

# MACROLITE™

## Step Up to the Ultimate in Filter Media Performance: Macrolite™ Engineered Ceramic Media

For filtration applications that demand high flow rates and increased effluent quality, Macrolite™ Engineered Ceramic Media delivers more performance on a smaller equipment footprint. Available in common filtration sizes, Macrolite media spheres optimize filtration performance with two key features: remarkably uniform physical properties and greater surface area allowing filtration to 3 microns. Macrolite is tough and durable. It's a chemically inert medium that provides excellent resistance to acids, caustics, oxidants, and ferric salts.

### Particle Uniformity Boosts Flow, Reduces System Footprint

Compared to aggregates, Macrolite filtration spheres are engineered with extraordinarily uniform composition, shape, size, sphericity, and density. This typically allows you to boost flow rates to 10 gpm/ft<sup>2</sup> (25 m/hr) and can allow surprising improvements in filtration performance and operating efficiency. Compared to traditional filtration media, Macrolite's improved effluent quality along with its enhanced ability to dampen influent changes produce a higher quality effluent, time after time.

Macrolite operates at significantly higher flux compared to traditional media. In new bed installations versus conventional media, Macrolite allows you to minimize bed size, reduce the equipment footprint and lower your capital costs. Backwash energy requirements are lower, too. And because of Macrolite's structure and surface properties, it requires less chemistry. These features lower a plant's operating costs.

### Enhanced Surface Area Traps More Solids Down to 3 Microns

Macrolite maximizes total filtering surface area for a given bed size. Macrolite spheres also have a surface composition that promotes colloidal attachment. The remarkable uniformity of Macrolite spheres plays an important role, by enhancing transport mechanisms within the filter bed to increase the probability of colloid-to-granule contact. Together, these effects can allow a bed of Macrolite media to filter down to the 3 micron level, compared to 10 microns for a conventional aggregate bed.

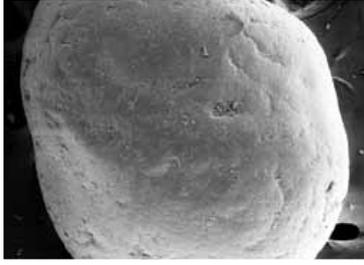
Macrolite also forms a critical barrier to cyst contaminants like *Giardia* and *Cryptosporidium*. It can remove significantly more cyst-based contaminants than other conventional aggregate media.



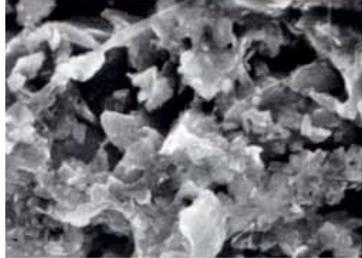
World-Class Equipment and Process Expertise



## SAND



## MACROLITE™



*Macrolite particles are remarkably uniform and have greatly enhanced surface features that significantly enhance filtration contact area*

### Waste Water

- Improved flow rates
- Reduced headloss
- Higher UFRVs
- Enhanced phosphorus and TSS removal

### Applications:

- Tertiary filtration
- Denitrification
- Ultra-low phosphorus

### Drinking Water

- Improved flow rates
- Reduced headloss
- Enhanced particle removal

### Applications:

- Gravity filtration
- Arsenic
- Iron and manganese
- Direct filtration
- Biologically active filtration
- Membrane pre-treatment



Site	Oxidant	Fe In (mg/l)	Fe Out (mg/l)	Mn In (mg/l)	Mn Out (mg/l)	Color In	Color Out
A	Chlorine	0.11	0.00	0.08	0.03	4	2
B	Chlorine	3.40	0.03	n/a	n/a	82	7
C	Mixed	0.07	0.02	1.38	0.00	7	0
D	Mixed	0.51	0.02	0.46	0.01	20	2
E	Ozone	0.03	0.00	0.50	0.00	227	1

**Note:** The secondary (aesthetic) maximum contaminant levels for iron and manganese are 0.3 mg/l and 0.05 mg/l, respectively. Iron and manganese in excess of the suggested maximum contaminant levels (MCL) usually results in discolored water, laundry, and plumbing fixtures.

### Specifications for Macrolite™ Engineered Ceramic Media

Product	Nominal Micron Rating	Effective Size (mm)	Mesh Size Range	Target Specific Gravity	Uniformity Coefficient
M1	< 3	0.15 - 0.25	70 to 80	2.6 ± 0.2	< 1.3
M2	< 5	0.25 - 0.35	40 to 60	2.6 ± 0.2	< 1.4
M4	< 20	0.50 - 0.60	20 to 50	2.6 ± 0.2	< 1.4
M6	< 30	1.00 - 1.30	14 to 30	1.6 ± 0.2	< 1.4