



FIBER INNOVATION TECHNOLOGIES, LLC

Experts in beneficial use of pulp & paper mill residuals

Presented by:

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Fiber Innovation Technologies, LLC



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Fiber Innovation Technologies, LLC

- 28 years servicing the North America Pulp & Paper Industry
- Developed 12+ markets for pulp and paper mill short paper fiber residuals (Patent #7,971,555 - Use of short paper fiber as manure management product)
- New market for short paper fiber (with lower moisture content) for oil and gas exploration



FIBER-~~MA~~XXX

What is it?

A superior solidification agent manufactured from pulp and paper mill residuals. **FIBER-~~MA~~XXX** consists of short paper fibers and inorganic fillers of calcium carbonate and kaolin clay. This innovative material offers major cost savings to the oil and gas industry.



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FIBER-**m**A**XX**

3 Major Benefits:



Cost Reduction



Performance



Environmental Impact



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Cost Reductions

- Costs less per ton
(50%-70% less than current solidification agents)
- Less dense than other agents
(450 lbs.-500 lbs. per cubic yard)
- Reduction in transportation costs and
lower landfill tipping fees



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Comparison to Currently Used Solidification Agents

Agent	Cost / Ton	Density (lbs./yd ³)
Fly Ash	\$60 to \$80.00	2100# to 2300# / yd ³
Ground Wood	\$420 to \$500	500# to 600# / yd ³
Ground Miscanthus Grass	\$300 to \$450	300# to 400# / yd ³
Ground Peanut Shells	\$450 to \$550	700# to 800# / yd ³
FIBER-MAXX	\$150 to \$200	450# to 500# / yd ³



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Performance

FIBER-MA~~XX~~XX is the only solidification agent having both *pozzolonic* and *absorption properties*.



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FIBER-MA^{XX}

Pozzolonic properties:

- Cementation properties inherent to the calcium carbonate.

Absorption properties:

- Exact same fibers used in top brand paper towels, just shorter.
- Hydroscopic water absorption surrounding the clay particles.



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Environmental Impact

- More liquid solidified (pound per pound), due to both pozzolonic and absorption properties, than any other agent;
- More drill cuttings and muds are transported per truck load reducing fuel consumption;
- Less landfill airspace is consumed;
- Reduced green house gases.



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Projected Annual Savings from Fairmont, WV Mill

- 200 Tons of **FIBER-MA~~XX~~** Produced each day x 350 days per year
- \$100 - \$200 Savings per ton of **FIBER-MA~~XX~~** Purchased
- \$4 - \$10 per ton Savings Transportation & Disposal
- Projected Savings for Marcellus & Utica Shale Basin rigs
\$7.28 million - \$14.7 million annually



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Pulp & Paper Mills


➤ 1st P&P mill will be Resolute Paper Mill in Fairmont, West Virginia. Production will be 200 tons of **FIBER-MAXX** per day / 7 days per week.

➤ Additional P&P Mills:

- Pennsylvania : 17 P&P Mills
- Ohio : 11 P&P Mills

FIBER-MAXX

Commercialization

- Fairmont, WV Mill can be producing  within 6 – 8 months
- Product delivered in 1 ton super sacks
- Cost per ton from \$150 - \$200 per ton depending on location and quantity