

Simsite[®]

Casing Rings



Eliminate Corrosion & Electrolysis Forever!

SIMSITE® Rings

Casing Rings and Wear Rings



- **Corrosion Resistant**
- **Light Weight**
- **Prevents Electrolysis**
- **Prevents Damage to the Casing**
- **Non-Sparking**
- **Non-Galling**
- **Allows less Leakage**
- **Allows for Higher Efficiencies**
- **Prevents Catastrophic Failure**
- **–Outlasts Metallic Rings**

SIMSITE® Engineered Structural Composite Rings are corrosion resistant and wear much better than metallic rings! Because they will not seize, or gall like metallic rings, they run with tighter clearances, which increases efficiency and decreases energy consumption.

SIMSITE® Casing Rings will seal against the pump casing like a gasket and prevent pump “wash out” (Damage to the casing from flow circulating behind the ring).

SIMSITE® Rings are not cast, or molded; rather, they are completely machined from solid blocks of structural composite. The fibers in the **SIMSITE®** engineered structural composite are interwoven in a tri-dimensional weave making them superior to other metallic and non-metallic rings and wear rings.

SIMSITE® Casing & Wear Rings will not break down under pressure or temperature like thermoplastic rings. They also will not seize and gall like metallic rings.

SIMSITE® Rings can take dry-starts, because of the self-lubricating properties of the graphite embedded in the structural composite.



SIMSITE® Casing Rings & Wear Rings can operate with close clearances. This improves efficiency and reduces shaft deflection and vibration. It also improves running time for the whole rotating element.

SIMSITE® Rings are Corrosion and Erosion Resistant.

SIMSITE® Rings can be manufactured in a Split Design.

Excessive wear of metallic rings from corrosion, erosion, electrolysis, and/or rotor imbalance causes large clearances between the casing rings and the impeller wear rings, which results in substantial decreases in pump efficiency, as well as huge increases in the energy consumed to operate the pump.

Historically, most pump companies, and repair facilities have used metallic parts for Wear Rings, and Casing Rings. These metallic parts have the potential to gall and seize, and therefore, require larger clearances between the parts. Compounding the issue is that these metallic parts do not have self-lubricating qualities like **SIMSITE®** structural engineered composites, and metallic parts are always subject to corrosion and electrolysis, which further increases clearances and energy consumption.

Fortunately, today there is an excellent solution to these problems. **SIMSITE®** structural engineered composites have been used very successfully to replace these obsolete metallic parts. **SIMSITE®** Rings have excellent mechanical strength, and have self-lubricating qualities embedded in the structural composite eliminating the risk for seizing and galling. **SIMSITE®** structural engineered composites have extremely smooth surfaces with an excellent surface finish and a low coefficient of friction, which increases efficiency and reduces energy consumption.

These **SIMSITE®** Engineered Structural Composite Casing Rings, Wear Rings, and Impellers for a Main Circulator in a power plant have self lubricating qualities and are not subject to corrosion.



Installation of **SIMSITE**[®] Casing Rings When **SIMSITE**[®] Casing Rings are PRES

Prior to the installation of **SIMSITE**[®] Casing Rings, the journal areas in the pump casing where the rings will be pressed into should be cleaned and all burrs removed. The housing bores should be indicated to make sure that they are true (concentric). If the pump casing housing bore is not running true, it should be machined before the **SIMSITE**[®] Casing Ring can be installed to insure proper clearances.

When **SIMSITE**[®] Casing Rings are press fit into the pump housings, they are pressed in using interference fits similar to **SIMSITE**[®] Casing Guide Bearings. It is necessary to assure these casing housings are true and free of any burrs prior to the installation of **SIMSITE**[®] Casing Rings. The interference is recommended to be .001 inches per diametrical inch of the **SIMSITE**[®] Casing Ring, with a minimum of .003 inches and a maximum of .016 inches. The **SIMSITE**[®] Casing Rings can be chilled or frozen to facilitate pressing the Casing Rings into the pump casing. A soft mallet can be used to gently press the bearings into the housing. **SIMSITE**[®] Casing Rings should be secured in the pump housing with 2 to 3 set screws and a two part Epoxy glue or Sims Epoxy glue.

When securing the **SIMSITE**[®] Casing Ring with set screws it is imperative that the holes for the set screws be drilled so that 75% of the hole is in the pump casing and only 25% in the **SIMSITE**[®] Casing Ring. This is because we do not want the set screw to “bow” or “distort” the **SIMSITE**[®] Casing Ring if the set screw holes are not drilled properly. If the set screws are not properly



