



Materials from Natural wastes

Last shall be first

WinePlastics Filler (WPL)

Technical Data Sheet

General Informations

WinePlastics Filler (WPL) is a natural powder that can be employed as biofiller to enhance the mechanical stiffness, the heat resistance, the bio-based content and the biodegradation's rate of any classic polymer and biopolymer compounds.

Typical properties of WPL

Properties	Value	Unit	Test method
Particle density (23 °C)	1.4-1.7	g cm ⁻³	Gas pycnometer
Max. processing Temperature	260	°C	TGA (under air gas)
Not-volatile fraction	38-40	%	Muffle-furnace test
Mean Particle size	25	μm	Laser granulometer
Bio-based content	97-100	%	-
Young's Modulus	3-5	GPa	Micro-mechanical models

Applications and Dosage

WinePlastics Filler (WPL) can be employed as natural biofiller within conventional polymers and/or within biopolymers (bio-based and/or biodegradable).

WinePlastics Filler (WPL) is typically used at 5-60% wt., depending on the desired final properties and on the final application.

The final properties depend on: a) the used percentage of **WPL** and on b) the polymeric matrix.

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Generally, the **WinePlastics Filler (WPL)**:

- Increases of the Young's Modulus
- Increases the creep resistance
- Increases the heat resistance (HDT and Storage Modulus)
- Increases the Biodegradation's rate (for biodegradable polymers)
- Does not affect or slightly increases the tensile strength
- Decreases the elongation at break

Storage, handling and safety

WinePlastics Filler (WPL) is in form of powder and it is usually delivered in 25 kg bags, in 1'000 kg big bags and in octabins.

WPL should be stored under dry conditions and any potential contact with water or moisture should be avoided. WPL product should be stored in aerated places, avoiding the exposure to sunlight.

WPL should be oven dried for 4 hours at 75-90 °C before its usage.