Madite

A material component designed to stand alongside many of the other impressive materials in the Kikyo Sector. Its damage resistance is not on par with that of Zesuaium or other materials with similarly extreme damage tolerances, but its light weight, electrical conductivity, and extreme strength make it a viable alternative for those without access.

Designer:	Noval Defense, Space, and Security
Manufacturer:	Noval Heavy Industries
Fielded by:	Noval Heavy Industries, New Dusk Conclave

History

As part of Noval's foray into the military space, researchers from its Defense, Space, and Security division sought out a number of materials from across the sector. They discovered a number of fantastic options, but struggled with finding the right combination of weight, resistance, and cost.

Like the NH-M-M1 "SCALE" system they originally designed the material for, the solution was to look for ways to improve on proven technologies. As many factions and corporations had moved onto advanced metals, the researchers instead turned to plastics. Here, they discovered a new plastic material with qualities that nearly brought its damage resistance on par with some of these advanced metals. The result was also significantly lighter and electrically conducive.

Function and Design

Madite is a graphene peek-style ultra-high pressure injection molded plastic. Formed by injecting thermoplastics into a graphene weave under extreme pressures, the resultant material is fifty times stronger than steel by weight and thirty-five times stronger by volume. It is highly heat resistant.

With the appropriate industrial-scale equipment, it is trivial for Noval to produce components made of the material at a low cost.

It is possible to patch damage to Madite components to a limited degree, but without the extreme pressures of the original formation process, the resultant patch will inherently be weaker. Despite this, the possibility for Madite components to be 'self-healing' is available, though its low cost and ease of creation means it is likely more economically-feasible to simply replace the damaged components.

An unusual trait of Madite is its high electrical conductivity. A series of Madite blocks can easily pass an electrical charge from block to block with little resistance. This presents a design challenge when using it as an armor component, but opens up a number of technology options that require conductors that have high strength and extreme wear resistance.

Appearance

By default, Madite is matte black in appearance. Noval is capable of altering the base color into a wide spectrum of other colors and material 'appearances', such as golds and silvers, by altering the composition of the injected thermoplastic. As such, non-black colors are insignificantly less durable than the default black, but fit Noval's need for aesthetic.

Variants

As an injection-molded forged, injection-molded plastic, Madite can be customized during creation for a wide array of purposes. Each variant, due to added impurities, is negligibly less resilient than the unmodified form, but costs more to produce.

Madite-B

The addition of boron nitride to the initial graphene solution allows the resultant Madite to bond with a powerful heat shield.

Madite-M

A metal that has been specially prepared and coated with a graphene oxide, then subjected to the Madite creation process. The result is a Madite-reinforced version of the original metal, greatly increasing its strength with minimal change in weight. An excellent way to reinforce pre-existing components.

Madite-C

A Cliftonite supermagnetic variant of Madite, useful in nuclear reactor containment cells and magnetic field amplifying reactor shielding. It is also well suited to stealth applications thanks to Cliftonite's ability to separate magnetic and electric fields from an EM signal, dissipating RADAR and acting as a passive Faraday cage.

Despite its extra useful properties, Madite-C is nearly as cheap to produce as unmodified Madite. Indeed, the normal production process takes steps to prevent the creation of Cliftonite, as it is a contaminant byproduct of graphene production.

Madite-S

Madite-S is created by adding a self-healing compound to the thermoplastic mix before injection into the graphene weave. When the surrounding lattice is damaged, the compound fills in the broken bonds and maintains a degree of structural integrity. The resultant 'fixed' Madite, while much weaker than the

original material, is airtight and structurally sound under most non-combat conditions.

Incompatible with Madite-C variants.

Madite Hybrids

It is possible to create a version of Madite that contains the properties of other variants. In this case, it is common to use multiple suffixes to designate the hybrid variant type. For example, a Madite-reinforced metal that is also heat resistant would be Madite-MB.

Availability

Sold as part of Noval products; unavailable for direct purchase.

OOC Notes

Whisper created this article on 2020/02/18 19:09.

The original idea to use this material, as well as assistance for the material's creation, provided by Madi Harper.

- Approval Thread.