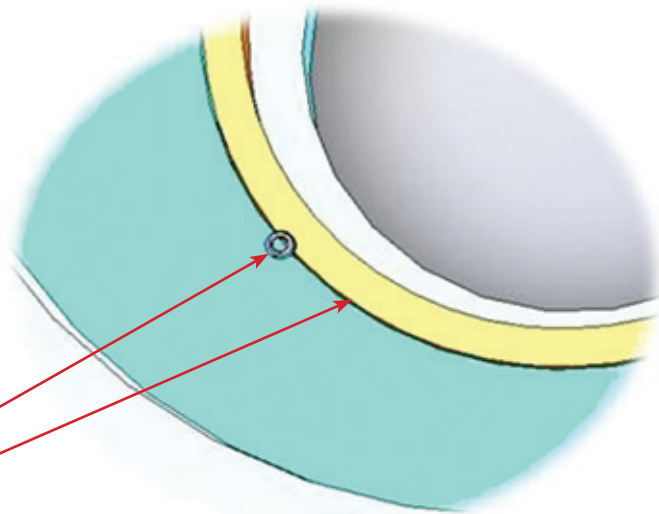
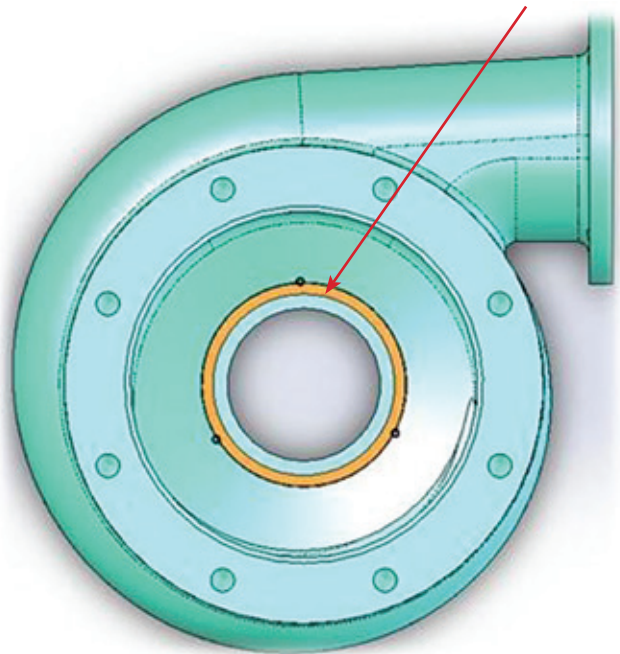
installed into the pump casing they will “distort” or “push” the **SIMSITE**[®] Casing Ring which will affect the clearance between the inside diameter of the **SIMSITE**[®] Casing Ring and the outside diameter of the **SIMSITE**[®] Impeller Wear Ring.

SIMSITE[®] Casing Rings are machined from a solid of **SIMSITE**[®] structural composite (The Fibers are interwoven in a tri-dimensional weave and are not cut, or macerated). This is what makes the **SIMSITE**[®] Casing Rings stronger than any other composite rings. **SIMSITE**[®] Casing Rings will not corrode, crack, melt, or cold flow like other metallic or thermoplastic rings.

When it is time to remove or replace the **SIMSITE**[®] Casing Rings from the pump housing or casing, the set screws should be removed first and the **SIMSITE**[®] Casing Rings should be pressed out or tapped out with a soft mallet.

Rings: SS FIT into the Pump Casing:

Make sure the **SIMSITE**[®] Casing Ring inside Diameter is Not Pinched after installation of Set Screw.



The **SIMSITE**[®] Casing Rings are press fit into the pump casing with a two part epoxy glue. Additionally, the **SIMSITE**[®] Casing Rings should be installed with (2) to (3) Set Screws. When drilling & tapping the holes for the set screws, be sure that 75% of the hole is Drilled & Tapped into the Pump Casing and only 25% & Tapped into the **SIMSITE**[®] Casing Ring.

Table 1

INTERFERENCE FITS FOR SIMSITE® CASING RINGS	
Diameter of Press Fit Component (inches)	Recommended Diametrical Interference (inches)
1 Inch	.003 Inch
2	.003
3	.003
4	.004
5	.005
6	.006
7	.007
8	.008
9	.009
10	.010
11	.010
12	.010
13 to 16	.014
17 to 24	.016
Above 24	Call Factory



Table 2

FACTORY SET CLEARANCES AND STANDARDS FOR SIMSITE® CASING WEAR RING TO SIMSITE® IMPELLER WEAR RING DRY CLEARANCE		
O.D. Impeller Wear Ring (inches)	Diametrical Clearance (Dry) And Tolerance (inches)	Recommended Maximum Clearance (Dry) Before Replacement (inches)
2	.024 +/- .004	.030
3	.026 +/- .004	.034
4	.028 +/- .004	.036
5	.030 +/- .005	.038
6	.032 +/- .005	.040
7	.035 +/- .005	.045
8	.038 +/- .005	.048
9	.042 +/- .005	.052
10	.044 +/- .005	.054
Above 10 inches	Consult Factory	Consult Factory



Pump Valve Company

Please Visit www.SIMSITE.com for more information

Or call us at 201-792-0600 for a quote.

WHEN ONLY THE BEST WILL DO!



Sims

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