

Sims Impellers and Wear Rings



Improve Longevity & Performance with Sims Products!



Sims – the proven name in pump technology

For more than 90 years, the Sims Pump Valve Company has been a leader in pump technology. From the invention of the original Sims Pump Valve to the development of the Sims totally non-metallic composite pump, Sims has offered innovative solutions for marine and industrial pump applications.

Since it began in 1919, Sims has focused on complete customer satisfaction with every product manufactured. A unique unconditional customer guarantee is made possible by the highest standards of engineering, manufacture, and customer service.

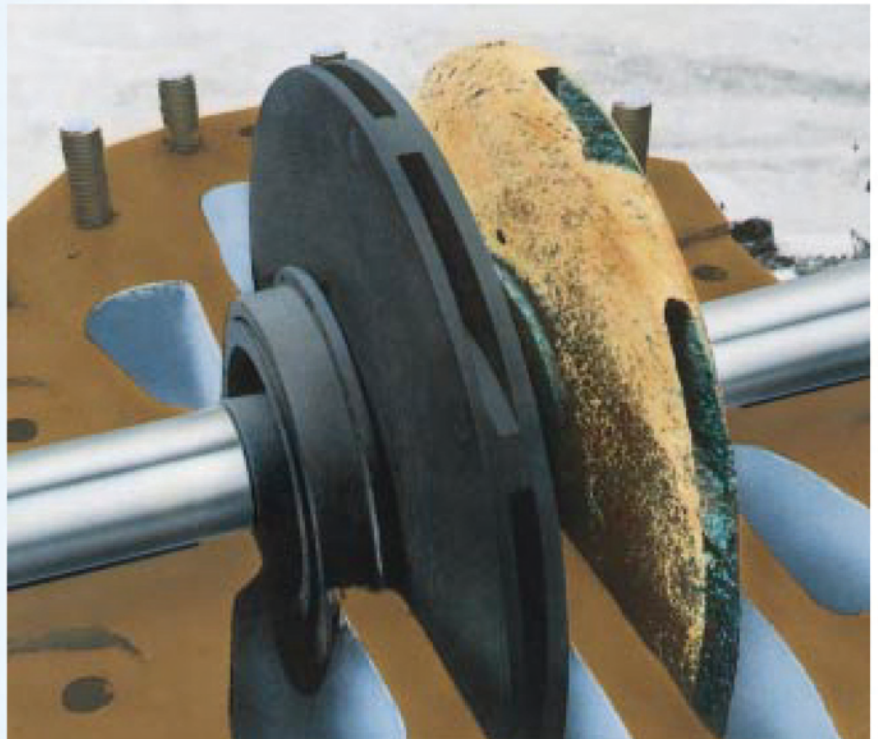
What is Sims?

Sims is a structural composite material. More specifically, it is a graphite combination-fiber reinforced composite with phenolic resin offered exclusively by the Sims Pump Valve Company.

The structural design of Sims is unique. Fibers are interwoven in a bi-directional or tri-directional weave. The reinforcing fibers are all continuous for higher strength and flexibility. As a heavy-duty structural composite, its characteristics can be changed to accommodate the required structural strength of the parts being manufactured.

Trouble-free performance

Impellers machined from Sims are light weight and offer tremendous mechanical strength and corrosion resistance. Sims has been used successfully in the manufacture of casing rings since 1955 and in impellers since 1961. Sims outlasts parts made of metals such as bronze, stainless steel or monel. Sims is excellent for applications where salt water or brackish water is present. It is also ideal for use with hydrocarbon fuels, solvents, and with most acids and alkaline solutions.



