



Beautifies and enhances Water Quality!

Areas of Comparison	3DM Bacto-Rock	Natural Rock
1. Eco-Friendliness	Eco-friendly / handcrafted. Reduces the need for mining of natural rock and avoids needless destruction of natural ecology.	Harvested from nature which destroys natural ecology and upsets the eco-system.
2. Supply	Handcrafted source which ensures stable supply.	Unstable supply due to increasing government controls and regulations.
3. Quality of Rock	Handcrafted source allows us to provide Bacto-Rock of a stable and consistent quality.	Inconsistent quality depending on the source.
4. Free from Contamination	a. No pests, predators and hitchhikers.	a. May contain pests, predators and hitchhikers which cause problems when introduced to hobbyist's tank.
	b. Does not carry harmful bacteria and virus.	b. It might carry harmful bacteria and virus depending on the source.
	c. Does not have algae.	c. It may carry unwanted algae.
	d. No curing required, which allows retailers to sell it immediately and for the hobbyists to use the Bacto-Rock immediately after purchase.	d. Time-consuming curing process required.
5. Porosity	Multi-step processing in ensuring high porosity, slow demineralization and inert nature. High porosity provides high surface area for beneficial bacteria.	Porosity depends on quality of natural rock harvested. Most natural rock are solid and of low porosity.

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6. Surface Area to Volume Ratio	High surface area to volume ratio of up to 1000m <sup>2/</sup> l, which can be up to 20 - 80 times more than natural rocks.	Low surface area to volume ratio.
7. Ease of Scaping	Stacking and scaping is easy.	Not easy to shape and popular shapes like flat surfaces, or with through-holes are hard to come by. Sometimes come in rounded surfaces which are difficult to stack / scape.
8. Available sizes	Available in various sizes and customizable according to needs.	Rock sizes depend on harvesting source. Large sizes are not easily available.
9. Weight	30 - 80% lighter than natural rock.	Heavy and difficult to handle.
10. Volume against Weight	Gives 20 - 50% more volume for the same weight of Bacto-Rock as compared with natural rocks.	Natural rocks are usually heavier and cost more for higher volume.
11. Shape & Outlook	Handmade, each Bacto-Rock is uniquely shaped with through-holes, creating hiding places for fishes and improves water circulation.	Shape and outlook depends on the source of natural rock being harvested.
12. Additional Features	Increases filtration capabilities of hobbyist's tank by functioning as a filtration medium within display tank.	No additional features.







Cross section showing cavities.