

Endurium

Endurium is a composite unlike most other types of armors used in the Kikyo sector. Instead of being made from metallic materials, it is made from meshes of high-strength composite structures. It was invented in [YE 31](#)

- Producers: [Origin General Manufacturing](#)
- Cost: [Expensive]
- Armor Type: Medium

About Endurium

Endurium is a lightweight, yet strong composite armor that gives protection comparable to substances such as [Yamataium](#) and [Nerimum](#), without adding substantial mass to the object it is armoring. Endurium is useful as outer armor plating for a starship, but must be specifically mounted on top of another material, or its warping and flexing abilities will cause damage to the structure of whatever it is armoring. Endurium is terrible for making a framework of a vehicle, as its flexibility and dampening of kinetic and thermal energy will cause it to bend and flex, which may be counter-productive.

Properties of Endurium

Endurium objects:

- Are flexible and warpable to a certain point
- Easily return to initial shape
- Will expand and contract due to thermal conditions, but only a small amount
- Insulate from radiation
- Are not electrically conductive
- Can have other materials embedded in them
- Cannot be made transparent
- Are not especially rigid on their own.
- Not useful on applications smaller than a Battle Tank.

Formation of Endurium

Endurium is made using forms, within which layers of Ceramics and composites in the form of filaments, fabrics, and other types of composite threads, including carbon monofilaments are placed. All of these materials are sandwiched in alternating layers in a lattice structure which gives the material its unique properties. Because of the Flexible nature of the Composites embedded in the Ceramics, the plates are able to flex without breaking to a certain point, and the Ceramics prevent the composites from overstretching or falling apart.

Endurium is usually made in 1 meter x 1 meter x .25 meter tiles, which can be formed in almost any shape. For thicker armor, multiple layers of tiles can be used in a staggered pattern to create a thicker, stronger armor. These tiles are placed on their backing by use of a special flux, which is also used to fill the gaps to one another.

When Endurium is damaged, it must be replaced, by removing the damaged tiles and replacing them.

Endurium is very labor-intensive to make and takes time to cure before it can be useful, and cures only under very specific conditions before it can be used effectively. Cure time is 1 hour per Cubic Meter, which means that starship armor takes a substantial amount of time to cure.

Uses of Endurium

The unique properties of this material make it excellent for use in a wide range of engineering applications. Most commonly, Endurium is found:

- As a coating for starship or vehicular armor paneling
- As walls or blast doors where a need for extreme protection exists
- As insulation around objects which give off large amounts of heat, radiation, or other dangerous forms of energy.

Weaknesses

Although Endurium has great capacity to endure, it does have a few weaknesses.

- Anti-matter will cancel out the atoms of Endurium.
- True [Aether](#) weapons, which invoke quantum potential energy, will cause Endurium to break down into the energy potentials of its parts.
- Over-flexing of Endurium causes it to snap, but the composites will hold it together. These spots are, however, extremely weak and prone to heavy damage, up to and including complete failure of a plate with repeated hits on such spots.
- Endurium less than one inch thick generally does not give much protection, as it does not have enough layers to perform properly.

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