Lower costs – increased performance

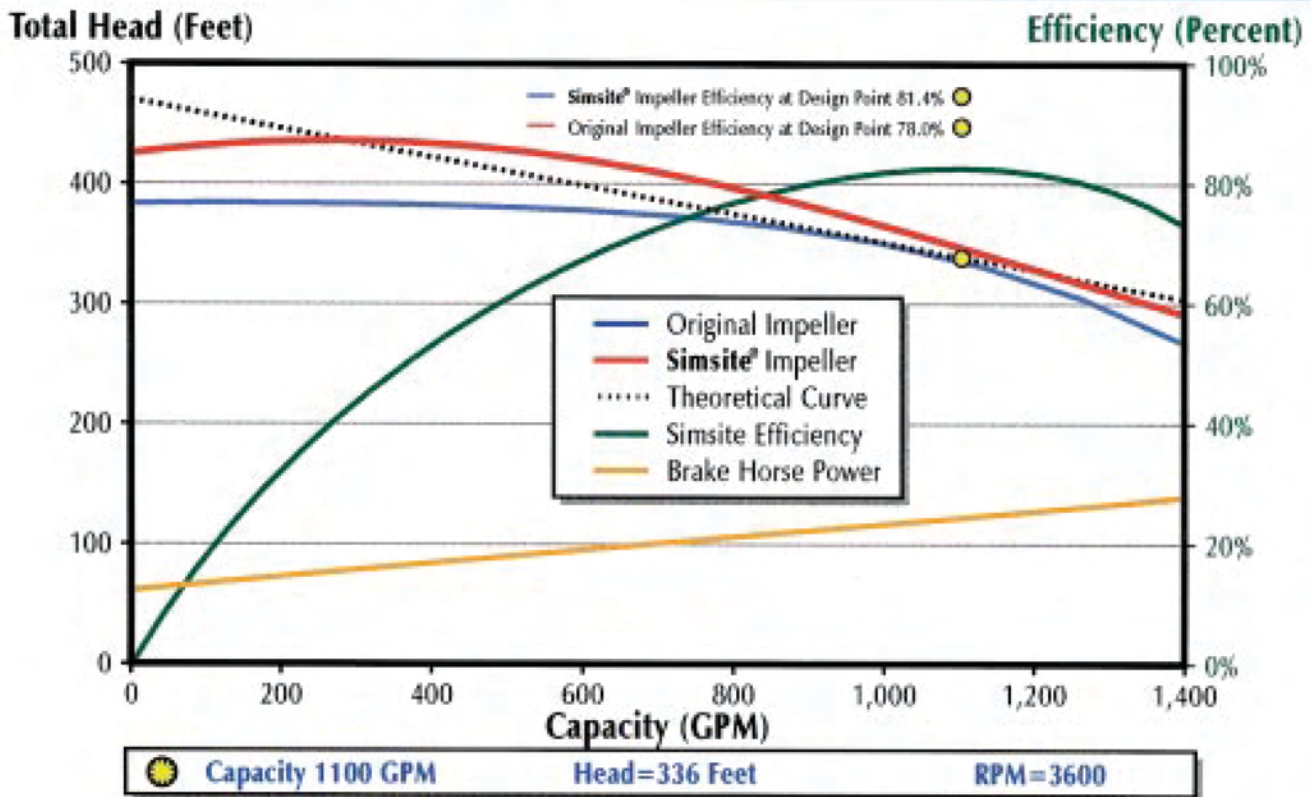
Operating and maintenance costs are drastically reduced

Sims Impellers and Rings are excellent for new or retrofit applications. They are light weight and virtually indestructible. Wear of pump parts is greatly reduced because of Sims's balance, light weight and self-lubricating properties. This means far less replacement of parts, less downtime, and years of trouble free performance.

Customized for maximum performance

Because Sims Impellers are computer designed and precision machined, the impeller vanes can be designed to maximize efficiency. Problems such as recirculation and cavitation can be minimized or eliminated with Sims Impellers. Impeller vane shapes can easily be modified to provide the best vane shape for specific applications. The following graph shows that Sims Impellers are not subject to many of the hydraulic losses found with cast and moulded impellers.

Hydraulic Performance



Outstanding characteristics give more of what you need

Sims Impellers are 100% machined on both exterior and interior surfaces which insures perfect symmetry in the location and shape of the vanes. A smooth interior surface increases the efficiency of the pump by reducing flow resistance. You can be sure that Sims impellers maintain hydraulic and mechanical balance for the life of the impeller. Sims Impellers are not subject to the compromises and losses in performance found in metallic impellers.

