

NeroPlast® products offer a combination of qualities that is unique in the marketplace

Bio-Renewable



NeroPlast® is made entirely from plant matter, using environmentally friendly methods. It can be manufactured using many locally available sources of lignocellulose, and almost all of the carbon in the raw material remains sequestered, another environmental plus.

In fact, the most basic form of **NeroPlast®** has been awarded USDA BioPreferred designation. (See our **Products sheet** for how this designation can help your company.)

Hydrophobic



Other bio-based fillers absorb and swell with water, even when incased in resin. **NeroPlast®** does not. For all practical purposes, water simply does not penetrate **NeroPlast®** even when it comes into direct contact with it.

And without water and a moist environment, mold and fungus cannot grow; neither can the microbes that lead to rot.



No rot, mold or fungus

Heat Tolerant to 290°C



Unlike other bio fillers, **NeroPlast®** easily withstands temperatures as high as 290°C. As a result, it can be processed with polypropylene and polyamide (and a wide range of other polymers) with no out-gassing or other problems that can slow production.

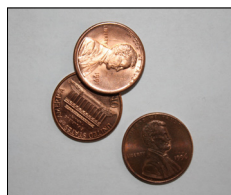
And because **NeroPlast®** tolerates heat so well, it is ideal for use in products that end up in high-heat environments – under the hood of a car, for instance, or in lighting fixtures.

Lightweight



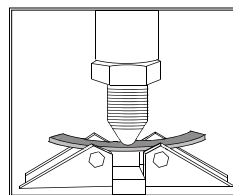
NeroPlast® is less than half as dense as calcium carbonate or talc, and 15% lighter than all other bio-fillers now in use. So wherever weight is a concern, **NeroPlast®** is an attractive option. And less weight also means lower shipping costs.

Inexpensive



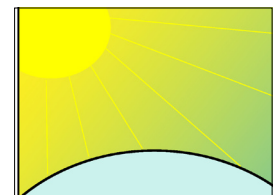
Like all fillers, **NeroPlast®** helps to reduce the amount of expensive polymer resin needed in compounds. And because **NeroPlast®** fillers are much lighter weight, you get a lot more product in every ton than you do in a ton of other fillers.

Strong/Stable



NeroPlast® makes neat polymers stronger, increasing both tensile and flexural strength and modulus. It also performs as well or better than other fillers in terms of impact strength and increases the dimensional stability of virgin polymers.

UV Protection



Because **NeroPlast®** filler is black it absorbs and protects polymers from ultraviolet radiation and the degradation it causes. (Please note: Because of its color, **NeroPlast®** is not the best choice for brightly colored applications.)

NeroPlast® products are formulated to meet a wide variety of needs

NeroPlast® Ground

This is **NeroPlast®** in its purest form, raw filler, ground to mesh sizes of 40, 50, 100, and 325, depending on the client's needs. Primarily intended for use with thermoplastics, **NeroPlast® Ground** can be used in other polymer applications as well, including Thermosets, Elastomers and Asphalt.

NeroPlast® Pellets

NeroPlast® Pellets are **NeroPlast® Ground** compressed into pellets to reduce dust and the risk of explosion from dust. **NeroPlast® Pellets** also significantly lower shipping costs, because at double the bulk density of **NeroPlast® Ground** the same amount of material occupies far less space.

NeroPlast® Masterbatch

The ground filler is combined with a small amount of resin (no more than 25%) in order to facilitate handling (no dust, less adsorption of water and the product can easily be processed using single-screw machines). It is the customer's choice which resin is used. Call for details.

NeroPlast® Compounds

NeroPlast® Compounds provide the final compound that a customer requires, typically including 10% to 40% **NeroPlast® Ground** in combination with the specified resin and any other necessary coupling agents. This product is tailor made for each client, so call for details.

NeroPlast® can help you earn *USDA Certified Biobased Product* status

We are delighted that the most basic form of **NeroPlast®** has been awarded **USDA BioPreferredSM** designation.

You will be, too, because as part of the new USDA BioPreferred program, compounds and products that contain at least 25% biobased content can be eligible for USDA BioPreferred certification. And those that

are certified will be given preference by federal agencies making purchasing decisions.

As the USDA Certified BioBased Product label indicates, **NeroPlast®** contains 100% biobased content by weight. So using **NeroPlast®** in your

own compounds can help your products achieve the 25% biobased content minimum and earn the new certification and preferred purchasing status.

[Visit the USDA BioPreferred program website for more information.](#)



NeroPlast can be used in an extremely wide range of applications

In compounds that are not using fillers now

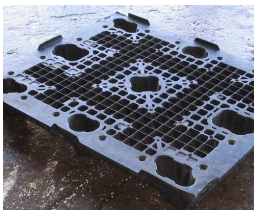
In some cases, mineral fillers are not an option because of the weight they add. And lighter weight bio fillers are not always a viable alternative because of the processing challenges posed by their absorption of water and limitations caused by their instability at higher temperatures. In such situations, **NeroPlast®** offers a new alternative.

Wherever other bio fillers are being used

Bio fillers made from wood, corn and wheat straw are often good choices. But their hydrophilic nature can necessitate design changes or the addition of toxic chemicals – or both. Thanks to its hydrophobic nature, **NeroPlast®** makes such compromises unnecessary, while eliminating product claims based on water absorption.

Where only traditional fillers have served

In applications where water and/or heat are a concern, heavy mineral or other non-organic fillers have been the only choice available. **NeroPlast®** offers an attractive alternative: the option of substituting a lightweight, environmentally friendly filler that rivals or outperforms calcium carbonate and similar fillers in virtually all respects.



Polymer Applications

NeroPlast® is compatible with:

Thermoplastics

Thermoset resins

Elastomers

Asphalts

Processing Applications

And NeroPlast® works in:

Injection Molding

Compression Molding

Thermo-forming

Extrusion