (3.2 mm) section	13.0 ft-lbs/in 694 J/m	15.0 ft-lbs/in 801 J/m	17.0 ft-lbs/in 908 J/m
Tensile Strength	12,000 psi 83 MPa	15,000 psi 103 MPa	17,000 psi 117 MPa
Tensile Elongation	2-3%	2-3%	2-3%
Tensile Modulus	0.65 x10^6 psi 4,482 MPa	1.00 x10^6 psi 6,895 MPa	1.30 x10^6 psi 8,964 MPa
Flexural Strength	19,000 psi 131 MPa	23,000 psi 159 MPa	25,000 psi 172 MPa
Flexural Modulus	0.65 x 10^6 psi 4,482 MPa	0.90 x 10^6 psi 6,206 MPa	1.20 x 10^6 psi 8,274 MPa
Heat Deflection @ 264 psi (1.82 MPa)	310 °F 154 °C	310 °F 154 °C	310 °F 154 °C

* Let-down resin: 35 melt flow homopolymer polypropylene

RTP Company: Your Global Compounder Of Custom Engineered Thermoplastics