Key reasons to choose Sims Impellers and Casing Rings



❖ **ELIMINATES ELECTROLYSIS** — Sims is an inert composite which does not conduct electrolysis. Prolonged exposure to salt water will not affect Sims parts.

❖ **CORROSION RESISTANT** — One of the most important advantages Sims has over metal is its resistance to corrosion and erosion in salt water. It is also excellent with most chemical applications and is not subject to damage by gasoline, oil or refinery by-products.

❖ **COMPUTERIZED HIGH EFFICIENCY DESIGN** — All Sims Impellers and parts are precision machined which increases accuracy and efficiency. Impeller vane shapes are contoured for maximum performance and efficiency.

❖ **EXCEPTIONAL MECHANICAL STRENGTH** — The extraordinary high strength of Sims enables it to replace metal impellers which are subject to corrosion and erosion.

❖ **TIGHTER SEALS** — Sims Casing Rings and Wear Rings will not gall or seize like metal rings. Therefore, Sims Rings can operate with a tighter clearance permitting less leakage through the rings and increasing pump efficiency. Additionally, Sims Casing and Wear Rings seal the casing. This prevents the “wash out” of the casing ring areas that is a common maintenance problem with centrifugal pumps.

❖ **LIGHT WEIGHT** — The exceptional high strength-to-weight ratio of Sims permits a much lighter weight impeller. This means a substantial reduction in start-up load, longer bearing and mechanical seal life, and less shaft deflection.

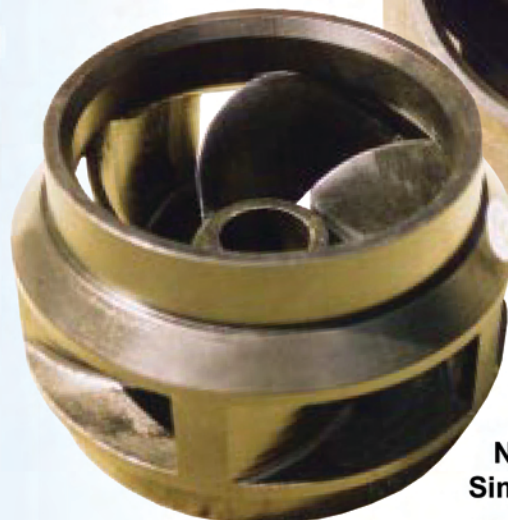
❖ **REDUCES NOISE AND VIBRATION** — Because of the high efficiency design of the Sims Impeller, its light weight, its noise absorbing characteristics, and its precision machined design, noise and vibration are reduced in the pump.

Sims Impellers – perfect for retrofit and replacement applications

Sims Impellers are an ideal replacement for bronze or other metallic impellers, especially in corrosive pumping applications. Because Sims is an inert material, electrolysis within the pump is reduced considerably. As metallic impellers corrode, they become unbalanced, causing premature wear on all other rotating parts. By replacing worn out parts with Sims, the pump lasts longer and costs are reduced.



OLD TECHNOLOGY
Bronze



NEW TECHNOLOGY
Simsite® Composite

Sims Impellers benefit you in many ways

UNIQUE FEATURES

Machined from a solid block of Sims composite

Structural composite

Precision machined

Self-lubricating

Resistant to corrosion and erosion

BENEFITS

- Higher efficiency design
- Maximum hydraulic stability
- Reduced radial forces
- Reduces recirculation damage
- Not subject to stress crack failure
- Outstanding resistance to corrosion & erosion
- Can be repaired
- Radial forces reduced
- Saves shaft; reduces premature wear
- Bearing life is increased
- Loading is reduced
- Mechanical seal life is increased
- Allows for the pump to run dry for a reasonable period of time without damage to pump
- Allows for tighter clearances
- Increases efficiency
- Maintains structural integrity and performance
- Increases the life of the pump



Sims Impellers are excellent for a variety of applications

- Marine
- Pulp and Paper
- Mining
- Chemical
- Utility
- Pollution
- Water Treatment
- Petrochemical
- Construction

