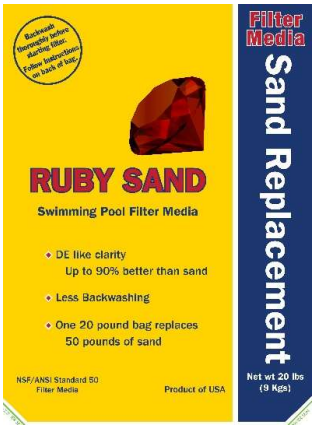
Ruby Sand®

Use • Installation Troubleshooting

Porous Ceramic Filter Media

Nature Refined

Science Proven



Purpose

Ruby Sand is a lightweight porous ceramic filter media providing 3–5 micron performance and fewer backwashes compared to silica sand.

This manual provides validated procedures for the correct use, installation, and maintenance of Ruby Sand Porous Ceramic Filter Media. When properly installed, Ruby Sand enhances filtration efficiency, improves water clarity, and reduces backwash frequency compared to silica sand and glass media. Key performance advantages include:

- Finer filtration (3–5 microns)
- Lower media weight
- Fewer backwashes
- High compatibility with standard pool chemistry

Product Overview

Ruby Sand is a high–surface-area, porous ceramic filter media engineered as a direct replacement for standard pool filter sand. Its unique aluminosilicate structure is created by high-temperature flash calcination, which rapidly removes bound water from the crystal lattice and produces a rough, highly porous ceramic grain.

These porous grains provide:

- **Fine filtration:** captures particles in the 3–5 micron range (vs. 20–40 microns for standard sand).
- **Large internal active surface area:** traps suspended solids on and within each grain
- **Fewer backwashes:** reduces water waste while maintaining clear water
- **Full chemical compatibility:** Ruby Sand is inert and compatible with chlorine, bromine, ozone, UV, enzymes, phosphate removers, algaecides, and sanitizer generators.

The natural red coloration of Ruby Sand is integral to the ceramic mineral structure and will not tint pool water.

Technical Data

Ruby Sand is produced from selected aluminosilicate minerals by high-temperature flash calcination. Filtration performance based on internal and third-party testing under controlled conditions. Performance values are typical and may vary with system design and operating conditions.

Typical Physical Properties

Form: Porous ceramic granules.
Nominal filtration range: 3–5 microns.
Bulk density: ~40 lb/ft^3 vs. ~100 lb/ft^3 for silica sand.
Bag size: 20 lb.
Color: Natural red/tan ceramic.
Chemical behavior: Compatible with standard pool chemicals

Ruby Sand's porous structure yields high internal surface area that improves particle capture and clarity.

Use Rate

Ruby Sand is a **sand replacement used bag-for-bag**, not pound-for-pound.

Rule of thumb:

- 20 lb Ruby Sand ≈ 50 lb silica sand
- 20 lb Ruby Sand ≈ 40 lb glass media

Ruby Sand Use Rate vs Sand		
Sand	Ruby Sand	
(Pounds)	(Pounds)	(Bags)
50	20	1
100	40	2
200	80	4
400	160	8
500	200	10

Because Ruby Sand is much lighter than sand (~ 40 lb/ft³ vs. 100 lb/ft³), the filter achieves equivalent bed depth and improved performance at a lower bed weight.

For small pools and spas, consider pre-rinsing Ruby Sand in a bucket to remove most tan dust before installation, which will save the amount of water needed for the back-wash step.

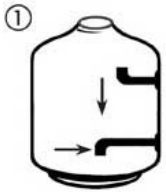
Critical Installation

- Never mix Cal Hypo with organic materials or other chemicals. Add to water only.
- Cal Hypo is a fast-acting sanitizer and oxidizer.
  - Use proper precautions and
  - Wear gloves and eye protection.
- Don't skip the Cal Hypo soak.
- Fill the filter halfway with water before adding media.
- Cover the lateral standpipe.
- Soak for 20 minutes.
- Backwash until water runs fully clear.

Installation

Ruby Sand contains a small amount of tan dust. Pre-rinsing reduces dust carryover and can save backwash water.

Step 1 – Preparation

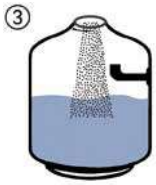


- Raise sanitizer and algaecide levels to the upper range.
- Drain the filter and perform necessary repairs.
- For each 20 lb bag of Ruby Sand, dissolve **3 tablespoons of Cal-Hypo (68% +) or Di-Chlor** in about one quart of water.
- Add the solution to the empty filter tank.

Step 2 – Critical Filling Step

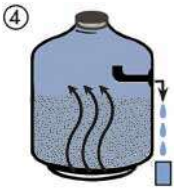
- Fill the filter halfway with water.
- Cover lateral assembly pipe.

Step 3 – Media Loading



- Slowly add Ruby Sand so that it is completely wetted.
- Close the filter.
- Soak **for 20 minutes**.

Step 4 – Backwash and Start-Up



- Backwash until the discharge water runs clear.
- Rinse for 1 minute.
- Return the valve to Filter mode.
- Confirm sanitizer and algaecide levels are upper normal.

Troubleshooting

Tan Dust in Pool

Reason: Incomplete backwash during installation.
Fix: Backwash until the discharge runs clear.
Result: Will clear in 24 to 48 hours.

Good Flow but Water Not Clearing

Reason: Channeling or poor circulation.
Fix: Backwashing for several minutes.

Adjust jet direction to eliminate dead zones.

Result: Clear in about 24 hours.

Clear Water Turns Green

Reason: Algae.

Fix: Shock the pool.
Restore sanitizer and algaecide to recommended levels.

Result: Clears as algae are removed.

Slow Clarity Improvement

Reason: Inadequate circulation.

Fix: Increase run time.
Adjust pool jets.

Result: Clears in 24 hours

Operational Best Practices

- Maintain sanitizer and algaecide at **high-normal levels for the first three days**.
- Run the pump continuously until water is clear.
- Backwash whenever filter pressure increases by about **10 psi** .
- Always follow the filter manufacturer's instructions.

ZEO-RS-UIT-2025-A Rev: A Nov 11,2025