

OMDE (Organoid Metal-Digesting Enzyme) Compound

During the development of organoid technology, nature was naturally looked to for inspiration. One of the species of coral-/barnacle-like creatures that ultimately inspired [aerudirn](#) had a very intense metabolism that could even dissolve complex minerals. The idea was extended to weaponry and demolitions technology, leading to the OMDE. The OMDE refers not only to the enzymatic compounds in question, but to the genetically-engineered microbes that deliver them as well - designed to survive extreme conditions and metabolize metals over long periods.

OMDE is usually injected by a hollowed slug built to break apart after piercing slightly into the target's armor, and then propagates in threads and fracture lines. This emergent pattern is meant to cause multiple structural weakpoints that will make the armor easier to destroy, and if hit hard enough, may even cause it to shatter, sending shrapnel into the ship's interior. The enzymes are capable of slowly breaking down metals through metabolic reactions with the shared electron layers typical of metals. This puts it at a disadvantage (or even renders it useless) against non-metallic armor, such as most Iromakuanhe armors, Zesuaium, and similarly-composed materials. Finally, the digestion speed and density of typical OMDE shells renders it very powerful against thinner armor, such as that used in most mecha.

Compatible Weapons: (Pending Designs for Suitable Projectile Weapons)

Purpose: Anti-Starship, Anti-Armor

Secondary: Demolitions

Damage: See Chart.

Damage is listed separately for both scales of the weapon - Armor and Starship. The starship version considered to be loaded in large-diameter (actual diameter specified by the gun) shells unsuitable for use on anything smaller than a starship proper. The armor version uses a much lower concentration and is capable of being used in guns equippable by VANDR units. There is no personnel scale version, as it is deemed impractical versus the level of armor worn by light infantry. While incubating, partial application of the full damage may occur, manifesting as the beginning of fractures, and micropunctures that do not threaten the pressure or structure of the target (appreciably anyway). Once the incubation passes, that is considered the **farthest** damage that that hit will ever deal.

Armor Type	Incubation Before DR is Applied	Starship-scale DR	VANDR-scale DR	Notes
Zesuaium	N/A (Indigestible)	N/A	N/A	The unusual structure of Zesuaium is what provides its immunity.
Yamataium	12 minutes	SDR 1	ADR 1	Yamataium's powerful regeneration ability counteracts the growth of OMDE organisms.
Nerimium	6 minutes	SDR 2	ADR 2	Nerimium is fully susceptible, but its high density slows the progress of the microfractures.

Armor Type	Incubation Before DR is Applied	Starship-scale DR	VANDR-scale DR	Notes
Structol	N/A (Indigestible)	N/A	N/A	Structol's part-organic, generally nonmetal composition protects it.
Duremium	10 minutes	SDR 1	ADR 1	Duremium retains some of the protective density of Nerimium vs. OMDE organisms, but its Structol content disrupts digestion some.
Yama-Dura	5 minutes	SDR 1	ADR 1	Yama-Dura is still very resistant to OMDE organisms, but its diluted Yamataium component weakens that resistance.
Durandium	2 minutes	SDR 2	ADR 2	Durandium offers little protection against OMDE propagation.
Aerudirn	N/A (Indigestible)	N/A	N/A	Aerudirn is organic, and the OMDE cannot properly react with it.
Zanarium	1 minute	SDR 2	ADR 2	As a stealth armor, Zanarium is notably weak against OMDE.
Xiulurium/Lesser Metals	30 seconds	SDR 3	ADR 3	Pre-starflight alloys, and most elemental metals used in armor are fractured in seconds by OMDE organisms.

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